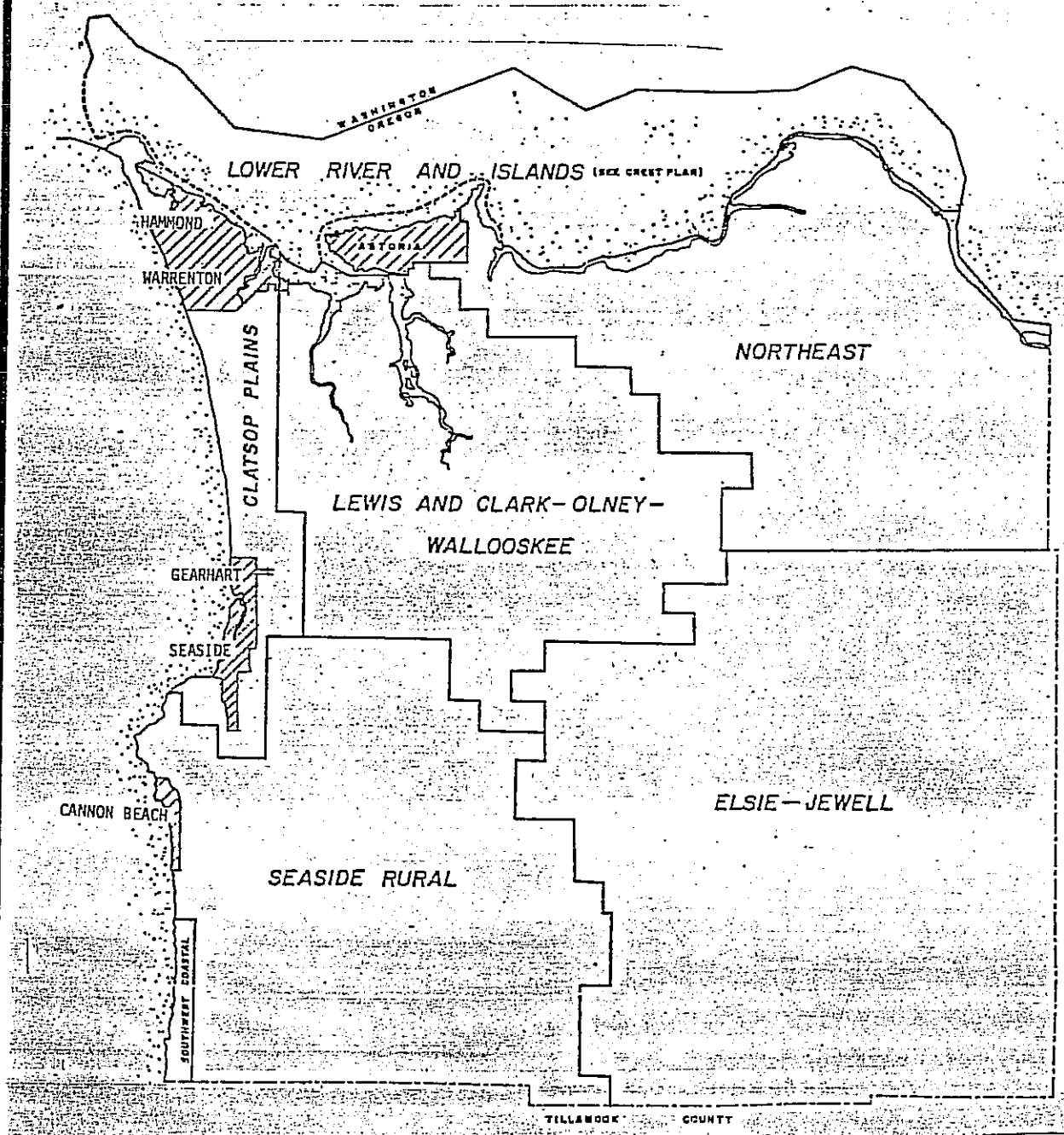
Goal 1

CLATSOP COUNTY
GOAL 1
COUNTY-WIDE ELEMENT

CITIZEN INVOLVEMENT



CLATSOP COUNTY PLANNING INDEX MAP

COUNTY-WIDE ELEMENT

Goal 1

Citizen Involvement

Adopted July 23, 1980
Ordinance 80-7

Revised December 1989

Introduction

Citizen participation is desirable in many areas of governmental activity. In the planning process, where governmental policies are being established, citizen participation is not only desirable but essential. The Land Conservation and Development Commission (LCDC) Citizen Involvement Goal #1 requires the opportunity for citizens to be involved in the planning process. In the preparation of the Clatsop County Comprehensive Plan, citizens participated in all phases of the planning process.

Basic Findings

A strong citizen involvement program was felt to be essential to the success of the Clatsop County planning program. In 1972, an attitude survey was conducted of various interest groups and selected individuals within the County. Two years later, with the assistance of Oregon State University Extension Service, a Citizens Advisory Committee was developed for the Clatsop Plains. Subsequently other Citizen Advisory Committees evolved throughout the rest of the County. (see Figure [1.] A).

Figure A is shown in order to accurately define the six geographic planning areas:

[Figure 1.]

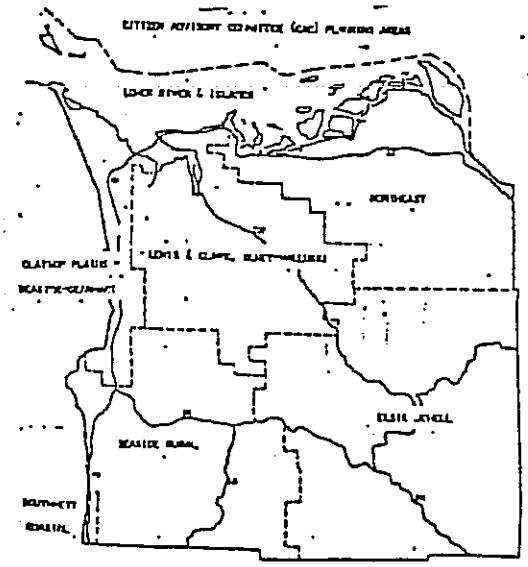
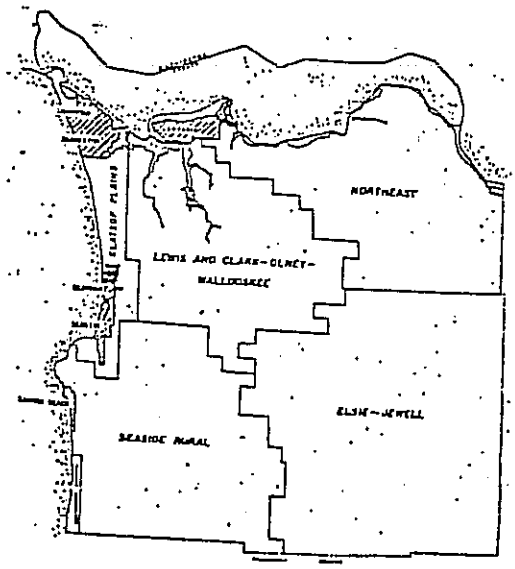


Figure A. - Citizen Involvement



Notes regarding Planning Areas:

1. The area labeled "Lower River and Islands" was originally delineated, however at a later date it was felt it was more efficient to incorporate this sparsely populated area with the "Northeast" Community Plan. (More precise planning for this area will be included in the detailed ongoing study with CREST (Columbia River Estuary Study Taskforce)).

2. All six incorporated areas and their adjacent Urban Growth Boundaries (UGB) should be shown as separate planning areas, with individual plans (1. Astoria, 2. Warrenton, 3. Hammond, 4. Gearhart, 5. Seaside, 6. Cannon Beach).

[The County now has six Citizen Advisory Committees which together with the planning staff developed the various Community Plans, as well as providing guidance and recommendations on planning issues. In developing the Community Plans, the Citizen Advisory Committees had several area-wide public meetings in addition to the regular Citizen Advisory Committee meeting to obtain resident's views concerning development in their area. From this and other input the Citizen Advisory Committees developed their Community Plans which the County mailed to property owners in the form of a tabloid containing maps and policies of the proposed designations and hearing dates. The Planning Commission and Board of Commissioners each had public hearings in the various planning areas with additional hearings at the courthouse. Changes made in the Community Plans and other sections of the Comprehensive Plan were made available in the Department of Planning and Development and covered in the local papers.]

The County had six Citizen Advisory Committees, which together with the planning staff, developed the various Community Plans through guidance and recommendations on planning issues. The development of the Community Plans, involved several area-wide public meetings, obtaining viewpoints and concerns of the residents. The Citizen Advisory Committees utilized this information to develop the proposals for policies, property designations and each Community Plan. Both the Planning Commission and the Board of Commissioners held additional public hearings and adopted the final Comprehensive Plan.

[The Citizen Advisory Committees are intended to function continuously, beyond Plan adoption, as a forum to provide for community input to the Planning Commission and Board of Commissioners on land use matters and related social and economic development issues. In recognition of the necessity and value of participation of the citizenry in the local government making process, Clatsop County adopts the following policies:]

The Citizen Advisory Committees were intended to function continuously. The Planning Commission represents an equitable cross section of the County and all six previously designated geographic areas.

The County has recognized the importance, necessity and value of citizen participation in assisting the County government in the decision-making process. In order to assure a continuum of citizen involvement, the following policies are adopted:

Goal

[To have an ongoing Citizen Involvement Program consisting of areawide Citizens Advisory Committees, which provide a method of communication between citizens, administrative departments, Planning Commission and the Board of County Commissioners.]

To have continuity of citizen participation consisting of a seven member Planning Commission, with each member representing diverse geographic areas of the County, thus providing a method of ensuring communication between the citizens, administrative departments and the Board of County Commissioners.

Only the Southwest Coastal Planning Area still retains an active Citizen Advisory Committee (CAC). Should any of the remaining five designated planning areas determine that Citizen Advisory Committees are necessary for ensuring communication between the citizens, the administrative departments, the Planning Commission and the Board of Commissioners they may reorganize a CAC. The Board of Commissioners shall appoint CAC members. The CAC may continue to function and be an active, integrated segment of Clatsop County's planning process as long as persistent involvement and active participation is demonstrated.

Policies

1. [The citizen involvement program shall involve a cross section of affected citizens in all phases of the planning process. As a component, the program for citizen involvement shall include an officially recognized citizen advisory committee or committees broadly representative of geographic areas and interests related to land use and land use decisions. Citizen advisory committee members shall be selected by an open, well-publicized public process.]

1. The Committee for Citizen Involement shall be the Clatsop County Planning Commission, consisting of seven members. The Planning Commission shall strive to represent a cross section of affected citizens in all phases of the planning process. As an appropriate component, five Planning Commission members shall be representatives of the six designated geographic areas (with a seven member Commission, one area may have two members). No more than two Planning Commission members may reside within incorporated cities. Each member of the Planning Commission shall be selected by an open, well-publicized, public process by the Board of Commissioners.

2. The [Citizen Advisory Committees] Planning Commission and active Citizen Advisory Committees shall hold their meetings in such a way that the public is notified in advance and given the opportunity to attend and participate in a meaningful fashion.

3. Active Citizen Adisory Committees may submit their comments to the Clatsop County Department of Planning and Development, Clatsop County Planning Commission and Clatsop County Board of Commissioners. These bodies shall answer the CAC request in a timely manner.

4. The Board of Commissioners, through the Planning Department, should provide adequate and reasonable financial support; [along with] technical assistance [to the Citizen Advisory Committees.] shall be available and presented in a simplified form, understandable for effective use and application.

5. Citizens shall be provided the opportunity to be involved in the phases of the planning process as set forth and defined in the goals and guidelines for Land Use Planning, including Preparation of Plans and Implementation Measures, Plan Content, Plan Adoption, Minor Changes and Major Revisions in the Plan and Implementation Measures.

6. Clatsop County shall encourage organizations and agencies of local, state and federal government and special districts to participate in the planning process.

7. Clatsop County shall use the news media, mailings, meetings, and other locally available means to communicate planning information to citizens and governmental agencies. Prior to public hearings regarding major Plan revisions, notices shall be publicized.

8. Clatsop County shall establish and maintain effective means of communication between decision-makers and those citizens involved [in the Citizen Involvement Program] in the planning process. [It shall] The County shall ensure that ideas and recommendations submitted [through the Citizen Involvement Program will receive a response from decision-makers] during the planning process will be evaluated, synthesized, quantified, and utilized as appropriate.

[8. Notices of public hearings on major plan revisions should be publicized at least 30 days prior to the hearing.]

9. Public notices [should] will also be sent to affected residents concerning zone and Comprehensive Plan changes, conditional uses, subdivisions and planned developments.

Recommended Action:

[At the first update Clatsop County should document its citizen involvement efforts. This should minimally include: (1) listing those people, past and present, who have participated in the development of the plan; and (b) totalling the effort made by Clatsop County government.]

The acknowledged Comprehensive Plan, recommended that Clatsop County should document the Citizen Involvement efforts at the first update.

The six community planning areas had active citizen involvement dating from 1977 through 1980, when the Plan was acknowledged. During that period of time, each committee met at least once per month, and as increased involvement dictated, two meetings per month were held. Southwest Coastal, Clatsop Plains and Elsie-Jewell Citizen Involvement Committees continued for a short duration, while the others disbanded. [Today] As of the date of adoption, only the Southwest Coastal Committee remains active.

A list of the members for each area, in addition to the citizens who were concerned, is on file with the Clatsop County Department of Planning and Development.

Goal 2

COUNTY-WIDE ELEMENT

GOAL 2 LAND USE PLANNING

Adopted July 23, 1980 by
Clatsop County Board of Commissioners
Amended by Ordinance 03-10, 03-11, 04-06

Goal 2 Land Use Planning Index

- Comprehensive Plan/Zoning Map
- County-wide Element
- Exception Process & Committed Lands

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- Map D (Warrenton to Gearhart – Clatsop Plains)
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- Map E (Highway 101 and 26, South Seaside to Black Bridge)
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- Findings for Exception areas
- Summary of exception areas
- Designation of Rural Lands criteria

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  - Destination Resort at Del Rey Beach area

- Other Exceptions
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  - Aquatic Area adjoining Bradwood – Marine Industrial Zone
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  - Beachfront protection structures (Goal 18) for developed area (Arch Cape)
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  - Beachfront protection structure (Goal 18) developed area (Cove Beach)
  - Arch Cape — Ordinance #03-10
  - Miles Crossing – Jeffers Gardens — Ordinance #03-10
  - Knappa — Ordinance #03-10
  - Svensen — Ordinance #03-10
  - Westport — Ordinance #03-10

- Clatsop Plains — Ordinance #03-11
- Arcadia Beach — Ordinance #03-11
- Cove Beach — Ordinance #03-11
- Olney-Helligso Property — Ordinance #04-06

Goal 2 - Land Use Planning

The County's land and water have been placed in one of six (6) Plan designations (see map next page). They are:

1. Development

Development areas are those with a combination of physical, biological, and social/economic characteristics which make them necessary and suitable for residential, commercial, or industrial development and includes those which can be adequately served by existing or planned urban services and facilities.

In Clatsop County, the County has three types of such areas: cities and their urban growth boundaries; rural communities; and rural service areas, which are areas similar to cities (sewer and water) but lack size and a government structure.

a. Rural Service Area (RSA). The County has designated four areas as RSAs. They are Cullaby Lake, Glenwood Mobile Home Park, Old Naval Hospital site, and Fishhawk Lake. Information on these is found in the community plan in which the RSA resides.

b. Urban Growth Boundaries. See land use plans of Astoria, Cannon Beach, Gearhart, Seaside and Warrenton. Clatsop County has adopted each of the city's land use plans for areas outside of the city limits and inside the urban growth boundary. The cities and the County have adopted Urban Growth Boundary Management Agreements. Clatsop County has turned over all administration and enforcement with Cannon Beach's urban growth boundary to Cannon Beach and Astoria's urban growth boundary to Astoria. Currently, Clatsop County administers and performs enforcement for areas outside the city limits inside the urban growth boundaries of Gearhart, Seaside and Warrenton.

c. Rural Communities. Clatsop County has identified and established boundaries for the following rural communities: Miles Crossing - Jeffers Gardens, Arch Cape, Svensen, Knappa, and Westport. Land use plans in these areas recognize the importance of communities in rural Clatsop County. These communities are established through a process that applies OAR 660 Division 22 requirements. Portions of land identified in the Miles Crossing and Jeffers Gardens rural community plan take an exception to Statewide Planning Goal 3 and Goal 4 for portions of land zoned EFU or AF. The exceptions documentation for a portion of the Miles Crossing and Jeffers Gardens rural community boundary is adopted as part of the Comprehensive Plan, and is located at the end of this section.

2. Rural Agricultural Lands

Agricultural lands are those lands that are to be preserved and maintained for farm use, consistent with existing and future needs for agricultural products, forest and open space.*

In land use changes involving a change from Conservation Forest Lands or Rural Agricultural Lands to Rural Lands or Development designations an Exception to the Agricultural Lands or Forest Lands Goals must be taken.*

Conservation areas provide important resource or ecosystem support functions but because of their value for low-intensity recreation or sustained yield resource (e.g. forestry), or because of their unsuitability for development (e.g. hazard areas) should be designated for nonconsumptive uses. Nonconsumptive uses are those uses which can utilize resources on a sustained yield basis while minimally reducing opportunities for other future uses of the area's resources.*

3. Conservation Forest Lands*

Forest lands are those lands that are to be retained for the production of wood fiber and other forest uses.*

In land use changes involving a change from Conservation Forest Lands or Rural Agricultural Lands to Rural Lands or Development designations an Exception to the Agricultural Lands or Forest Lands Goals must be taken.*

4. Conservation Other Resources*

Conservation Other Resources areas provide important resource or ecosystem support functions such as lakes and wetlands and federal, state and local parks. Other areas designated Conservation Other Resources include lands for low intensity uses which do not disrupt the resource and recreational value of the land.* Most of the Columbia River Estuary is in this designation.

5. Natural

Natural areas are those which have not been significantly altered by man and which, in their natural state, perform resource support functions including those functions vital to estuarine or riparian ecosystems. Publicly owned fragile and ecologically valuable areas, especially watersheds and groundwater resource areas, are most likely to be designated as Natural. Natural areas identified by the Oregon Natural Heritage Program, as well as fish and wildlife areas and habitats identified by the Oregon Wildlife Commission, should be considered for Natural designation.

6. Rural Lands

Rural Lands are those that are outside the urban growth boundary, outside of rural community boundaries, and are not agricultural lands or forest lands. Rural lands includes lands suitable for sparse settlement, small farms or acreage homesites with no or hardly any public services, and which are not suitable, necessary or intended for urban use.

Rural Lands in Clatsop County

A diversity of housing options ranging from high density urban environments to low density farm-forest home sites has been a recognized need in Clatsop County since the County's first Comprehensive Plan was adopted in 1969. While developing the present Comprehensive Plan,

citizens and elected and appointed officials stressed the economic and cultural importance of providing for the demand for recreational and year round rural homesites.

Because of the rural character of the County along with its geographic proximity to the northern Willamette Valley population centers, there has been a steady demand for second homes and rural homesites located on small rural tracts (see Housing Element and Background Report). The demand for rural tracts is expected to continue. In order to continue to meet the demand for affordable rural homesites the County has looked to those which are "built upon and/or irrevocably committed" rural areas which generally have:

(a) some level of public facilities and services, especially surfaced public roads, fire protection, and piped water;
(b) a pattern of parcel sizes generally smaller than 15 acres;
(c) existing residential development at a density generally higher than 1 dwelling unit per 10 acres; and
(d) natural boundaries, such as creeks and roads, separating the exception area from adjacent resource lands.

Areas generally falling under the above set of criteria are designated Rural Lands throughout the Comprehensive Plan. Rural Lands are those lands which are outside the urban growth boundary and are not agricultural lands or forest lands. Rural Lands include lands suitable for spare settlement, small farms or acreage homesites with no or hardly any public services, and which are not suitable, necessary or intended for urban use. Most of these lands contain agricultural site class II-IV and forest site class FA-FD.

The Coastal Shorelands Goal #17 requires that shorelands in rural areas other than those in major marshes, significant wildlife habitat areas etc. be used for appropriate for:

"f. subdivisions, major and minor partitions and other uses only upon a finding by the governing body of the county that such uses satisfy a need which cannot be accommodated at other upland locations or in urban or urbanizable areas and are compatible with the objectives of this goal to protect riparian vegetation and wildlife habitat; and

g. a single family residence on existing lots, parcels or units of land when compatible with the objectives and implementation standards of this goal."

These are areas of coastal shorelands which are "built upon or are irrevocably committed" to development and cannot be used for agricultural or forest use.

In developing the data base and criteria used to identify exception areas the County planning staff relied heavily on information provided by the six CACs, individual land owners, realtors and builders as well as the opinions of appointed and elected officials. Most of the information used to substantiate commitment of those lands was gathered over a 5 year period through the public hearings process which resulted in the current Comprehensive Plan. In addition, the various needs of each subarea were examined and weighed against the goals. After completion

of each subarea plan, each plan's specific goals and objectives and recommended land use allocations were compared against the County as a whole. This information was compiled and tabulated using the criteria developed during the planning process and forms the main body of this report.

Generally, lands which fall under the general criteria enumerated in this Exception Process and Committed Lands Identification section are designated Rural throughout the Comprehensive Plan. Characteristically, these lands have scattered residences on parcel one-half to 15 acres in size and are clustered along roads throughout the unincorporated County.

Designation of Rural Lands Policy:

Generally parcels less than 15 acres and that are "built upon or irrevocably committed" to a non-resource use are to be placed in a residential, industrial or commercial zone.

Residential

Residential densities are generally designated through the following additional criteria:

a. Where subdivisions or partitioning or both have occurred in a one acre pattern of development the area will be placed in one of the one acre zones;
b. In areas with a development pattern of two to five acre parcels (some smaller and some larger), the areas will be placed in a two acre zone;
c. In areas adjacent to resource (forest, agriculture, wetlands, estuary areas) lands, or Camp Rilea, the areas will be placed in a five acre zone;
d. In areas where large parcels (15 acres or greater) of non-resource land are located, the areas will be placed in a five acre zone;
e. In addition to criteria a through d, minimum lot sizes increase with increasing distance from the following areas:

    1. all urban growth boundaries
    2. Svensen center
    3. Knappa center

Since approximately 90% of the total County land area is forest land, it is not surprising that most of the lands identified as Rural in the Plan contains forest land class FA-FC and/or agricultural site class soils II-IV (see Forestry and Agricultural Background Report).

Interest has been expressed to locate a 400 to 600 acre Destination Resort in the area north of Gearhart. Specific information on boundaries are not available at this time. Clatsop County believes that the area north of Gearhart is a good location for a Destination Resort. Clatsop County designates the area from the north Gearhart UGB line north to the southern entrance road to Surf Pines and from U.S. Hwy. 101 on the east to the easterly Active Dune Overlay District line on the west as the boundaries within which the Destination Resort is to be contained. Clatsop County also recognized that part of the proposed Destination Resort will likely occur within the northern portion of the Gearhart UGB. When more detailed plans are submitted it

may be appropriate to amend the Gearhart UGB Plan, the Clatsop County Plan or both. Clatsop County has adopted information on Destination Resorts in its Economy Element and a Destination Resort Overlay District as background information and land use regulations for a Destination Resort.

COMPREHENSIVE/ZONING MAPS

The Comprehensive/Zoning Maps recorded on September 30, 1983 are at a scale that may make it difficult to determine the exact Comprehensive Plan and Zoning designation for a piece of property. More detailed maps showing the precise Comprehensive/Zoning Map designation are on file in the Clatsop County Department of Planning and Development.

COMPREHENSIVE PLAN/ZONING MAP

Clatsop County has adopted a combination Comprehensive Plan - Zoning Map. The map illustrates the zones of the County. The key includes Comprehensive Plan designations and the corresponding zones that implement the Comprehensive Plan designation. A list of the Comprehensive Plan designations and the corresponding zones is in Table 3.010 of the Clatsop County Land and Water Development and Use Ordinance 80-14. There are six (6) Plan designations each with a number of zones that are consistent with the particular Plan designation. Zone map changes may occur within the same Plan designation, e.g. F-80 to F-38 both under Conservation-Forest Lands or RA-1 to SFR-1 both under Rural Lands without changing the Comprehensive Plan/Zoning Map. However, Comprehensive Plan changes are required for changes in zones that occur between Plan designations, e.g. AF-20, Conservation-Forest Lands to RA-5, Rural Lands or OPR, Conservation-Other Resources to TC, Rural Lands or Development.

Urban Growth Boundaries

The Comprehensive Plan/Zoning Map classifies all Urban Growth Boundaries (UGB) in a DEVELOPMENT classification. Clatsop County has adopted land use regulations for each of the cities and towns by separate ordinances. The purpose of the Map designation for Urban Growth Boundaries is illustrative. The user should refer to the appropriate UGB map and text in determining the uses allowed within the UGB.

CLATSOP COUNTY

COUNTY-WIDE ELEMENT

GOAL 2

LAND USE PLANNING

GOAL 2 - LAND USE PLANNING COUNTY-WIDE ELEMENT

INTRODUCTION

A diversity of housing options ranging from high density urban environments to low density farm-forest home sites has been a recognized need in Clatsop County since the County's first Comprehensive Plan was adopted in 1969. While developing the present Comprehensive Plan, citizens and elected and appointed officials stressed the economic and cultural importance of providing for the demand for recreational and year round rural homesites.

Because of the rural character of the County along with its geographic proximity to the northern Willamette Valley population centers, there has been a steady demand for second homes and rural homesites located on small rural tracts (see Housing Element and Background Report). The demand for rural tracts is expected to continue. In order to continue to meet the demand for affordable rural homesites the County has looked to those which are "built upon and or irrevocably committed" rural areas which generally have:

(a) some level of public facilities and services, especially surfaced public roads, fire protection, and piped water;
(b) a pattern of parcel sizes generally smaller than 15 acres;
(c) existing residential development at a density generally higher than 1 dwelling unit per 10 acres; and
(d) natural boundaries, such as creeks or roads, separating the exception area from adjacent resource lands.

Areas generally falling under the above set of criteria are designated RURAL throughout the Comprehensive Plan. Most of these lands contain agricultural site class II-IV and forest site class FA-FD.

The Coastal Shorelands Goal #17 requires that shorelands in rural areas other than those in major marshes, significant wildlife habitat areas etc. be used as appropriate for:

"f. subdivisions, major and minor partitions and other uses only upon a finding by the governing body of the county that such uses satisfy a need which cannot be accommodated at other upland locations or in urban or urbanizable areas and are compatible with the objectives of this goal to protect riparian vegetation and wildlife habitat; and

g. a single family residence on existing lots, parcels, or units of land when compatible with the objectives and implementation standards of this goal."

These are areas of coastal shorelands which are "built upon or are irrevocably committed" to development and cannot be used for agricultural or forest use.

It is for such lands that the County claims an exception to the State-wide Planning Goals 3, 4 and 17. Such exceptions are based on criteria in OAR 660-04-025.

This report is divided into two sections. The first section gives a general outline of the process used by the County to identify committed lands and to develop the exceptions statements. The second section contains detailed findings pursuant to OAR 660-04-025 for each exception area.

A. EXCEPTIONS PROCESS AND COMMITTED LANDS IDENTIFICATION

The six built and committed criteria in OAR 660-04-025 are discussed in this section. Clatsop County has applied these criteria in as consistent a manner as possible. The criteria are discussed below.

(1) Adjacent Uses. Most of the County's exception areas are adjacent to resource lands in the AF-20, F-38, F-80 or EFU zones. Some exception areas are adjacent to residential uses in cities or urban growth boundaries. Adjacent residential uses are an important factor in determining committment in an area.

(2) Public Facilities and Services. A wide range of services is included under this heading: Piped water, sewerage, paved roads, fire protection, garbage collection, electricity, natural gas, cable television, telephone service, schools, sheriff/police protection, ambulance service and others. It is not generally necessary to mention all of these services on each exception statement. For example, the entire County receives the same level of sheriff's service. Only those public facilities and services that distinguish different areas are examined under this plan element. These distinguishing public services include piped water, sewer, roads and fire protection.

Many of the County's exception areas are in water districts or are served by community water systems. Generally water delivered by such districts or water associations is important in committing an area, as compared to individual water systems.

There are four Rural Service Areas in the County: all are served by sewer systems. The existence of a sewer system is an important factor in the committed status of these areas.

All of the County's exception areas are served by roads. Areas served by paved public roads (including improved state and county roads) generally are more committed than areas served only by unimproved public roads. Access to public roads is also an important factor: for example, many parcels have highway frontage but cannot gain access to the highway because of grade or clear-vision problems.

(3) Parcel Size and Ownership Patterns. A pattern of small parcel sizes is an important factor in an area's committed status. "Small parcel sizes" means parcel sizes generally smaller than 15 acres. The words "parcel" or "lot" may include several tax lots under the same ownership. Only legally-created lots are considered as separate parcels for purposes of this criterion. Lots created under County ordinance without specific goal findings do not by themselves create a committed area, unless such parcelization also prevents resource-use of the land.

(4) Neighborhood and Regional Characteristics. Included under this criterion are factors such as the current level of development in the area (usually the existing residential density), and the types of commercial and public developments in or near the exception area.

(5) Natural Boundaries. Some exception area boundaries correspond to geographic features, usually rivers or highways. When such a natural boundary separates the exception area from adjacent resource lands, the impact of the non-resource uses in the exception area on adjacent resource lands is minimized.

(6) Other Relevant Factors. Other factors which relate to the availability of the exception area for resource uses are considered under this section. Such factors include the shape and configuration of such lands, physical obstructions and other features which preclude farm or forest uses on such parcels.

Generally, no single criterion listed above is more important than any of the other criteria. The facts under each of the criteria above are weighed and considered in the case of each exception area. A conclusion is then drawn from the facts as to whether the parcel is irrevocably built or committed to non-resource uses.

In developing the data base and criteria used to identify exception areas the County planning staff relied heavily on information provided by the six Citizens Advisory Committees, individual land owners, realtors and builders as well as the opinions of appointed and elected officials. Most of the information used to substantiate committment of those lands was gathered over a 5 year period through the public hearings process which resulted in the current Comprehensive Plan. In addition, the various needs of each subarea were examined and weighed against the goals. After completion of each subarea plan, each plan's specific goals and objectives and recommended land use allocations were compared against the County as a whole. This information was compiled and tabulated using the criteria developed during the planning process and forms the main body of this report.

Generally, lands which fall under the general criteria enumerated in the Exceptions Process and Committed Lands Identification Section are designated RURAL throughout the Comprehensive Plan Characteristically, these lands have scattered residences on parcels one-half to 15 acres in size and are clustered along roads throughout the unincorporated County.

Rural lands have been defined as: "those lands which are outside the Urban Growth Boundary and are not agricultural lands or forest lands. Rural lands include lands suitable for sparse settlement, small farms or acreage homesites with no or hardly any public services, and which are not suitable, necessary or intended for urban use."

Since approximately 90% of the total County land area is forest land, it is not surprising that most of the lands identified as RURAL in the Plan contains forest land class FA-FC and/or agricultural site class soils II-IV (see Forestry and Agricultural Background

Reports). No agricultural site class I or V soils occur in the County and much of the class II-IV agricultural soils occur in Conservation Forest Lands. Class VI soils make up the largest percentage of soil type (77.7%) and are considered unsuitable for agriculture (Agriculture Background Report). However, these soils are suitable for pasture or woodlands and much of the lands with soils of this type are used for those purposes.

Those lands under discussion in this report comprise 2.90% of the total County land area, or about 15,250.18 acres. By contrast, virtually all of the remaining 450,000 acres of the County's conservation lands have been given Agriculture-Forest 20, 38 and 80 acre minimum lot size (AF-20, F-38, F-80), Exclusive Farm Use (EFU), or Aquatic Conservation (A-3) designations.

The County maintains that designating identified committed lands as rural development areas will contribute to an overall strengthening of the Comprehensive Plan. Broader impacts which could be generated by non-specific rural residential development spread in a homogenous 10 to 40 plus acre pattern throughout the County will be minimized through increased availability of economically priced rural residential acreages in areas already committed to development. In addition, extension of roads and services into conservation areas will be reduced resulting in considerable savings in public funds and future protection of the non-committed resource base.

The subarea plan zoning maps utilize a "graduated density" approach in which the highest rural densities (one and two acre per dwelling unit) surround areas of existing high-density development. Densities generally increase with distance from these areas. Rural residential lands predominate along existing highway corridors as a method of encouraging development in proximity to existing facilities.

The AF-20 zone is sometimes used to buffer rural residential parcels from large lot conservation 38 and 80 acre areas. Such buffering, along with forest lands setbacks will further minimize potential conflicts (such as trespass and nuisance complaints) which sometimes arise when residential uses are located near resource activities. This strategy is designed to (a) allow for rural development in areas which are the least productive resource lands due to the factors enumerated above, and (b) provide buffering of existing large resource units, thus sustaining their ability to be managed effectively.

Note: Total land area of the County 524,800 acres.

B. EXCEPTION STATEMENTS

Findings for Exception Areas

ERRATA

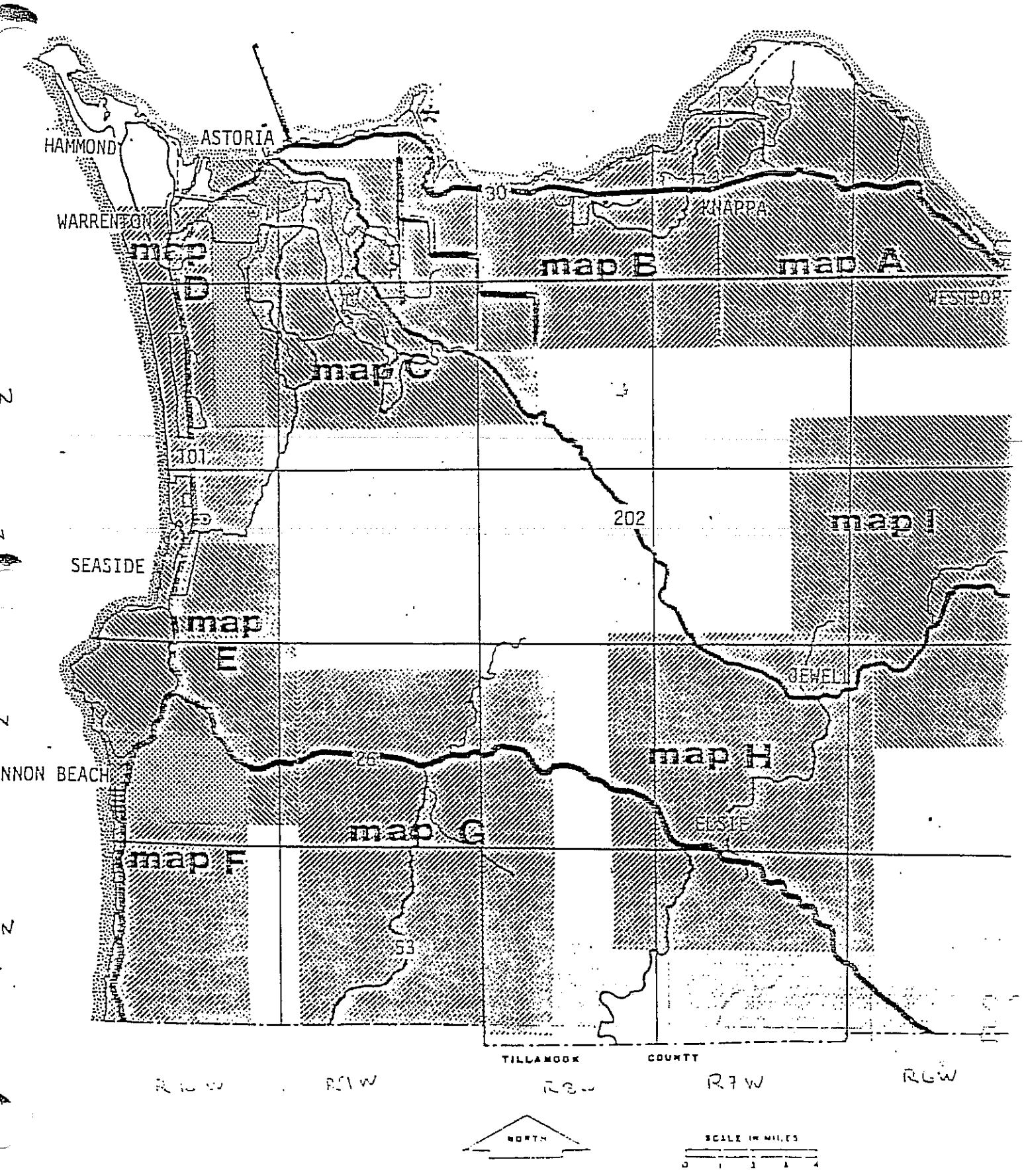
Goal 2 - Land Use Planning

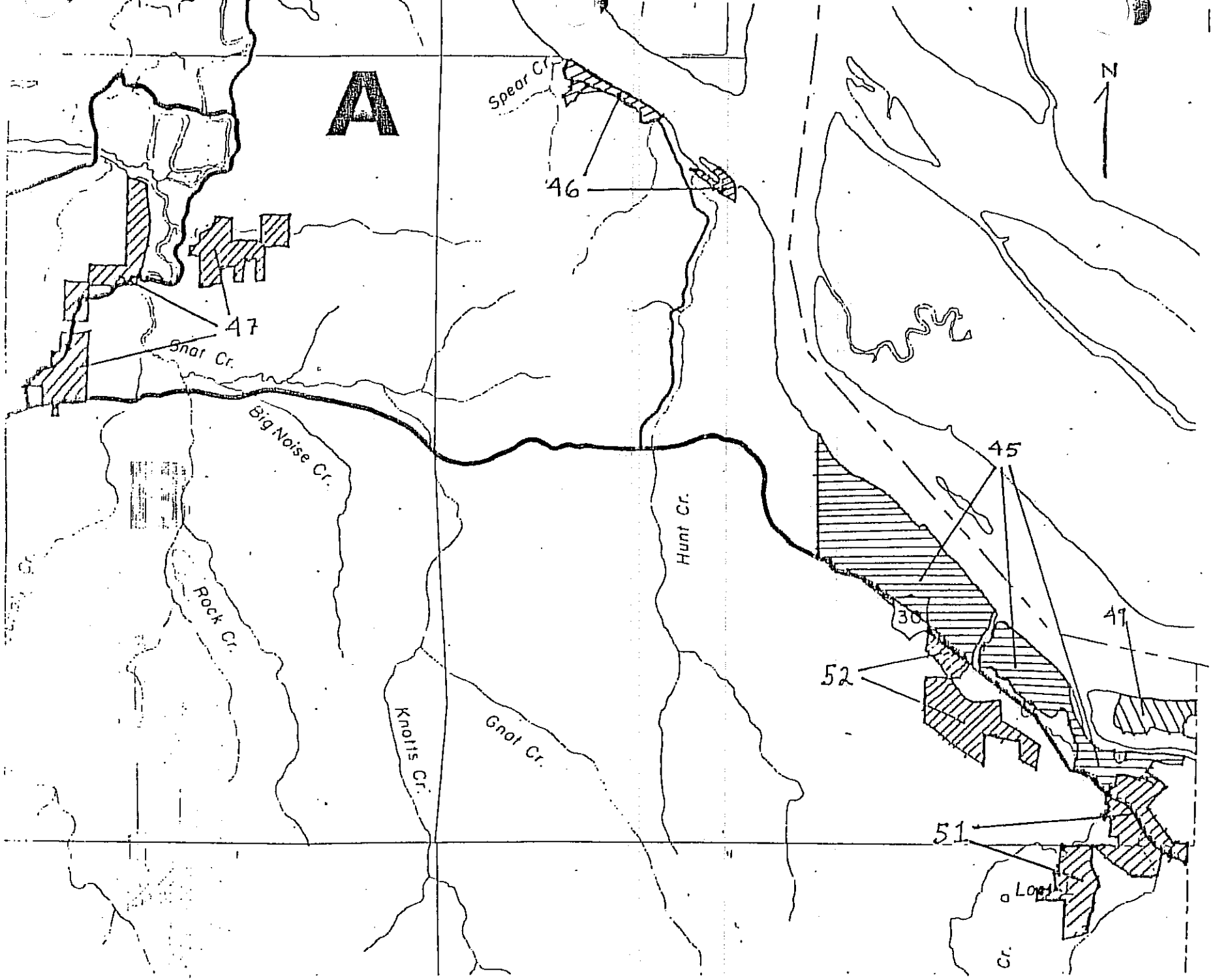
Irrevocably built and committed should read: built upon and irrevocably committed.

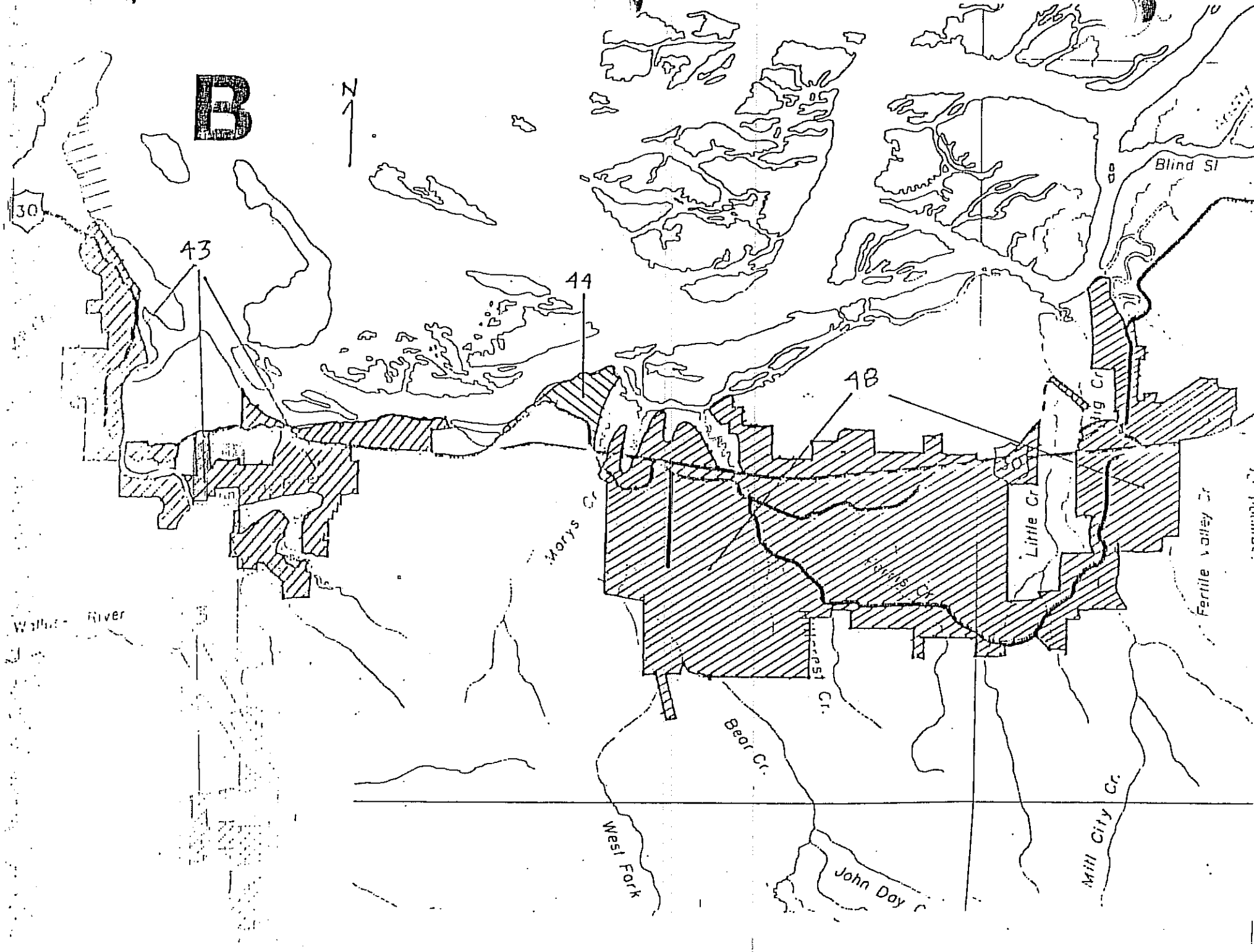
Key to Exception Maps and Discussion:

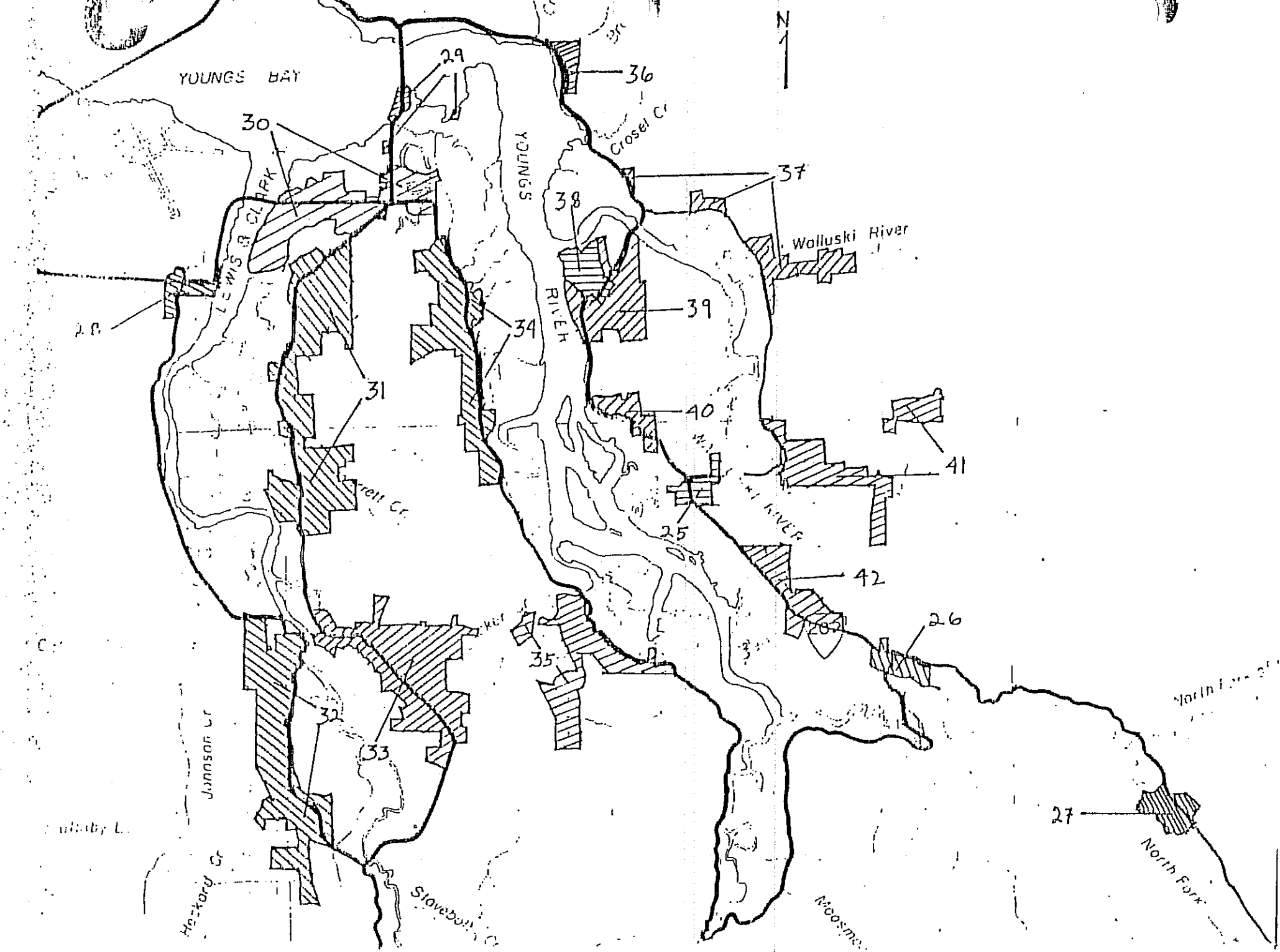
Exceptions areas have been labeled 1-49 and 51-62 as shown on Maps A-I. The discussion portion of the Exception follows the maps and each one has a number which corresponds to the area on the map (this is located in the upper left hand corner of the discussion pages). On the upper right hand corner of the discussion page are the Assessor's map(s) references. The accompanying pages list all the tax lots on the respective Assessor's map for which an Exception is being taken. The Assessor's maps noted in the Exceptions are located in the Clatsop County Department of Planning and Development.

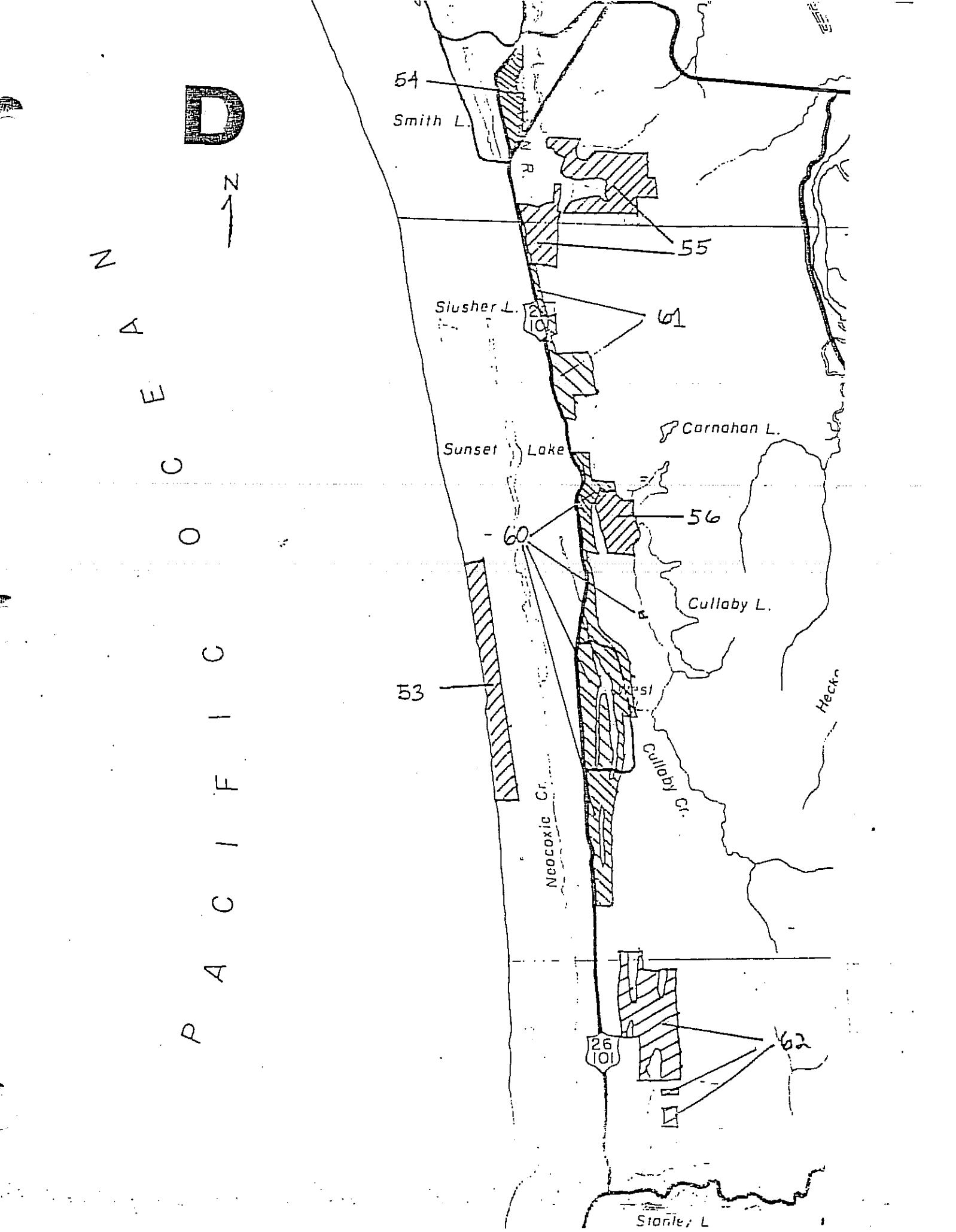
Goal 2 Index Map

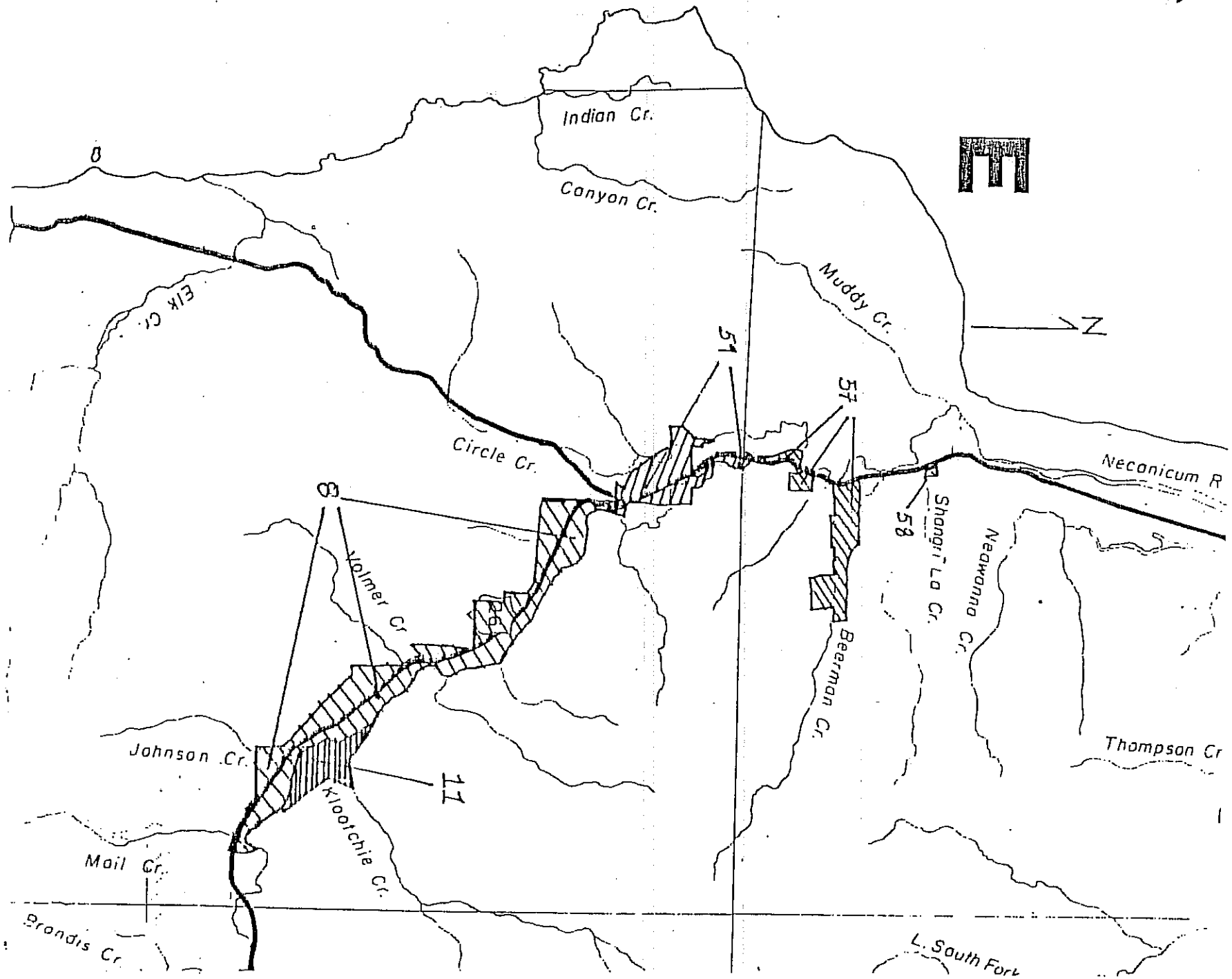


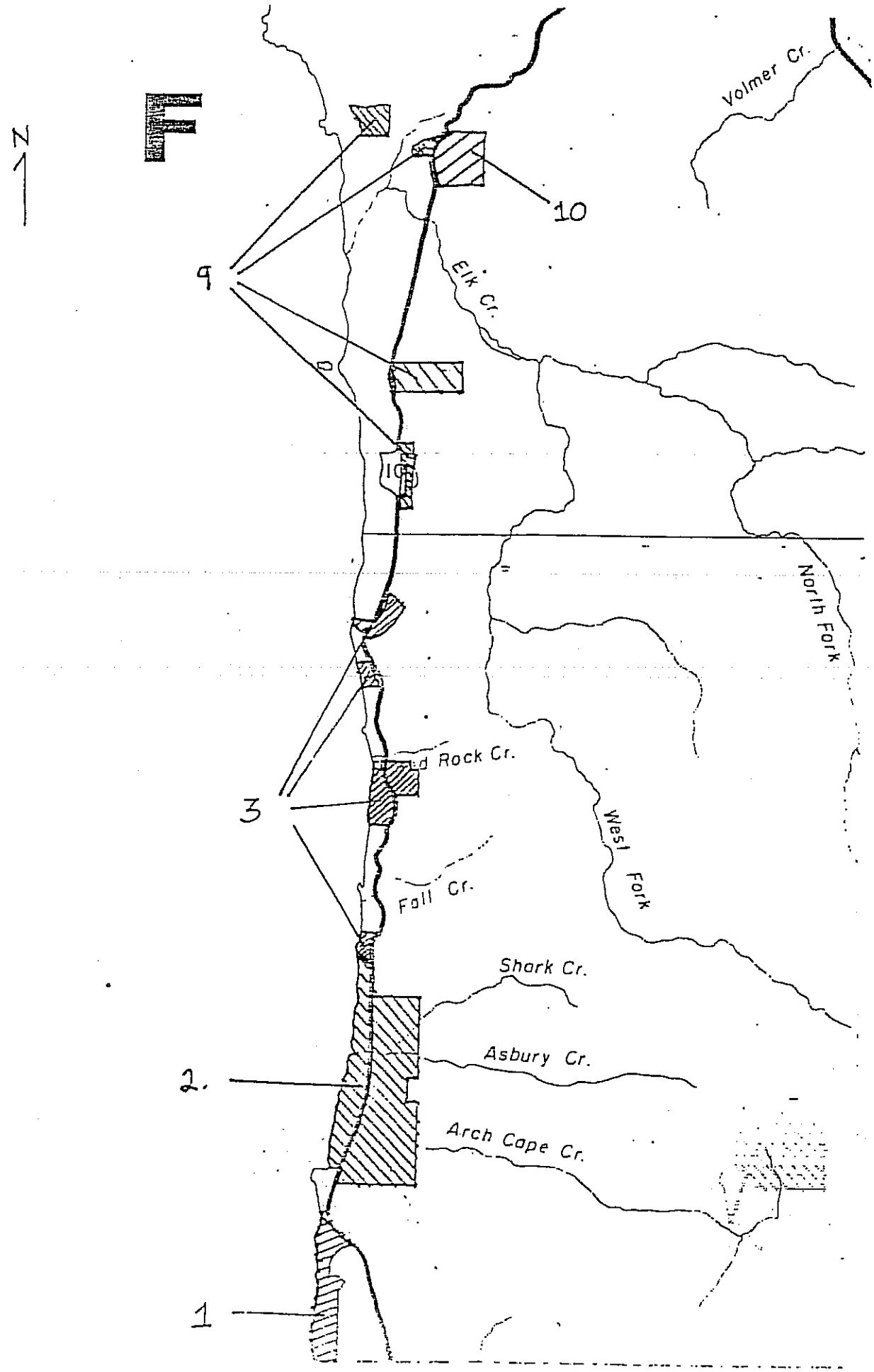

A
N
Spear Cr.
46
47
Snar Cr.
Big Noise Cr.
Rock Cr.
Knotts Cr.
Gnat Cr.
Hunt Cr.
45
30
49
52
51
Lost
Cr.

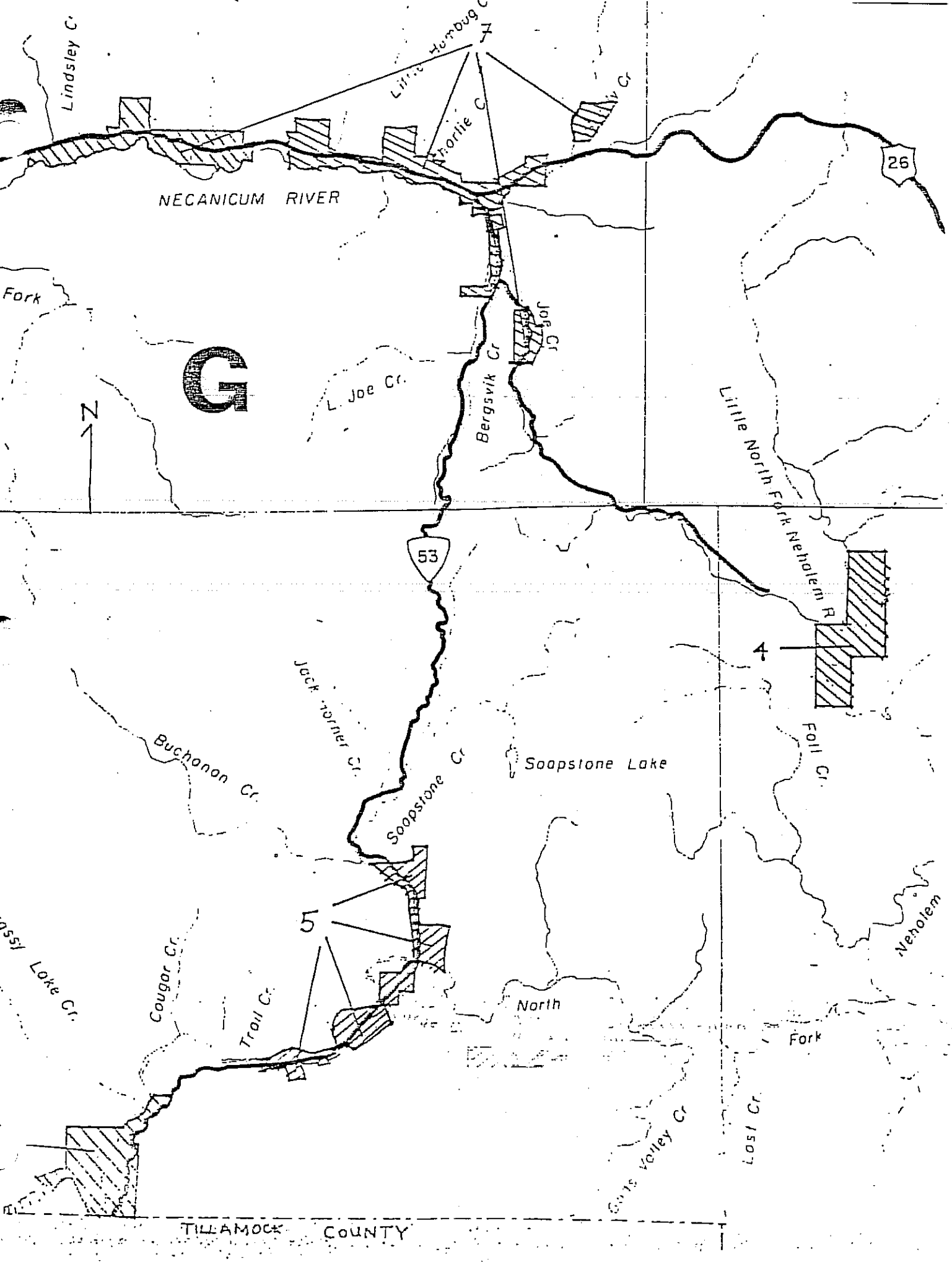

B
N
30
43
44
48
Blind Sl
Marys Cr
Little Cr
Fertile Valley Cr
Wallowa River
Bear Cr.
West Fork
John Day Cr
Mill City Cr.

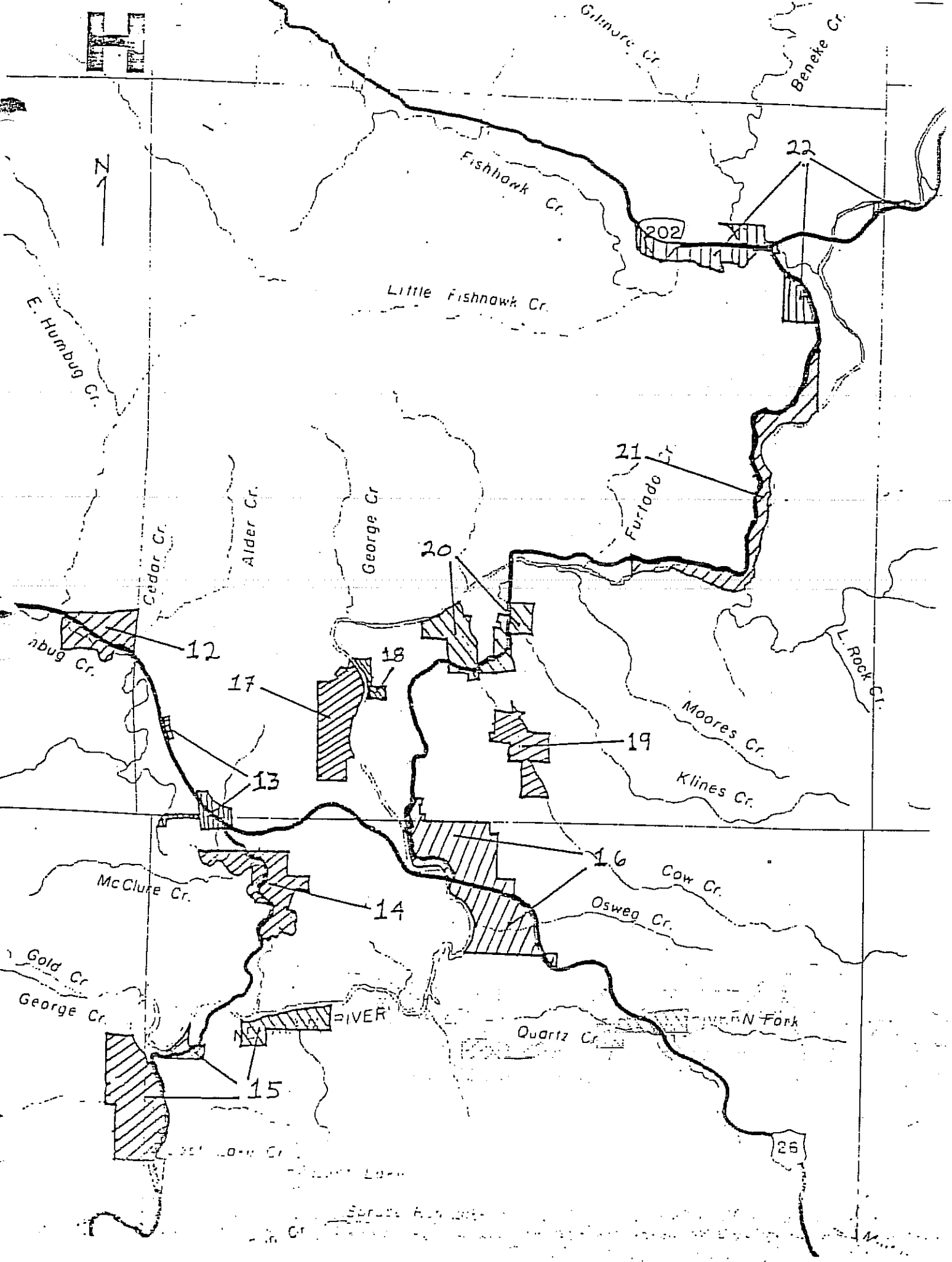

N
YOUNGS BAY
LEWIS & CLARK
YOUNGS
RIVER
Walluski River
Crosel Cr
Johnson Cr
Hackard Cr
Slaveboll Cr
North Fork
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42

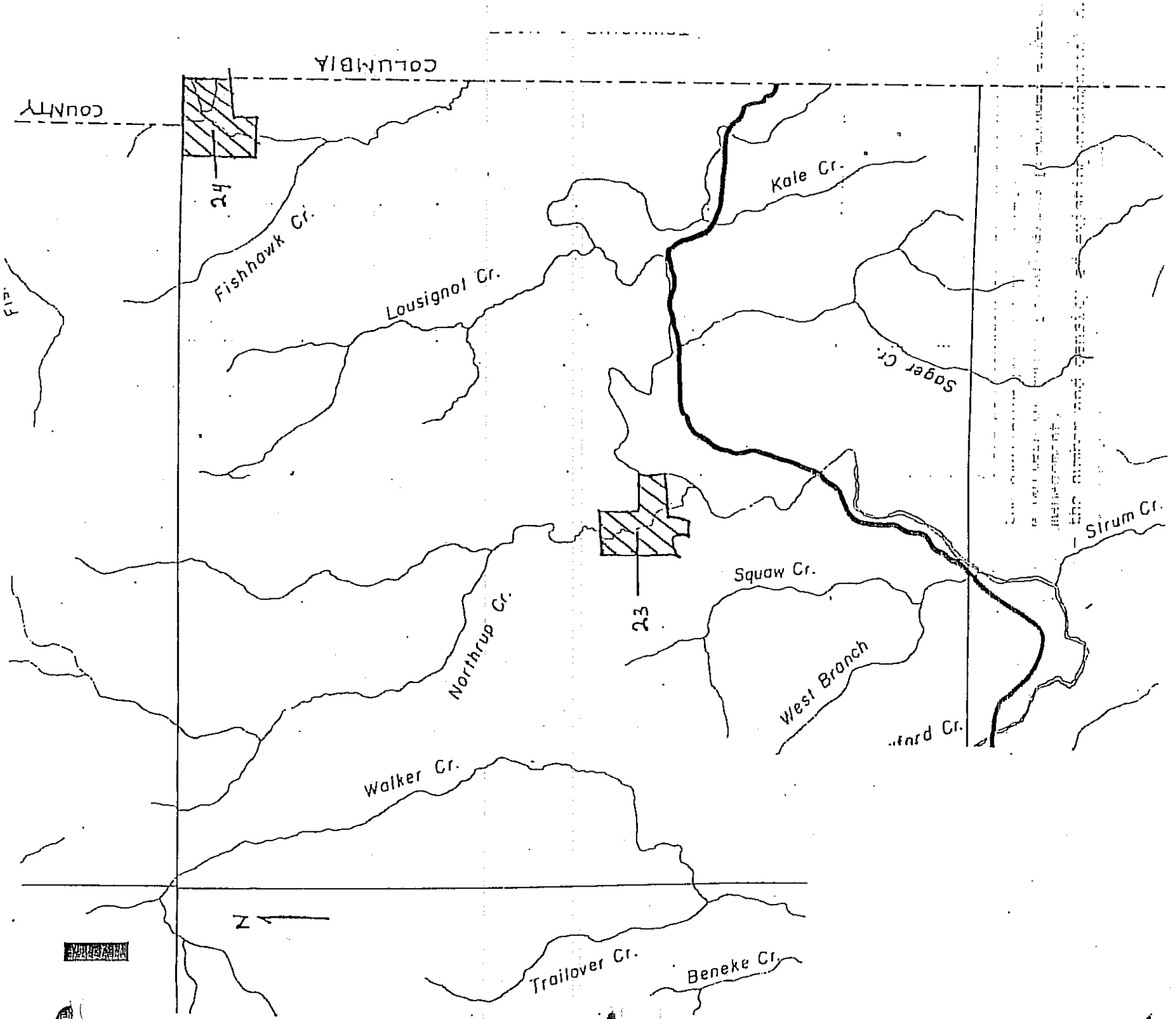

D
N
PACIFIC OCEAN
54
Smith L.
55
Slusher L.
61
Carnahan L.
Sunset Lake
56
60
Cullaby L.
53
Cullaby Cr.
Neacoxie Cr.
62
Stanley L.


Indian Cr.
Canyon Cr.
Muddy Cr.
N
Elk Cr.
51
57
Circle Cr.
Neconicum R
58
Shangri La Cr.
Nagamuna Cr.
Volmer Cr
Beerman Cr.
Thompson Cr
Johnson Cr.
11
Klootchie Cr.
Mail Cr.
Brandis Cr.
L. South Fork


F
N
Volmer Cr.
10
9
Elk Cr.
10
North Fork
d Rock Cr.
3
West Fork
Fall Cr.
Shark Cr.
Asbury Cr.
2.
Arch Cape Cr.
1


Lindsley Cr
Little Humbug Cr
Charlie Cr
Cr
NECANICUM RIVER
26
Fork
G
L. Joe Cr.
Joe Cr
Bergsvik Cr
N
Little North Fork Nehalem R
53
4
Jack Horner Cr.
Buchanon Cr.
Soapstone Cr
Soapstone Lake
Foll Cr.
5
Cougar Cr.
Trail Cr.
Neholem
North
Fork
Lost Cr
TILLAMOOK COUNTY


N
Gilmore Cr.
Beneke Cr.
Fishhawk Cr.
Little Fishhawk Cr.
E. Humbug Cr.
202
22
21
Furlado Cr.
Alder Cr.
Cedar Cr.
George Cr.
20
12
18
17
13
19
Moores Cr.
Klines Cr.
L. Rock Cr.
16
Cow Cr.
McClure Cr.
14
Osweg Cr.
Gold Cr.
George Cr.
RIVER
Quartz Cr.
N. Fork
15
26


Beneke Cr.
Trailover Cr.
Walker Cr.
N
West Branch
Squaw Cr.
Northrup Cr.
23
Sirum Cr.
Sager Cr.
Kale Cr.
Lousignol Cr.
Fishhawk Cr.
24
COUNTY
COLUMBIA

Planning Area: SOUTHWEST COASTAL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: None

Maps: 4-10-31B
4-10-31BB
4-10-31BC
4-10-31C
4-10-31CB
4-10-31CC

FINDINGS

(a)adjacent uses:

SOUTH - Residential; the Falcon Cove Beach community extends south into Tillamook County.
EAST - State Highway 101, Oswald West State Park.
NORTH - Oswald West State Park.

(b)public facilities and services:

WATER - Falcon Cove Beach Domestic Water Supply District.
FIRE - Cannon Beach Rural Fire Protection District.
ROADS - Area is served by improved public roads in the built-up areas, and by unimproved public roads in ther less developed areas.

(c)parcel size and ownership patterns:

The Clatsop County portion of this exception area consists of 66 parcels totaling 79.93 acres. The overall average lot size is 1.21 acres. There is one parcel larger than 10 acres -- a 48.53 acre parcel which includes about 61 % of the total exception area.

(d)neighborhood and regional characteristics:

The Clatsop County portion of this exception area is developed to an overall average density of about 1 d.u. per 2.28 acres.

(e)natural boundaries:

This exception area is seperated from Oswald West State Park to the east by steep terrain and by State Highway 101.

CONCLUSION

The Falcon Cove Beach community is irrevocably built upon and committed to residential development for the following reasons:

- small-lot residential development is necessary to efficiently utilize the available public facilities,
- a pattern of small parcel sizes precludes effective farm or forest management,
- the number and density of existing residential dwellings is sufficient to preclude effective farm or forest management, and
- a natural boundary separates this exception area from resource land to the east and north.

.31 CC	100		4, 10.31 CC	410, 402	.22
	200				
	300			404, 408	.41
	400				
	1500			401	.34
	1600			403, 409, 405	.33
	1700				
.31 CB	100				
	200			400, 407, 701	.39
	300				
	1100				
	1200			500	.26
	1000	48.53		600	.16
	1002			700	.17
0.31 BC	100			1200	.08
	200			1100	.20
	300			1400	.11
	400			1000	.09
	1000			1302	.33
0.31 C	200			901	.17
10.31 BB	100			1308	.22
	600			900	.12
	700			902	.09
	500			800	.28
	400			1502, 1501	.23
.31 B	400				

.31 CC

1300, 1301 □ .33
1303 □ .11
1304, 1305 □ .27
1308 □ .22
1302 .33

0.31 CB

301, 302 □ .92
400 1.38
501 .26
502 .37
500 □ .20
601, 600, 700 □ .47
800 □ .11
900 □ .29
1000, 1010 .46
1003, 1007 .46
1005, 1009 .46
1008, 1001 .45
1004 .46

4.10.31 BC

201 .92
302 □ .23
303, 304 .22
301 .15
305, 306 □ .69
602 □ .20
600 .19
603, 601 .29
500 □ .38
401 .13
400 .53
402, 403 .53
705 .34
707, 800 .81
700 .08
710, 809 □ .63
708, 807 □ .63
709, 808 □ .62
502 □ .31

.31 BC

704, 804 = .43

701, 801 = .42

706, 806 = .41

0.31 BB

601, 602, 603 = .33

503, 502, 501 = .33

504 = .23

401 .14

402 .23

10.31 B

200, 300, 200, 300 = 4.38

	all parcels	parcels ten acre and larger
number of parcels	66	1
average parcel size	1.21	
total acreage	79.93	48.53
percent total acreage	100	61

Planning Area: SOUTHWEST COASTAL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: None

Maps: 4-10
4-10-19BB
4-10-19BC
4-10-19CC
4-10-30BB
4-10-30BC
4-10-30BD
4-10-30CA
4-10-30CB

FINDINGS

(a)adjacent uses:

SOUTH - Oswald West State Park.
NORTH - Residential west of Highway 101, forestry east of Highway 101
EAST - Forestry.

(b)public facilities and services:

FIRE - Cannon Beach Rural Fire Protection District.
WATER -Arch Cape Service District.
SEWER -Arch Cape Service District.
ROADS - Improved public roads west of Highway 101. East of Highway 101 only Webb Ave. is improved.

(c)parcel size and ownership patterns:

The Arch Cape exception area consists of 413 parcels comprising a total of 231 acres. The overall average lot size is .56 acres. There are a total of 3 lots which are ten acres or larger, comprising a total of 77.93 acres or about 34 % of the total exception area.

(d)neighborhood and regional characteristics:

There are 191 houses in the Arch Cape exception area for an overall average density of 1 d.u. per 1.21 acres. Included in this figure are a church, a delicatesan/post office and a youth hostel.

CONCLUSION

The Arch Cape exception area is irrevocably built and committed to residential development due to the following factors:

- residential development is needed to efficiently utilize the public services that are available in this area,
- a pattern of small parcel sizes precludes efficient farm and forest management, and
- both the number and density of existing residential dwellings are such that efficient farm or forest management is precluded.

10.19 DD
DD
0.14.5C

200	1.10
100	
1[illegible]	.45
105	.22
200	.24
300	.21
400	.17
700	.17
800	.17
900	.15
1100	.17
1200	.17
1400	.25
1500	.23
1600	.17
1900	.17
2000	.16
2103	.14
2101	.15
2102	.15
2200	.15
2400	.15
2600	.22
2701	.15
2700	.15
2800	.29
107	.13
106	.14
103	.12
102	.11
500	.11
600	.20
1000	.28
1301	.20
130	.44
1000	.14
1700	.19
1706	.20
705	.12
[illegible]	.12
1701, 1702	.38

2501	.13
2502	.45
2503	.19
2501, 2502	.31
2504, 2506	.26
4.10.19 CA 201	.34
200, 202	1.91
400	.12
500	.25
600	.13
700	.13
800	.14
900	.21
1200	.19
1300	.16
1400	.16
1500	.17
1600	.17
1700	.18
1800	.18
1900	.19
2000	.14
2200	.34
2101	.11
2100	.12
2102	.11
2700, 2800	.24
2900	.11
2600	.12
2501, 2500	.24
3301	.36
3302	.12
3303	.12
[illegible]	[illegible]
[illegible]	.24
[illegible]	.21
[illegible]	[illegible]

[illegible]	.17
[illegible]	.17
[illegible]	.17
[illegible]	.21
[illegible]	.17
[illegible]	.17
[illegible]	.17
[illegible]	.17
[illegible]	.17
[illegible]	.18
[illegible]	.24
[illegible]	.17
[illegible]	.17
[illegible]	.24
[illegible]	.19
[illegible]	.17
[illegible]	.20
[illegible]	.19
[illegible]	.17
[illegible]	.18
[illegible]	.18
[illegible]	.21
[illegible]	.17
[illegible]	.17
[illegible]	.17
[illegible]	.19
[illegible]	.62
[illegible]	.21
[illegible]	.18
[illegible]	.21
[illegible]	.18
[illegible]	.20
[illegible]	.18
2400	.19
8500	.36
3800	1.25
2400	.91
3500	.36
3200	.53
3100	.12
3000	.24
3001	.42
2403, 2404	.43
2400	.24
2300	.19
2402, 2406	.24
2405	.11
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	.25
[illegible]	.24

400	[illegible]
4101	1.[illegible]
4100	.12
4202, 4201	.[illegible]
4206, 4400, 4207	1.25
4300, 4200	
4300, 4203	.24
4500	2.41
4600	5.97
4700	36.49
4.10.2100	
4.10.19 CC 200	.16
300	.15
400	.30
510	.64
503	.15
501	.20
3100	.20
3000	.13
2900	.13
2800	.16
2700	.19
2600	.15
2500	.15
2400	[illegible]
2101	.23
2300	.22
2000	.19
1900	.13
[illegible]	.21
[illegible]	[illegible]
[illegible]	.13
[illegible]	[illegible]

4-10-19CC 107 .13
106 .12
□ 502 .41
□ 505 .21
506 .34
□ 507 .26
□ 600 .11
5092 3300 .23
508 3200 .21
□ 3400 .11
□ 3500 .11
□ 4001 4002 .21
□ 4000 .19
□ 3800 .13
□ 3900 .09
3700 .15
3600 .22
□ 3606 .11
□ 3604 .11
□ 3602 .11
□ 3601 .16
□ 3603 .15
□ 4200 .19
□ 4201 .13
□ 4103 .15
4101 .28
□ 4100 .32
□ 1700 .21
□ 1600 .12
□ 1200 .58
□ 1500 .09
□ 1400 .10
□ 1300 .12
□ 1000 .31
□ 700 701 .18
□ 702 .17
□ 900 .13
□ 900 .16
9[illegible] .25
4400
□ 4500 4501 1.82

9600 4700 1.16

4-10-3700 18.09

4-10-3[illegible] 2[illegible] .13
□ 2801 .13
2900 .13
□ 3000 .30
□ 3100 .16
□ 3700 .33
3300 .16
□ 3400 .16
□ 3500 .24
□ 3600 .24
□ 3700 .16
3800 .16
3900 .30
□ 4200 .33
4100 .13
□ 4201 .70
□ 4200 .35
500 .12
600 2.73
□ 602 700 .50
601 □ 603 .34
□ 800 .09
801 .08
900 .59
□ 1000 .12
□ 1100 .14
□ 1200 .13
□ 1300 .31
1400 .13
□ 1600 .30
1700 .15
□ 1[illegible] .13
1900 2000 .[illegible]
□ 2[illegible] .[illegible]

1900 .70
□ 2300 .12
□ 2200 .12
□ 2100 .17
2600 .22
3601 .15
□ 2500 .12
2400 2401 .36
□ 100 .64
101 .36
200 .33
300 .23
□ 400 .40
□ 401 .61
□ 402 1.49
4500 .99
□ 4300 4400 .46
4-10-3703 .22
4-10-30CC □ 100 .21
□ 200 1.54
□ 300 .34
500 .79
□ 501 .11
600 .28
□ 700 .07
* 800 .54
900 .18
1200 .11
1100 .11
1000 .11
1400 .69
1500 .35
1600 .12
[illegible] .51
[illegible] .31
2000 .23
2[illegible] .13

□ 2900 .09
□ 3100 .30
2500 .12
2600 .11
□ 2700 .09
2500 .07
4200 .12
□ 4100 .12
□ 4000 3900 .24
□ 3800 .12
3700 .12
3200 .23
□ 3300 .11
3500 .22
□ 3600 .12
□ 4300 .26
□ 4500 .15
□ 4700 .16
□ 4701 .35
□ 4800 4900 .29
□ 5500 .12
□ 5000 .22
□ 5200 .46
□ 5300 .12
□ 5400 .11
5600 .12
5700 .11
□ 5800 .12
□ 5901 .11
□ 5900 .12
□ 5902 .12
□ 6200 .12
6300 .12
[illegible] .14
7000 .20
6400 .12
1700 .36

, BC

□ 6800 .12
7100 .23
7200 .69
7400 .35
7300 .12
7500 .23
8000 .12
7900 .12
* 7600 .58
7800 .23
7700 .12
* 8100 .11
8200, 8300 } 1.61
8400 .63
8600 .12
8500 .35
8900 .20
8701, 8702, 8703, 8700 } .56
□ 9300 .17
□ 9400 .19
□ 9500 .19
□ 9000 .18

30 BD
2900, 3000, 3100, 3200, 3300, 3400 } 6.32

2100, 2300, 2500, 2600, 2700, 2900, 1200, 1100, 1000, 900, 900 } 13.57
2100 1.37
2200 .12

1300, 1400, 1600, 1800 } 4.72
1700 .23
1500 .12
1900 .12
2000 .23
700 .12
600 .12
100 .12
200 .12
300 .23
400 .23

4.1030 CA
100 .23
200 .12
300 .12
400, 700, 900, 1000 } 4.66
1300 .23
1100 .23
1400 1.15
1600 1.35
1102 .46
1105 .46
1104 .19
1103 .19
□ 1001, 1002 } .34
□ 1004 .26
1005 .20
1003 .17
1006 .23
902 .23
901 .23
903 .20
904 .17
[illegible] .11
[illegible] .11
[illegible] .23
[illegible] .25

500 .23
600 .23
1900, 1800, 3200, 3700, 2102, ~~[illegible]~~, 2100, 2300, 3600, 3500, 2400, 2600, 3400, 3300, 3100, 3300, 4300, 3600, 3900, 4200 } 27.37

30CB

30CA
2000 .29
□ 2001 .15
□ 2200, 2202 } .62
2201 .30
□ 2401 .23
2402 .26
2500 .11
□ 2800 .06
2900 .11
□ 3000 .28
3201 .19
3200 .19

30CE
[illegible] .10
[illegible] .12
1622, 1623 } .25

.30 CB	200, 300, 400	.47
	600	.15
□	700	.18
	800	.14
□	900	.18
	1000	.19
□	1100	.22
□	1101	.27
	2200	.14
	1300	.11
□	1200	.14
	1401	.07
	1403	.06
□	1400	.15
	2100, 2000	.30
□	1500	.14
□	1601	.13
□	1600	.11
	1902	.29
	1900	.22
□	1700	.07
□	1800	.05

all: $n = 413$

$\bar{@} = .56$

$\Sigma = 231.00$

ge 10@: $n = 3$

$\bar{@} = 2548$

$\Sigma = 7793$ or 34%

□ = 191

Planning Area: SOUTHWEST COASTAL
Goal 3 Soils - -Not Mapped
Goal 4 Site Class - - FF and none

Maps: 4-10-6CC
4-10-7BB
4-10-7CA
4-10-7CD
4-10-18BA
4-10-19BB

FINDINGS

(a)adjacent uses:

EAST - Forestry.
SOUTH - Arch Cape Rural Service Area.
NORTH - Cannon Beach Urban Growth Boundary.
INTERSPERSED - Parks and other resource land.

(b)public facilities and services:

FIRE - Cannon Beach Rural Fire Protection District.
ROADS - Parcels have either direct access to State Highway 101, or indirect access via improved public roads.

(c)parcel size and ownership patterns:

This exception area consists of 131 parcels totaling 79.19 acres. The overall average lot size is .60 acres. There is one parcel larger than ten acres -- a 14.83 acre parcels comprising 19% of the total exception area.

(d)neighborhood and regional characteristics:

There are a total of 21 homes in this exception area for an overall average density of 1 d.u. per 3.77 acres. There is also a small hotel in this area.

CONCLUSION

This area is irrevocably built and committed to residential development for the following reasons:

- a pattern of small parcel sizes precludes efficient farm or forest management, and
- the number and density of residences is such that effective farm or forest management is precluded.

9 BE	□ 401	.55
	□ 300	.57
	200	3.96
0.18BA	3500	.12
	3300	.20
	1400, 1700	.69
	1200, □ 1300, □ 2100, 3000, 1500	4.75
	160	.12
	900	.27
	901	.28
	990	.60
	1000	.30
	□ 1101	.30
	□ 1102	.31
	□ 1100	.31
	1802	.34
	1600	.46
	□ 1801	.12
	□ 1900, 1901	.24
	1902	.34
	□ 2100	.12
	□ 2101, 2000	.24
	800	.32
	700	.17
	[illegible]	.33
	[illegible]	.47
	[illegible]	.47
	□ [illegible]	.32

	300	.16
	900	.16
	2800	.23
	□ 2200, 2300	.46
	2700	.23
	2400	.46
	2500	.22
	2600	.20
4.10.7CD	100	14.83
	200	6.38
	300	5.23
	□ 401	1.76
	400	1.56
	500	1.00
	600	.95
	□ 700	.95
	800	1.93
	803	.71
	802	.99
	807	.22
4.10.7CA	□ 2900	.83
	□ 700	.160
	□ 400	1.53
	5100, 5300	.33
	4900	.12
	2800	.19
	[illegible]	.15
	[illegible]	[illegible]
	[illegible]	.11

	6600	.11
	6700	.11
	6800	.11
	6400, 7000	.22
	7100	.11
	7500	.11
	□ 6200	.11
	6100	.11
	5300	.11
	5200	.11
	6000	.11
	5900	.11
	5800	.22
	5600	.11
	5700	.11
	6300	.52
	5500	.11
	5400	.23
	3900	.11
	3800	.11
	3100	.11
	3000	.11
	3700	.35
	3600, 3500	.81
	3400	.11
	3300	.11
	3200	.23
	4600	.23
	4300	1.01
	4400	.56
	4200	1.01
	4100	.11
	[illegible]	[illegible]
	[illegible]	.37
	[illegible]	[illegible]

	1800, 1900	.22
	2000	.22
	1700	.11
	1600	.11
	1500	.11
	1400	.11
	1300	[illegible]
	1200	[illegible]
	1100	.22
	1000	.22
4.10.7BC	1501, 3001, 1400, 4001, 5001, 2500, 2501	1.02
	2600	.20
	2700, 5000	.39
	2800	1.6
	□ 2900	[illegible]
	□ 2300	.31
	2200	.11
	2100, 2000, 1900	.36
	1800	.12
4.10.6CC	400	[illegible]
	401	[illegible]
	[illegible]	[illegible]
	[illegible]	[illegible]
	[illegible]	[illegible]

.6 CL

1600	.13
1700	.60
1800	.16
1900	.14
2000	.11
2100	.13
2300	.41
2500	.15
2600	.16
2900	.37
3000 / 2800	.18
2700	.17
2400	.20
2200	.13

all $n = 131$

$\bar{c} = .60$

$\Sigma = 79.19$

ge. 10 c 1

$\hat{c}$ 14.83 or 19 %

Planning Area: SEASIDE RURAL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FA, FB

Map: 4-8-5B
4-8-5C
4-8-8B

FINDINGS

(a)adjacent uses:
ALL SIDES - Forestry.

(b)public facilities and services:
ROADS - Improved County roads and improved public roads serve all parcels.
FIRE - Hamlet Rural Fire Protection District.

(c)parcel size and ownership patterns:
This area consists of 39 parcels totaling 212.67 acres. The overall average parcel size is about 5.5 acres. All parcels are smaller than ten acres.

(d)neighborhood and regional characteristics:
The Hamlet Ranch subdivision has a total of 14 homes for an overall average density of 1 d.u. per 15 acres.

CONCLUSION

The Hamlet Ranch area is irrevocably built and committed to residential development because of the following reasons:

a pattern of small parcel sizes precludes efficient farm or forest management, and

the number and density of existing residential dwellings is such that effective farm and forest management is precluded.

E	100	6.53
	200	6.60
	300	2.44
	301	4.12
□	400	6.52
	500	6.44
□	600	5.54
□	700	5.43
□	800	5.56
□	1000	1.95
	1100	.43
	1002	3.23
	1102	2.76
	1104	2.15
	1103	3.66
	1101	3.37
	1200	4.82
	100	9.53
	200	4.70
□	300	5.28
□	400	5.26
□	500	5.23
□	600	5.23
	700	5.69
□	800	10.45
	900	6.16
	[illegible]	[illegible]
	1100	5.57
□	1200	[illegible]

	1300	6.12
□	1400	7.31
	1500	6.87
	1600	5.84
	1700	5.88
	1900	6.30

4.8.83	100	6.14
□	200	5.76
□	300	5.72
	400	7.03

3.5C

□	600	5.25
	700	5.69

Planning Area: SEASIDE RURAL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FB

Maps: 4-9
4-9-22
4-9-27
4-9-28A
4-9-28D

FINDINGS

(a)adjacent uses:
ALL SIDES - forestry.

(b)public facilities and services:
ROADS - State Highway 53.

(c)parcel size and ownership patterns:
This exception area consists of 31 parcels totaling 184.19 acres. The overall average lot size is 5.94acres. There are a total of 8 parcels which are ten acres or larger, totaling 149.04 acres or about 81% of the total exception area.

(d)neighborhood and regional characteristics:
This area is developed to an overall average density of about 1 d.u. per 10.83 acres.

(e)natural boundaries:
Many of these parcels are between State Highway 53 and the North Fork of the Nehalem River. These serve as natural boundaries between forest land to the east and west.

CONCLUSION

This areaa is irrevocably built and committed to residential development due to the following factors:

- a pattern of parcel sizes which generally precludes efficient farm or forest management,
- both a number and density of existing residential dwellings such that farm and forest management is precluded, and
- natural boundaries which seperate parts of this exception area from adjacent forest lands.

	3900		
9-28D	101	□	14.04
	903		
	1101		2.35
	1102		1.00
	1103		.44
	900		2.30
	904	□	.78
	402	□	2.55
	300		
	700		1.32
	402		.61
	600	□	1.14
	300		1.00
	500		.29
	400	□	.27
	200	□	
28A	200	□	18.48
	100		
	300		2.57
	400		
9.27	402	□	5.48
	400		27.24
	401		1.48
	500	□	
	502		25.88
	501		

4.9.22	402	□	22.24
	500	□	1.00
	400	□	.67
	700		
	600	□	1.30
	100	□	7.95
	200	□	17.00
	202	□	7.48
	201	□	4.07
	800		1.89
	900		12.52
	903		14.64
	1000	□	7.20

9.27 402 □ 5.48

6

Planning Area: SEASIDE RURAL
Goal 3 - -soils: Not Mapped
Goal 4 - -site class: FL

Maps: 4-9-31
4-9-31A
4-9-31D
4-9-32

FINDINGS

(a)adjacent uses:

NORTH - Forestry
EAST - Forestry
WEST - Forestry
SOUTH - Agriculture.

(b)public facilities and services:

ROADS - State Highway 53, various private gravel roads.
OTHER - Electricity, telephone service.

(c)parcel size and ownership patterns:

This area consists of 43 parcels totaling 282.82 acres. The overall average parcel size is 6.58 acres. There are 6 parcels ten acres and larger, totaling 102.82 acres or about 36% of the total exception area.

(d)neighborhood and regional characteristics:

There are currently a total of 8 homes in the area. Most of the subdivision lots are not yet developed.

(e)natural boundaries:

The North Fork of the Nehalem River seperates some of these parcels from farm land to the south.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- a pattern of predominantly small parcel sizes render forest or farm management impracticle.
- the Nehalem River forms a natural boundary between this exception area and farm land to the south.

'A	100	5.54		1900				
	200	5.52		3400	10.03			
	300	7.51	□	2000	1.00		4.9.32	300 24.02
	400	6.67		2100	3.76			300 14.5
□	500	5.92		2100				
□	600	13.19		2200	20.54			
	700	8.47		2300	4.85		4-9-31	500 21.5
□	800	5.59	□	2500	3.58		4-9-31	part of 600 20.1
	900	5.94	□	2600	2.20			
31D □	100	7.04		2700	4.87			
	200	4.98		2701	5.28			
	300	6.77		2800	2.60			
	400	5.01		3000				
	500	.87		3100	3.06			
	600	5.13		3200				
	700	5.55	□	3300	6.03			
	800	5.55						
	900	2.92						
	1000	3.20						
	1100	3.07						
	1200	2.54						
	1300	2.80						
	1400	2.52						
	1500	3.12						
	1600	3.73						
	[illegible]	4.27						
	[illegible]	4.30						

~~to Mike Kelly~~

Lucy staff report
written material from OCEMN

Planning Area: SEASIDE RURAL
Goal 3 - - soils: Mostly III and IV, some V and VI.
Goal 4 - - site class: Mostly FB, some FC.

Maps: 5-9
5-9-17
5-9-21
5-9-22
5-9-23
5-9-26A
5-9-26D

FINDINGS

(a) adjacent uses:
Forestry on all sides.

(b) public facilities and services:
ROADS - State Highway 26 and State Highway 53.
FIRE - Hamlet Rural Fire Protection District.

(c) parcel size and ownership patterns:
This area consists of 109 parcels totaling 531.01 acres. The overall average lot size is about 4.87 acres. There are a total of 13 parcels ten acres and larger, including 201.58 acres or about 38% of the total exception area.

(d) neighborhood and regional characteristics:
There are about 70 homes in this area, and some commercial buildings including a restaurant, gas station, community hall and auto repair. The overall average density is 1 unit per 7.08 acres.

(e) natural boundaries:
The Necanicum River seperates this exception area from commercial forest land to the south.

CONCLUSION

This area is irrevocably built and committed to residential and commercial development due to the following factors:

- The level of public facilities is such that continued residential development in the area is necessary to ensure cost-effective delivery of those services.
- A pattern of small parcel sizes precludes effective farm or forest management.
- Both the number and density of existing residential and commercial buildings is such that farm or forest management would be hindered.
- A natural boundary seperates this area from forest land to the south.

5600 5.0
5500 5.0
4801 17.43
□ 4800 13.65
□ 4802 3.78
□ 902 2.60
900 6.50
21 905 .76
□ 850 2.21
□ 700 .13
□ 902 } 3.97
□ 903 }
□ 650 22.42
□ 500 12.37
□ 302 } 27.75
300 }
□ 301 2.25
101 4.68
102 }
□ 103 } 6.32
104 }
□ 200 2.00
1100 13.39
□ 400 5.50
□ 602 2.28
□ 604 4.60
□ 802 } 3.31
801 }
□ 9[illegible] 4.19

5.9.17 1100 } 8.29
□ 1501 }
1000 12.86
900 }
800 } 10.19
600 5.63
700 1.17
□ 702 .80
500 } 5.75
□ 400 }
□ 2300 .74
2200 } 1.17
2201 }
2202 4.69
□ 2204 2.13
□ 2203 .68
□ 2100 12.16
□ 2000 6.60
□ 1900 6.68
□ 1803 .80
□ 1802 5.74
□ 1801 2.15
□ 1700 6.13
□ 1600 3.38
□ 1405 1.40
□ 1402 .50
1400 4.60
□ 1404 2.70
1401 6.51

5.9.22 □ 1501 4.05
□ 800 6.81
□ 700 6.83
□ 601 6.22
□ 603 1.08
□ 600 7.72
□ 605 1.42
□ 604 5.06
□ 300 20.00
200 10.37
101 12.73
100 3.03
□ 1600 5.71
1502 } 2.52
1505 }
□ 1503 3.56
□ 1504 2.55
□ 1500 3.05
1491 2.58
□ 1405 } 4.30
1401 }
1400 4.49
□ 1304 1.08
□ 1301 1.80
□ 1200 1.08
□ 1102 [illegible]
□ [illegible] [illegible]

23	700	1.52	5.9.26 A	200	1.00
	702	2.50		302	1.90
	500	5.76		303	2.07
	404	4.39		700	2.02
	405	2.64		800	2.18
	403	1.60		900	2.17
	409	3.62		1000	2.37
	406	6.02		1100	2.14
	1102, 1105	3.45		1200	2.05
				500	3.00
	407	3.22			
	402	2.70			
	1301	4.04	5.9.26 D	800	1.82
	100	2.70		100, 500	3.72
	200	16.82			
	1300	2.96		900	4.55
	408	2.82		600	1.35
	400	5.86		700	.09
	601	6.60			
	602	3.56			
	600	12.30		600	[illegible]
	603	3.24			

all n = 109
@ = 4.87
Σ = ~~[illegible]~~ 531.01

gel D n = 13
@ = 15.51
Σ = 201.58 3rd

D = 20 6

Gh

Planning Area: SEASIDE RURAL
Goal 3 - - soils: Mostly II and IV, some III.
Goal 4 - - site class: Mostly FB and FC, some FA, some FD.

Maps: 5-10-10
5-10-10B
5-10-10DA
5-10-14
5-10-23A
5-10-24B

FINDINGS

(a)adjacent uses:

WEST - commercial uses (Cannon Beach Junction).
NORTH}
EAST } - Forestry.
SOUTH}

(b)public facilities and services:

FIRE - Seaside Rural Fire Protection District.
WATER - City of Seaside water lines run along the State Highway for the length of this exception area, but the City is not allowing any new hook-ups at this time.
ROADS - State Highway 26.

(c)parcel size and ownership patterns:

There are a total of 117 parcels in this area totaling 377.13 acres. The overall average lot size is 3.22 acres. There are a total of 9 parcels ten acres and larger, totaling 142.45 acres or about 38% of the total exception area.

(d)neiohborhood and regional characteristics:

There are currently 66 residences in this exception area. The overall average density is about 1 d.u. per 5.7 acres.

(e)natural boundaries:

The Necanicum River seperates this exception area from forest lands to the North.

CONCLUSION

This area is irrevocably built and committed to residential uses due to the following factors:

- Continued residential development of this area is necessary in order to allow the efficient delivery of the available public facilities.
- A pattern of small parcel sizes precludes efficient farm or forest management.
- Both the number and density of existing residences is such that effective farm or forest management would be precluded.
- A natural boundary seperates this exception area from forest lands to the north.

5.10	400	.65
	500	5.41
	600	1.12
	700	3.24
	800	1.00
	5015, 1004	3.89
	1005, 300	23.40
	1003	1.95
	1600	6.52
	□ 1603	.73
	1602	3.14
	1607	2.64
	1606	.92
	□ 1604	.89
	□ 1605	.54
	2000	23.42
	□ 1801, 1807	8.37
	□ 1810, 1809	11.04
	□ 1808	2.10
	1600	16.23
	1200	2.60
	1201	2.60
	1000	21.00
	1002	.64
	0.55	.80

5.10.10 BD	□ 100	.33
	□ 200	.30
	□ 300	.30
	□ 400	.26
	□ 500	.28
	□ 600	.30
	□ 700	.31
	□ 800	.40
	□ 900	.78
	□ 1000, 1001	1.46
	□ 1100	.56
	1200	.22
	□ 1300	.23
5.10.10 DA	□ 300, □ 301, □ 302	1.57
	□ 405	.41
	□ 406	.46
	□ 400	3.04
	□ 1504	.38
	□ 1000	.25
	□ 900	.25
	□ [illegible], □ (-01)	[illegible]
	□ 202	.33

5.10.10 DA	□ 700	.32
	□ 600	.25
	□ 403	.24
	□ 500	.25
5.10.14	□ 200	1.17
	□ 2005	10.44
	□ 2001	2.84
	□ 100	1.95
	1400	1.00
	101	1.55
	1800	9.20
	□ 1500, □ 1600	3.51
	□ 604	2.05
	□ 601	1.00
	□ 600, 602	6.81
	603	4.96
	690	8.26
	691	2.33
	□ 1100	.67
	□ 1202	5.61
	1208	1.94
	[illegible]	3.6[illegible]
	[illegible]	[illegible]
	□ 1000	2.0[illegible]
	□ 1001	[illegible]

10.14 □ 400 8.00
□ 300 6.00

5.10.14DC

100	.38
200	.47
□ 300	.56
400	.68
500	.71
600	.64
700	.62
□ 800	.63
□ 900	.55
□ 1000	.57
1100	5.28

.14 DB

□ {100, □ 200}	1.19
□ 300	.52
400	.67
500	.68
□ 600	.74
□ 700	.83
□ {800, 900}	1.73
□ 1000	.47
□ {1100, 1200}	1.33

5.10.23A

103	.65
102	15.18
□ 107	2.88
105	11.39
106	6.00
108	3.00
300	4.93
□ 101	2.30
200	10.35

5.10.24B

200	5.32
201	~~2.74~~
400	3.10
402	3.62
401	3.46
□ {500, 600}	5.84
700	6.02
800	1.81
801	1.03
900	1.10
□ 1000	1.12
3000	5.61

all	ge 10
n = 117	n = 9
$\bar{x}$ = 5.22	$\bar{x}$ = 15.43
Σ = 377.13	Σ = 142.45 (38%)

Planning Area: SEASIDE RURAL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FB

Maps: 5-10
5-10-19AA
5-10-20BC
5-10-29
5-10-29CD
5-10-32BC
5-10-32CB

FINDINGS

(a)adjacent uses:

All parcels are adjacent on at least one side to the City of Cannon Beach or its Urban Growth Boundary. Land on all other sides is in forestry.

(b)public facilities and services:

FIRE - Cannon Beach Rural Fire Protection District.
ROADS -State Highway 101 and Ecola Park Road.

(c)parcel size and ownership patterns:

This exception area consists of 59 parcels totaling 116.78 acres. The overall average lot size is 1.98 acres. There are 4 parcels 10 acres and larger, totaling 50.16 acres or about 43% of the total exception area.

(d)neighborhood and regional characteristics:

Although there are presently only 5 houses in this exception area, it is adjacent to much higher densities of development in the City of Cannon Beach and its Urban Growth Boundary.

CONCLUSION

This area is irrevocably committed to residential development due to the following factors:

- close proximity to urban development in the City of Cannon Beach and its Urban Growth Boundary generally precludes effective farm or forest management of these parcels.
- public facilities are available at levels generally not found in forest and agricultural areas.
- a pattern of small parcel sizes prevents effective farm or forest management.

	4300	3.01
	2301	.41
.19 AA	1200	.46
	802	.11
□	801, 805	.46
	804	.11
	800, 900	1.23
	1000	.26
	1100	.11
	408, 409	.22
	404	.11
	406	.11
	500	.11
	401, 403	.22
	402	.11
	412	.23
	700	.11
	407, 411, 410	.78
	600	.92
	214, 100, 101, 112	2.63

5.10.19AA	206	.11
	200, 400	.57
	211	.11
	110	.11
	212	.11
	202	.11
	207	.11
	203	.11
	290	.23
	210	.11
	204	.11
	201	.11
	213, 300	.22
	205	.23
	301	.11
	108, 208, 209	.33
	107	.11
	111, 109	.22
	105, 102, 113, 103, 104	.55

5.10.20 BC 200 1.75

.29	303	14.91
	302	
	□ 400	1.64
	401	.70
	500	2.69
	600	8.25
0.29 CD	1,200	12.50
	901	2.37
	902	2.97
	900	2.09
	800	1.96
	700	2.64
	□ 600	2.45
	□ 500	2.89
	□ 400	3.09
	300	3.54
	200	
	201	1.67
	101	2.48
	100	
0.32 BC	102	10.82
	100	9.54
0.32 CB	300	
	200	.61
	301	11.93

all	ge 10
n = 59	n = 4
@ = 1.98	@ = 12.54
Σ = 116.78	Σ = 50.16 or 43%

Planning Area: SEASIDE RURAL
Goal 4 - -site class: FB

Map: 5-10-20
tax lot number: 2400

FINDINGS and CONCLUSION

attached

10

597 941

IN THE PLANNING COMMISSION

OF CLATSOP COUNTY, OREGON

IN THE MATTER OF PETITION NO. n/a)
FOR MAJOR PARTITION APPROVAL IN)
CLATSOP COUNTY)
BY CAMJERRAN COMPANY)

RESOLUTION NO. 83-5-3PC

RECORDING DATE: MAY 17 1983

THE ABOVE ENTITLED MATTER having come on regularly before the Planning Commission at its meeting(s) of December 14, 1982, January 11, 1983, February 15, 1983 April 12, 1983 and May 10, 1983 and;

IT APPEARING to the Commission that the above named petitioner applied to the Planning Commission of Clatsop County for major partition pursuant to Clatsop County Land and Water Devalopment and Use Ordinance #80-14 on a tract of land immediately east of the junction of Highway 101N and ~~located on~~ Alternate Highway 101 (to Cannon Beach) ~~, and also~~ described as Tax Lot 2400, Section 20, Township 5 North, Range 10 West, Willamette Meridian, Clatsop County, Oregon; and

IT APPEARING to the Planning Commission from the testimony, reports, and information produced by the petitioner, interested persons, the Planning Director, and the Department of Planning and Development Staff, that said petition should be granted; and

IT APPEARING to the Planning Commission that the findings of the (Planning Commission) ~~and xx (Department of Planning and Development)~~ should be adopted as the basis for the aforesaid Planning Commission decision, and the Planning Commission being fully advised in the premises; it is, therefore

RESOLVED that the petition to which reference was hereinabove made, be, and hereby is, granted, and the findings of the (Planning Commission) ~~and xx (Department of Planning and Development)~~ as described in Exhibit "A", attached hereto and

by this reference made a part hereof, be, and hereby are, adopted as the basis of the aforesaid; for the determination that, on balance, the public welfare is better served in granting such approval when considering the probable detrimental effects of such use on surrounding persons, properties or the public; and it is further

RESOLVED that the petition to which reference was hereinabove made, referring to the property described herein, be, and hereby is, granted, subject to the conditions contained in Exhibit "B", attached hereto and by this reference made a part hereof, all in accordance with the provisions of the Clatsop County Land and Water Development and Use Ordinance #80-14 and the rules and regulations of this Commission; and it is further

RESOLVED that this resolution granting the aforesaid application be placed on record in the files of the County Clerk.

DATED this 16th day of May, 19 83.

PLANNING COMMISSION
FOR CLATSOP COUNTY, OREGON

BY Fred Dreier
Chairman

BY Ruth Schneider
Secretary

EXHIBIT A

BEFORE THE PLANNING COMMISSION OF THE STATE OF OREGON

FOR THE COUNTY OF CLATSOP

In the Matter of the Application of CAMJERAN, INC., an Oregon corporation, Applicant.	FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

On December 14, 1982, Applicant appeared through Joseph R. Camberg. Application was made for a major partition to create three (3) lots, together with a variance request for a 14% road grade. The Planning Commission for Clatsop County finds, concludes and orders as follows:

FINDINGS OF FACT

1) The proposed major partition into lots of approximately 2, 4, and 19 acres, is for property located as shown on Map A of the Staff Report dated February 4, 1982 (hereinafter referred to as "Staff Report"). The property is adjacent to U. S. Highway 101 for approximately 1,400 feet (Camberg testimony). The property is East and across the Highway from the North Junction to the City of Cannon Beach and a national historical marker (Camberg testimony, Exhibit IV). The property is contiguous to the city limits of Cannon Beach and approximately 300 feet from the open burning garbage dump for the City (Camberg testimony, Staff Report, Attachment A).

2) The adopted Comprehensive Plan and Zoning

Ordinance for Clatsop county designate the subject land as Residential, Agricultural - 2 (RA-2) (Camberg testimony, Staff Report). The property has been so designated since the Seaside Rural Community Plan was adopted by the clatsop County Board of Commissioners on or about July 23, 1980. In conformity with the Plan designation, the land was found to be "committed" at that time (Camberg testimony, Staff Report, Attachment A).

3) The subject property is within the City of Cannon Beach Rural Fire Protection District, the Sunset Empire Parks and Recreation District and School District No. 10, Seaside (Camberg testimony, Staff Report, Attachment A).

4) There is electricity on the property (Camberg testimony, Staff Report, Attachment A).

5) Mutual easements have been granted between Crown Zellerbach, owner of the adjacent timberlands, and Applicant, for roadway purposes (Camberg testimony, Staff Report, Attachment A).

6). The property has a unique and spectacular view. Photographs of the view were submitted by Applicant (Exhibit III).

7) The State Highway Department worked in cooperation with Applicant to develop a new access road to the City of Cannon Beach garbage dump as well as Applicant's property. The new access road eliminated a traffic hazard on Highway 101 (Camberg testimony, Staff Report, Attachment D).

8) Since July, 1980, in good faith reliance on the designation RA-2, Applicant has made further improvements to the property. Prior to July, 1980, Applicant had surveyed and cleared the land, developed flat areas suitable for residential construction and built internal roadways. As noted earlier, the land was designated "committed" in 1980. Since 1980, Applicant has constructed an access roadway of approximately 1,500 feet from U. S. Highway 101 to the proposed residential sites, in cooperation with the State Highway Department as stated above. Applicant has expended approximately $10,000 in survey fees and approximately $25,000 in road construction, obtaining access, rocking the roads and in additional site leveling (Camberg testimony, Staff Report, Attachment A).

9) Applicant proposes deed restrictions so that the parcels will not be further subdivided (Camberg testimony, Exhibit V).

10) Having residents on the property will aid in early fire detection and discourage theft of wood on this and adjacent property (Camberg testimony).

11) The three (3) proposed residential sites of 2, 4 and 19 acres meet the Comprehensive Plan and zoning requirements of Clatsop county. See Staff Report, p. 4, "Findings - County Plan", which portion of the Staff Report is hereby adopted.

CONCLUSIONS

1) This major partition request complies with the Comprehensive Plan and zoning ordinances of Clatsop County.

2) The property, with its unique and spectacular view, has aesthetic qualities which support the conclusion that its highest and best use is for residential purposes.

3) Residential use is not incompatible with adjacent forest land uses. Crown Zellerbach apparently finds such residential use compatible with its timber management practices on adjacent parcels, as Crown cooperated with Applicant on the exchanging of easements and has made no adverse comment to this application. Having residents on this property will enhance fire suppression for the entire area, and in particular at the open burning garbage site. Owners on the property would discourage theft and other forestry damage to this and adjacent property.

4) Applicant has made a substantial investment to the benefit of this and surrounding property, acting in good faith reliance on the County's Comprehensive Plan and zoning ordinance. It would be grossly unfair and inequitable, in light of Applicant's expenditures for planning, surveying, land clearing, site preparation, road clearing, graveling, obtaining improved access for the benefit of the public as well as this property, exchanging easements, etc., for the county to deny the application for a major partition.

5) All relevant factors lead to the conclusion that

this request for a major partition be granted.

The Planning Commission has determined that the Clatsop County Comprehensive Plan and zoning ordinance govern in determining this application for a major partition. However, staff has exhibited some concern that the Forestry Goal and whether or not this parcel is committed should be applied. Without conceding that we do not have local jurisdiction of this matter, we provide the following findings and conclusions to provide a record:

FINDINGS OF FACT - MAJOR PARTITION

A) Adjacent Uses.

The proposed major partition into lots of approximately 2, 4 and 19 acres, is for property located as shown on Map A of the staff report dated February 4, 1982 (hereafter referred to as "Staff Report"). The property is adjacent to U. S. Highway 101 for approximately 1,400 feet (Camberg testimony). The property is East and across the Highway from the North Junction to the City of Cannon Beach and a national historical marker (Camberg testimony, Exhibit IV). The property is contiguous to the City limits of Cannon Beach and approximately 300 feet from the open burning garbage dump for the City (Camberg testimony, Staff Report, attachment A). The parcel is bounded on three (3) sides by Crown Zellerbach holdings (Staff Report).

B) Public Facilities and Services.

The subject property is within the City of Cannon Beach Rural Fire Protection District, the Sunset Empire Parks and Recreation District and School District No. 10, Seaside (Camberg testimony, Staff Report, attachment A). There is electricity on the property (Camberg testimony, Staff Report, attachment A).

The developer proposes a private water system and septic tank waste disposal (Staff Report).

C) Parcel size and ownership patterns.

The parcel is approximately 25 acres in size (Staff Report). Applicant proposes to partition the parcel into three (3) lots of approximately 2, 4 and 19 acres each (Staff Report). Applicant proposes to impose deed restrictions so that the lots will not be further subdivided (Camberg testimony, Exhibit V).

D) Neighborhood and Regional Characteristics.

The property is contiguous to the city limits of Cannon Beach. We take notice that Cannon Beach is a coastal resort community. Cannon Beach and the nearby coastal areas offer, and attract residents because of, lovely views of the Pacific Ocean.

The subject property, largely due to its elevation, offers unique and spectacular views of the coastline (see photographs, Exhibit III).

E) Natural Boundaries.

The land is bounded on the West by U.S. Highway

101 for approximately 1,400 feet (Camberg testimony).

F) Other Relevant Factors.

1) The adopted Comprehensive Plan and Zoning Ordinance for Clatsop County designate the subject land as Residential Agricultural - 2 (RA-2) (Camberg testimony, Staff Report). The property has been so designated since the Seaside Rural Community Plan was adopted by the clatsop County Board of Commissioners on or about July 23, 1980. In conformity with that Plan designation, the land was found to be "committed" at that time (Camberg testimony, Staff Report, Attachment A).

2) Since July, 1980, in good faith reliance on the designation RA-2, Applicant has made further improvements to the property. Prior to July, 1980, Applicant had surveyed and cleared the land, developed flat areas suitable for residential construction and built internal roadways. As noted earlier, the land was designated "committed" in 1980. Since 1980, Applicant has constructed an access roadway of approximately 1,500 feet from U. S. Highway 101 to the proposed residential sites, in cooperation with the State Highway Department as stated below. Applicant has expended approximately $10,000 in survey fees and approximately $25,000 in road construction, obtaining access, rocking the roads and in additional site leveling (Camberg testimony, Staff Report, Attachment A).

3) The three (3) proposed residential sites of 2, 4

and 19 acres meet the Comprehensive Plan and zoning requirements of Clatsop County. See, Staff Report, p. 4, "Findings - County Plan," which portion of the Staff Report is hereby adopted.

4) Mutual easements have been granted between Crown Zellerbach, owner of the adjacent timberlands, and Applicant, for roadway purposes (Camberg testimony, Staff Report, Attachment D).

5) The State Highway Department worked in cooperation with Applicant to develop a new access road from U. S. Highway 101 to the City of Cannon Beach garbage dump as well as Applicant's property. The new access road eliminated a traffic hazard on Highway 101 (Camberg testimony, Staff Report, Attachment D).

6) Having residents on the property will aid in early fire detection and discourage theft of wood on this and adjacent property (Camberg testimony).

CONCLUSIONS - MAJOR PARTITION

1) This major partition request complies with the Comprehensive Plan and zoning ordinances of Clatsop County.

2) The property, with its unique and spectacular view, has aesthetic qualities which support the conclusion that its highest and best use is for residential purposes.

3) Residential use is not incompatible with adjacent forest land uses. Crown Zellerbach apparently finds such residential use compatible with its timber management

practices on adjacent parcels, as Crown cooperated with Applicant on the exchange of easements and has made no adverse comment to this application. Having residents on this property will enhance fire suppression for the entire area, and in particular at the open burning garbage site. Owners on the property would discourage theft and other forestry damage to this and adjacent property.

4) The existing electricity on the property and the proposed water and sewage facilities are adequate for three (3) residential sites.

5) The proposed deed restrictions prohibiting further division of the three (3) parcels assures that this land will not eventually fall into urban use or density.

6) The three (3) proposed residential sites are complimentary to the regional characteristics of this coastal area. They will provide homesites at an elevation that will offer full appreciation of the areas natural beauty.

7) The natural boundary of U. S. Highway 101 provides a point of access for the property. The owner of the other adjacent property has been cooperative with Applicant, as noted in 3) above.

8) Applicant has made a substantial investment to the benefit of this and surrounding property, acting in good faith reliance on the County's Comprehensive Plan and zoning ordinance. It would be extremely unfair and inequitable, in

light of Applicant's expenditures for planning, surveying, land clearing, site preparation, road clearing, graveling, obtaining improved access for the benefit of the public as well as this property, exchanging easements, etc., for the County to reverse its finding that the land is built upon (roads) and irrevocably committed to non-forest uses.

For the above reasons, the facts that we have found compel the conclusion that it is not possible to apply the Forestry Goal to Applicant's land. We further conclude that the major partition should be granted.

EXHIBIT B

CONDITIONS:

1. All parcels and roadway shall be surveyed.

2. A final map, prepared by the surveyor, shall be submitted on a form provided by this department.

3. The above conditions shall be completed within one year of the date of recording, or the partition will be null and void.

4. Applicant will supply the Planning Department copies of the legal descriptions which will be utilized in creation of the partitioned parcels by deed and/or land sale contract for review and approval prior to recordation with the County Clerk's Office. Said descriptions shall be kept on file in the Planning Office after review and approval and shall include language describing and verifying easement rights for use of the common roadway by the partitioned parcels. Language shall be included in said deed/contract instruments which shall specify that holders of each lot approved by this report mututally agree to maintain the roadway in common and as long as the road exists.

5. Prior to issuance of a building permit or mobile home placement permit for any of the parcels, a class A-20 roadway will be constructed and approved by the Department of Planning and Development.

Planning Area: SEASIDE RURAL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FB, FC

Maps: 5-10-14
5-10-23A
5-10-24B

FINDINGS

(a)adjacent uses:

NORTH}
EAST } forestry.

SOUTH}
WEST }Nehalem River

(b)public facilities and services:

ROADS - A bridge would need to be constructed across the Nehalem River in order to provide access to this property.
WATER - Water is available fromthe Necanicum River.
FIRE - Seaside Rural Fire Protection District.

(c)parcel size and ownership patterns:

The area consists of two parcels: a 35.53 acre parcel to the north, and a 56.22 acre parcel to the south. Total acreage is 91.75 acres.

(d)neighborhood and regional characteristics:

There are no residences in this exception area at this time.

CONCLUSION

This area is irrevocably committed to residential development.

.14 1200 35.53

10.23A 100

10.24B 100 } 56.22

101

Planning Area: Elsie-Jewell
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FC

Map: 5-8-25

FINDINGS

(a)adjacent uses:
Forestry, small woodlot management, and small pasturage.

(b)public facilities and services:
FIRE: Elsie-Vinemaple Fire District.
ROADS: State Highway 26, County Road Number 307.

(c)parcel size and ownership patterns:
This area consists of 8 parcels totaling 73.85 acres. The overall average parcel size is 9.23 acres. There are 3 parcels ten acres and larger, totaling 50.13 acres or about 68% of the total acreage.

(d)neighborhood and regional characteristics:
There are currently 5 residences and one commercial structure in this exception area. The overall average density is about 1 per 12 acres.

CONCLUSION

This area is irrevocably built and committed to residential and commercial development due to the following factors:

- The concentration of residential and commercial uses in this area are such that farm or forest management are precluded.
- A pattern of small parcel sizes prevents efficient farm or forest management from occuring.
- The area should be developed to residential and commercial uses in order to assure the efficient use of existing public facilities.

·25· ▫100 4.13
▫202 18.55
▫302 3.68
800 1.23
700 18.08
▫301 7.65
▫300 7.03
▫200 13.50

all	ge 10@
$n=8$	$n=3$
$\bar{@}=9.23$	$\bar{@}=16.71$
$\Sigma=73.85$	$\Sigma=50.13$ or 68.

Planning Area: ELSIE-JEWELL
Goal 3 - -soils: Not Mapped
Goal 4 - -site class: FB, FC

Maps: 5-7-31
4-7-6

FINDINGS

(a)adjacent uses:
Forestry.

(b)public facilties and services:
FIRE: Elsie-Vinemaple Fire District.
ROADS: State Highway 26 and Kampi County Road.

(c)parcel size and ownership patterns:
This exception area consists of 10 parcels totaling 58.67 acres. The overall average lot size is 5.87 acres. There are 2 parcels 10 acres and larger, totaling 37.54 acres or about 64% of the total exception area.

(d)neighborhood and regional characteristics:
This area is developed with residential and commercial structures to an overall average density of about 1 per 6.4 acres. Residential density along Kampi Road is about 1 d.u. per 2 acres.

CONCLUSION

This area is irrevocably built and committed to residential and commercial uses due to the following reasons:

- The efficient provision of available public facilities requires continued residential development in this area.
- Effective farm or forest management is precluded by the pattern of small parcel sizes.
- The number and density of existing residential and commercial structures in this area prevents efficient farm or forest management.

7.6	▫	800	3.00
	▫	700	2.95
	▫	902	1.97
	▫	901	1.97
	▫	600	.62
	▫	500	16.26
7.31	▫	500	5.49
		700	1.84
		600	21.28
	▫	301	3.29

10 parcels total
5.87 m
58.67 total acre

3 parcels > 5 @
14.34 m
43.03 @ total

2 of 10
37.54 Σ or 64%

Planning Area: ELSIE-JEWELL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FB, FC

Maps: 4-7-5
4-7-6

FINDINGS

(a)adjacent uses:
Forestry.

(b)public facilities and services:
FIRE- Elsie-Vinemaple Fire District.
ROADS- Spruce Run County Road, Lukinen Loop County Road, private road.

(c)parcel size and ownership patterns:
This area consists of 20 parcels totaling 102.48 acres. The overall average lot size is 5.12 acres. There are 2 parcels ten acres and larger totaling 32.81 acres or 32% of the total exception area.

(d)neighborhood and regional characteristics:
This area is developed to an overall average density of about 1 d.u. per 12.8 acres.

(e)natural boundaries:
About 25 acres at the south end of the exception area is bounded on the east and south by Humbug Creek. An additional 18 acres at the northwest end are bounded on the south by Humbug Creek.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- The existing level of public facilities requires residential development in order to assure efficient provision of those services.
- Farm and forest management is precluded by a pattern of small parcel sizes.
- The number and density of existing residences in the area prevents effective farm or forest management from occuring.
- A natural boundary at the south and northwest end seperates this exception area from adjacent forest lands.

□	202	4.56
	201	2.20
	200	3.52
	203	2.64
	1001	1.25
	1002	4.22
□	1000	3.50
	804	5.50
	803	9.60
	800	3.64
□	802	1.80
	801	5.30
	900 } 1203 }	14.57
□	1211 }	~~[illegible]~~
□	1200 }	7.21
□	1210	.68
	1205	18.24
□	1202	6.40
□	1001	1.40
	1000	3.02
	1002	3.23

	all	gt 10
n =	20	2
$\bar{x}$ =	5.12	16.41
Σ =	102.48	32.81 or 32

Planning Area: ELSIE-JEWELL
Goal 3 - - soils: not mapped
Goal 4 - - site class: FB, FC, some FE

Maps: 4-7-7
4-7-7C
4-7-8
4-7-8BC
4-7-18B
4-7-18C
4-8

FINDINGS

(a)adjacent uses:
Forestry, some agriculture.

(b)public facilities and services:
ROADS - Lower Nehalem County Road, various private roads and easements.
FIRE - Elsie-Vinemaple Fire District.

(c)parcel size and ownership patterns:
This exception area includes 51 parcels totaling 264.11 acres. The overall average lot size is 5.18 acres. There are 7 parcels which are ten acres or larger, totaling 86.72 acres or about 33% of the total exception area.

(d)neighborhood and regional characteristics:
There are currently a total of 34 residences in this exception area. The overall average density is 1 d.u. per 7.77 acres.

(e)natural boundaries:
The Nehalem River seperates the northernmost 66 acres of this exception area from forest and farm land to the north.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- Existing investment in public facilities can only be efficiently utilized through residential development of this area.
- Effective forest or farm management of this area is prevented by the pattern of small parcel sizes.
- Both the number and density of existing residences precludes farm or forest management.
- A natural boundary seperates portions of the exception area from adjacent farm and forest land.

7	□ 702	5.60
	□ 704	2.92
	□ 701	6.24
	700	1.40
	□ 703	4.56
	790	13.36
7.7	□ 900	10.00
	901	4.44
8	500	11.50
	600	10.00
	700	5.60
3 BC	□ 100	9.25
	□ 200	1.08
	□ 400	.97
	500, □ 600	1.90
.18 B	□ 2500	5.89
	□ 2400, 2300, □ 2200	18.13
	□ 2000	6.05
	□ 1900	5.96
	□ 1500	5.65
	□ 1700	5.24
	□ 1600	5.28

4.7.18B	1500	5.14
	1400	5.03
	□ 200	2.47
	□ 300	1.82
	□ 400	1.81
	500	1.00
	□ 600	.90
	□ 700	1.93
	□ 1300	1.76
4.7.18C	100, 400	6.94
	500	.48
	300	.12
	□ 200	.70
4.7.7.C	100	2.72
	□ 200	2.81
	□ 300	11.58
	□ 400	5.73
	□ 500	5.75
	□ 900	1.29
	□ 900	1.12
	700	2.74
	□ 1000	6.31
	1100	5.38
	□ 1200	6.55
	1350	5.05
	[illegible]	[illegible]

4.8	□ 3502	12.15
	□ 3501	4.75
	3500	10.00

all

$n = 51$

$\bar{@} = 5.18$

$\Sigma = 264.11$

ge 10

$n = 7$

$\bar{@} = 12.39$

$\Sigma = 86.72$ or 33%

□ = 34

1/7.77 @

Planning Area: ELSIE-JEWELL
Goal 3 - - soils:Not Mapped
Goal 4 - - site class: Mostly FC, some FB and FE

Maps: 4-7
4-7-3BC
4-7-3CB
4-7-4
4-7-4DA

FINDINGS

(a)adjacent uses:

NORTH}
SOUTH} Forestry
EAST }

SOUTHWEST - Recreational development (Sports Acres).
NORTHWEST . Agriculture.

(b)public facilities and services:

ROADS - State Highway 26, County Roads, Public and private easements.
FIRE - Elsie-Vinemaple Fire District.
WATER - Elderberry-Nehalem Water System serves about 80% of the area.

(c)parcel size and ownership patterns:

This area consists of 203 parcels totaling 349.77 acres. The overall average lot size is 1.72 acres. There are 6 parcels ten acres and larger totaling 120.69 acres, or about 35% of the total exception area.

(d)neighborhood and regional characteristics:

There are currently 73 commercial and residential structures in this area. The commercial structures house a gas station, a towing service, a restaurant and a motel. The overall residential density is about 1 d.u. per 4.8 acres.

(e)natural boundaries:

The Nehalem River seperates this exception are from farm and forest lands to the west.

CONCLUSION

This area is irrevocably built and committed to residential and commercial development because of the following factors:

- Public facilities are developed to such a level that their efficient provision is dependent on continued residential development.
- A pattern of small parcel sizes prevents effective farm or forest management.
- residential and commercial development are at levels which preclude farm or forest management.
- A natural boundary seperates this exception area from adjacent resource land to the west.

4.DA □600 .33
3000 .43
3100 1.00
2200 .25
□ 3300, 3400 .47
3200, □ 3500 .74
□ 3700 1.02
3900, 4300 .83
3600 .52
3900 .45
900, □ 4100, 4200 .88
5000 .11
□ 4900 .39
4800 .46
□ 4700 .43
4600 .20
□ 2804 .30
2800 .29
□ 4500 .43
4400 .31
2807, □ 2803 .22

4.7.4DA 2802 .16
□ 2808 .17
5200 .48
5300 .40
5400 .40
□ 5500 .38
□ 5600 .60
5100 .49
2300 .75
2400 .25
□ 2502 .30
□ 2501 .52
2503 .33
2500 .31
2603 .20
2600 .43
2604 .16
2601 .44
2602 .40
2700 .50
4.7.3BC □100 .40
□ 200 .36
200 .29
400 .29
500 .28
[illegible] .30
□ [illegible] .22
200 [illegible]

□ 900 .53
1000, □ 1100, 1200 1.22
1300 .45
1400 .47
1500, 1600, 1700 1.30
1800, 1900 .44
2000, □ 2100 .56
□ 2200, 2300 .54
□ 2400 .27
□ 2500 .44
2600, 2700 .56
□ 2800 .34
2900 .37
□ 3100 .25
3200 .29
3300 .36

.4 - □ 12,000 15.28
1100 .92
□ 1000, 900 10.00
600 15.83
1300 1.00
□ 800 9.20
□ 802 2.70
□ 803 1.25
□ 801 2.60
604 9.96
605 5.16
611 1.27
602 4.93
610 5.00
601 3.72
607 1.06
615 5.00
613 5.00
603, 604 10.00
614, 612 10.01
606 5.15
608 5.12
211 5.07
[illegible] 5.04
200 5.08
212 5.06

214 1.02
204 1.32
205 1.05
206 .29
□ 400 6.74
□ 401 1.27
□ 208, □ 300 6.93
□ 100 5.83
216 53.41
2400 8.58
2405 4.32
□ 2401, 2404 1.32
2402 1.16
2100 2.24
2400 1.84
2000, 2200 16.16
2003 .68
1900 .69
1800 5.46

4.7.4 DA 1701 .35
□ 1700 .52
□ 1600 .25
□ 1501 .21
1400 .07
1401 .10
1400, 1800 .25
□ 2000 .40
□ 2100 2.00
□ 900 .73
□ 901 .67
□ 1000 .60
□ 1101 .48
□ 1100 .46
□ 1200, 1301 .30
□ 1300 .21
100 1.08
200 .46
300 .40
400, 500 1.05
801 .26
□ 802 .33
□ [illegible] .47
□ [illegible] .54
□ 600 .33

3CB

□ 1000	
1013	.21
2000	.21
3000	.42
4000	
5000	.42
□ 6000	
7000	.21
8000	.21
9000	.46
10000	
11000	.97
□ 12000	
13000	.24
14000	.59
15000	.36
□ 16000	.31
17000	.20
18000	
19000	.65
20000	
21000	.49
2400	1.15
□ 2500	.45
□ 2700	1.24
2900	.18
3000	.24
3100	.52
3200	
[illegible]	.30
[illegible]	.26

3700	.95
□ 3900	.58
4000	.41
4100	.59
4200	
4300	.23
4400	
□ 4500	.99
4600	
□ 5500	
5600	.25
5700	
5800	.13
□ 5900	.18
□ 6000	.33
6100	.28
6200	.31
6300	.28
4700	.50
4800	.27
□ 4900	.24
□ 5000	.21
□ 5100	.19
6400	.16
6502	.16
6501	.35
6500	.19
6900	.19

7000	.28
9000	
8903	3.77
8900	
□ 8901	.56
8902	1.36
□ 8500	.49
8600	.83
8700	
7100	.59
7200	.55
7300	.52
7400	.49
7500	.41
7600	.49
7700	.42
7800	.63
8200	
8300	.22
8400	.24
8100	.26
□ 7900	
7901	.27
□ 8000	
□ 1101	.19
1104	.45
1103	.40
[illegible]	.20

all	ge 10 @
n = 203	n = 6
@ = 1.72	@ = 20.12
$\mathcal{E}$ = 349.77	$\mathcal{E}$ = 20.69 or 35%

□ = 73 or 1/4.79@

Planning Area: ELSIE-JEWELL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FB, some FC

Maps: 5-7-29DC
5-7-29DD
5-7-32A
5-7-32AA
5-7-32AC
5-7-32DB

FINDINGS

(a)adjacent uses:

WEST }
NORTH } Forestry

EAST - Agriculture
SOUTH - Public Park

(b)public facilities and services:

FIRE - Elsie-Vinemaple Fire District.
WATER - Elderberry-Nehalem Water System serves the northern built-up portion of the exception area.
ROADS - County Roads, gravel public roads.

(c)parcel size and ownership patterns:

There are 112 parcels in this exception area totaling 166.97 acres. The overall average parcel size is 1.49 acres. Four parcels are ten acres or larger, totaling 66.15 acres or about 40% of the total exception area.

(d)neighborhood and regional characteristics:

Currently there are 36 homes in this exception area at an overall average density of about 1 d.u. per 4.64 acres.

(e)natural boundaries:

The Nehalem River seperates this exception area from agricultural lands to the east.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following reasons:

- The level of available public facilities and services is such that continued residential development is necessary to assure the efficient provision of these services.
- Effective farm or forest management is precluded by a pattern of small parcel sizes.
- Both the number and density of existing residences is such that farm or forest management is not practical.
- A natural boundary seperates this area from agricultural lands to the east.

2 AC

2200	.54
2300	
2400	.14
2500	.17
2600	.32
□ 2700	.17
2800	.29
2900	.39
3000	.17
3100	.48
3400	.67
□ 3500	
3600	.44
□ 3700	
3800	.25
3900	.37
□ 4100	
□ 4000	.14
4202	.25
□ 4201	.24
□ 4300	.71
4400	
□ 4500	
4501	
4600	

5·7·32 AA

100	.12
200	.13
300	.12
400	.25
500	
□ 600	.11
700	.21
800	
900	.26
1000	
1100	.14
1200	.19
1300	
1400	.33
1500	
1600	
□ 1700	.35
□ 1900	.14
2000	1.36
2001	.21
2100	.58
2200	
□ 2300	.53
2400	.27
2500	.53
2600	
2700	.51
2800	
2900	.31
3000	.27
3100	.23
3200	1.15

5·7·32 DB

100	.07
200	1.62
300	
400	.21
500	.28
501	.41
601	.61
603	
700	.36
□ 602	.12
□ 604	.34
600	.30

all = $n = 112$

$\bar{x} = 1.49$

$\Sigma = 166.97$

ge 10 $n = 4.$

$\bar{x} = 16.54$

$\Sigma = 66.15$ (4c

□ = 36 or

1/4.64c

·32A	1612	5.38
	1600	12.50
	▫1611	6.58
	1600	15.70
	1613	5.37
	1609	.11
	1610	.46
	1608	9.51
	1607	8.84
·29DD	100	.12
	200, ▫ 300	.31
	▫ 400	.55
	800, 900	.30
	1000	.32
	1200, ▫ 1300	.29
	1400, 1500	.28
	1600, 1700	.26
	1800, 1900	.24
	2000	.13

5·7·29DD	▫ 2100	.39
	▫ 2400	.68
	▫ 2500	.33
	▫ 2600	.19
	▫ 2700	.13
	▫ 2800	.62
	3100	.30
	▫ 3200	.27
	3300, ▫ 3400	.69
	3500	.33
	3600	.37
	3700	.32
	3800	.35
	3900	.39
	4100	.25
	4000	.24
5·7·29DC	▫100	2.31
	200	1.93
	300	5.55
	400, 500	10.77
	600, 700, 800	27.18

5·7·29DC	900	2.7
	1000	4.6
	1100	6.4
	1200	8.2
5·7·32AC	▫100	.2
	▫ 200	.2
	300	.2
	▫ 400	.2
	▫ 500	.
	600	.
	700	.7
	800, 900	.6
	1000	.2
	1100, ▫ 1200	.4
	1300	.1
	1400	.0
	1500	.1
	▫1600	.3
	▫1700	.1
	1901	.2
	▫ 1900	.4
	2000, ▫ 2100	

Planning Area: ELSIE-JEWELL
Goal 3 - - soils: IIw
Goal 4 - - site class: FC

Maps: 5-7-29
5-7-29DD

FINDINGS

(a)adjacent uses:
Agriculture.

(b)public facilities and services:
ROADS - Bay County Road (gravel).
FIRE - Elsie-Vinemaple Fire District.

(c)parcel size and ownership patterns:
This 13.33 acre exception area consists of 17 small parcels, ranging in size from .12 acres to 7.31 acres. The overall average lot size is .78 acres.

(d)neighborhood and regional characteristics:
There are a total of 5 homes in this exception area at an overall average density of about 1 d.u. per 2.67 acres.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- A pattern of small parcel sizes prevents effective farm or forest management.
- The concentration of residences precludes farm or forest use of this exception area.

29	▫ 800	7.31
	601	1.28
2900	▫ 5900	
	▫ 5800	.93
	5700	.51
	5600	
	5500	1.15
	5400	
	5300	.20
	5200	.21
	5100	.24
	5000	.26
	▫ 4900	.16
	▫ 4800	.17
	4700	.14
	4600	.16
	4500	.20
	4400	.13
	4300	.12
	4200	.26

17 pounds

.78 m @

13.33 @

Planning Area: ELSIE-JEWELL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FA, FB

Maps: 5-7-33
5-7-34

FINDINGS

(a)adjacent uses:
Forestry.

(b)public facilities and services:
FIRE - Elsie-Vinemaple Fire District.
ROADS- Cow Creek County Road.

(c) parcel size and ownership patterns:
This 77.88 acre exception acre consists of 18 parcels ranging in size from .69 acres to 9.68 acres. The overall average lot size is 4.33 acres.

(d)neighborhood and regional characteristics:
There are a total of 12 houses in this exception area at an overall average density of 1 d.u. per 6.49 acres.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- The level of public facilities is such that continued residential development is necessary in order to assure the continued cost-effective provision of those public facilities and services.
- Efficient farm and forest management is precluded by a pattern of small parcel sizes.
- Both the number and density of existing residences is such that farm or forest management is prevented.

.33	▫ 100	1.32
	▫ 102	6.30
	103	6.80
	104	.69
7.34	200	2.40
	▫ 201 } 300 }	7.48
	▫ 400 } 405 }	5.56
	▫ 401	7.01
	501	.90
	▫ 503	2.84
	500	1.06
	▫ 504	1.76
	▫ 502	.90
	▫ 602	8.28
	▫ 600	5.00
	▫ 406	4.66
	▫ 402	5.24
	407	9.68

~~35 parcels~~
~~27 @~~
~~45.65 @ total~~

all 18 parcels
4.33 @
77.88 @ total

all 50 parcels
6.82 @
61.35 @ total

Planning Area: ELSIE-JEWELL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FB

Maps: 5-7-27
5-7-28
5-7-28AC
5-7-28BD
5-7-28BD

FINDINGS

(a)adjacent uses:

NORTH - agriculture.

SOUTH }
EAST } Forestry
WEST }

(b)public facilities and services:

WATER - The portion of this exception area platted as "Evergreen Acres" and zoned RA-1 is served by the evergreen acres water system.
FIRE - Elsie-Vinemaple Fire District.
ROADS - County Road, private gravel roads.

(c)parcel size and ownership patterns:

This 133.09 acre exception area consists of 109 parcels ranging in size from .19 acres to 15.93 acres. The overall average parcel size is 1.22 acres. There are 2 parcels ten acres or larger totaling 28.73 acres or about 22% of the exception area.

(d)neighborhood and regional characteristics:

There are 72 residences in this exception area at an overall average density of 1 d.u. per 1.85 acres.

(e)natural boundaries:

The Nehalem River seperates the northwestern portion of this exception area from farm land to the north.

CONCLUSION

This area is irrevocably built and committed to residential development because of the following factors:

- The level of public facilities is such that continued residential development is necessary in order to assure efficient delivery of such services.
- Efficient farm or forest management is precluded by a pattern of small parcel sizes.
- Both the number and density of existing residences is such that farm or forest management is prevented.
- A natural boundary seperates this exceptio area from agricultural land to the north.

30	2350	.51	1400	.25
	2900	.28	1500	.50
	3000	.25	1600	.51
	3100	.25	1700	.25
	3200	.25	1800	.36
	3300	.25	1900	.38
	3400	.25	2000	.35
	3500	.25	2100	.25
	3600	.25	2200	.40
	3700	.35	2300	.32
	3800	.50	2400	.32
	3900		2500	.41
	4000	.87	2600	.52
	4100		2700	.48
	4200	.36	2800	1.16

all	ge 10
$n = 109$	$n = 2$
$\bar{x} = 1.22$	$\bar{x} = 14.37$
$\hat{\sigma} = 133.09$	$\hat{\sigma} = 28.73$ (225%

28DB	100	.68
	200	.73
	300	.76
	400	.68
	500	.48
	600	.41
	800	.51
	900	.28
	1000	.42
	[illegible]	.51
	[illegible]	.53
	1300	.26

3

505		5.7.27 BC	900	5.17	5.7.28 AC	2205	.71
503			□ 100	1.67		2206	.91
□ 502	12.50		□ 200	4.34		□ 2207	
508			□ 400	15.93	5.7.28 BD	□ 100	.5
509			□ 600	5.17		200	.4
800	3.42					□ 300	.3
900	.98	5.7.28 AC	□ 100	.36		□ 400	.26
1000	.48		200	.40		500	.30
1101	.66		300	.50		600	.32
1100	.19		400	.51		700	.29
1200	3.39		500	.60		□ 800	.32
1203	5.48		□ 700	.62		□ 900	.34
1202			□ 900	1.42		1000	.61
□ 1204	6.62		□ 1100	1.37		1100	1.02
102	1.70		1200			□ 1200	.44
□ 101	.73		□ 1300	.80		1300	.35
□ 301	1.50		□ 1400	.31		1400	.29
300	1.50		□ 1500	.44		1500	.50
□ □ 400	7.80		□ 1600	.31		□ 1600	
401	1.00		□ 1700	.29		□ 1700	.50
506	.21		□ 1800	.32		□ 1900	
507	1.62		□ 1900	.32		□ 1900	.50
500	6.90		□ 2000	.30		□ 2000	
500	3.70		□ 2100	.27		□ 2100	.25
			□ 2201	.74		□ 2200	.25
			□ 2202	.71		□ 2300	.25
			□ 2203	.86		□ 2400	.74
			□ 2204	1.01		2500	.50
						□ 2600	

Planning Area: ELSIE-JEWELL
Goal 3 - - soils: II, III, IV, and some VI.
Goal 4 - - site class: FB

Maps: 5-7-13
5-7-23

FINDINGS

(a)adjacent uses:
Forestry.

(b)public facilities and services:
ROADS - Fishhawk Falls State Highway.

(c)parcel size and ownership patterns:
This exception area consists of 16 parcels totaling 144.91 acres. The overall average parcel size is 9.06 acres. There are 5 parcels larger than ten acres totaling 120.46 acres, or about 83% of the total exception area. Parcel sizes range from .69 acres to 41.97 acres.

(d)neighborhood and regional characteristics:
There are currently 11 houses in this exception area at an overall average density of 1 d.u. per 13.17 acres.

(e)natural boundaries:
The Nehalem River seperates the entire exception area from forest lands to the south and east. Fishhawk Falls State Highway separates the area from forest lands to the north and west.

(f)other relevant factors:
This exception area is a long and very narrow strip lying between the road and the river. Parcels range from 40 to 750 feet deep. Most of the area is between 200 and 400 feet deep. River protection requirements of the Oregon Forest Practices Act further reduce the effective areas of these parcels for forestry.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- Efficient farm or forest management is precluded by a pattern of small parcel sizes.
- The density of existing residential development conflicts with effective farm or forest management.
- Natural boundaries separate the exception area from surrounding forest lands.
- The narrow configuration of the area precludes effective forest and farm management.

23	▫ 500	12.75
	▫ 203	2.50
	▫ 202	2.50
	200	22.16
	▫ 201	2.50
	300	1.35
	▫ 301	.86
	▫ 302	.87
	▫ 303	1.68
	▫ 100	23.00
7.13	700, 901	1.75
	600, 902	.72
	500	.69
	▫ 800, ▫ 400	41.97
	▫ 300	20.58
	200	8.53

parcels

.06 @

.91 @ total

10@ 5 parcels

24.09 @

Planning Area: ELSIE-JEWELL
Goal 3 - - soils: II, III, some IV.
Goal 4 - - site class: FB, some FC and FA

Maps: 5-6-6
5-7-11
5-7-12
5-7-12B

FINDINGS

(a)adjacent uses:
Forestry and agriculture.

(b)public facilities and services:
ROADS - State Highway 202 and Fishhawk Falls State Highway.
FIRE - Not in a Fire District, but this area does have a cooperative agreement with the Elsie-Vinemaple Fire District.

(c)parcel size and ownership patterns:
This area consists of 26 parcels totaling 126.36 acres. The overall average lot size is 4.86 acres. There are three parcels larger than ten acres, totaling 89.98 acres or about 71% of the total exception area.

(d)neighborhood and regional characteristics:
There are a total of 15 residential and commercial structures in this area at an overall average density of 1 per 8.42 acres.

(e)natural boundaries:
The western portion of this exception area is bounded on the south by an abandoned railroad right-of-way. The eastern portion of the exception area is separated from forest lands to the north by the Nehalem River, and from forest lands to the south by the Nehalem Highway.

CONCLUSION

This area is irrevocably built and committed to residential, commercial and industrial development due to the following factors:

- Efficient farm or forest management is precluded by a pattern of small parcel sizes and by the density of existing development.
- The area is separated by natural boundaries from adjacent farm and forest lands.

	400	
▫	500	33.58
	800	
▫	402	1.92
	600	2.40
▫	700	1.11
▪	1000	.26
▫	1003	3.42
▫	1001	1.32
▫	900	2.89
	100	41.97
	102	1.00
	101	.23
▫	500	14.43
	200	.09
12	102	1.81
	300	1.00
	200	1.00
128	▫ 300	1.20
	▫ 900	1.00
	▫ 1000	.61
	800	.05
	▫ 700	.21
	▫ 1100	1.64
	▫ 1400	
	▫ 1500	3.36

5.6.6 ▪ 800 1.00
600 .84
700 1.96

ul # n = 26
$\bar{m}$ @ = 4.86 @
total @ = 126.36 @

gt 5.00 @ # n = 4
$\bar{m}$ @ = 24.41 @
@ total = 97.62 @

15th

Planning Area: ELSIE-JEWELL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FB

Maps: 6-6-21A
6-6-21D

FINDINGS

(a)adjacent uses:
Forestry and agriculture.

(b)public facilities and services:
ROADS: Northrup Creek County Road.

(c)parcel size and ownership patterns:
This area includes 14 parcels totaling 107.38 acres. The overall average lot size is 7.67 acres. There are 4 parcels larger than ten acres totaling 47.25 acres, or about 44% of the total exception area.

(d)neighborhood and regional characteristics:
There are currently 10 houses in this exception area at an overall average density of 1 d.u. per 10.75 acres.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following reasons:

- Efficient farm or forest management is precluded by a pattern of small parcel sizes.
- Both the number and density of existing residences are incompatible with farm or forest management in this area.

.UP CREEK AREA

0.21 A	100	4.63	
	▫ 200	8.13	
	▫ 300	~~5.00~~	
	▫ 301	9.83	all:
	▫ 302		14 parcels
	400	8.43	7.67 @
	401	11.35	107.38 @
	▫ 500	~~[illegible]~~	
	▫ 600	14.57	gt. 10 @ 4 parcels
	700	4.17	11.81 @
	701	4.54	47.25 @
6.21 D	▫ 1500	5.42	
	▫ 1400	10.16	
	1200	7.33	
	▫ 1300	7.65	
	1700	6.00	
	▫ 1800	11.19	

Planning Area: ELSIE-JEWELL
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FB, some FC

Maps: 6-6-1AA
6-6-1AB
6-6-1AD
6-6-1BD
6-6-1DB

FINDINGS

(a)adjacent uses:
Forestry.

(b)public facilities and services:
WATER - Fishhawk Lake Service Company.
SEWER - Fishhawk Lake Service Company.
FIRE - Mist-Birkenfeld Fire District.
ROADS - County Roads, private subdivision roads.

(c)parcel size and ownership patterns:
This exception area consists of 222 parcels totaling 73.26 acres. The overall average lot size is .33 acres. The largest parcel is 2.39 acres.

(d)neighborhood and regional characteristics:
There are currently 45 homes in this exception area at an overall average density of 1 d.u. per 1.62 acres.

(f)other relevant factors:
Fishhawk Lake is an artificial lake created in the 1960's.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- The types and levels of public facilities and services in this area is such that farm or forest management is economically impractical.
- A pattern of small parcel sizes precludes agriculture or silviculture.
- The number and density of existing residences is incompatible with either farm or forest management.

HAWK LAKE ESTATES.

LAA

100	.23	2800	.24	66.1 AB	100	.29
200	.22	2900	.22		200	.26
300	.23	3000	.48		300	.26
400	.22	3100	.51		400	.25
500	.26	3200	1.44		500	.21
600	.36	3300	1.69		600	.24
700	.39	3400	2.39		700	.22
800	.46	3500	1.08		800	.22
900	.41	3600	.51		900	.23
1000	.39	3700	.34		1000	.23
1100	.33	3800	.51		1100	.23
1200	.37	3900	.81		1200	.30
1300	.30	4000	.60		1300	.26
1400	.29	4100	.41		1400	.28
1500	.27	4200	.30		1500	.26
1600	.29	4300	.40		1600	.25
1700	.18	4400	.40		1700	.29
1800	.25	4500	.37		1800	.34
1900	.29	4600	.37		1900	.42
2000	.27	4700	.37		2000	.35
2100	.21	4800	.38		2100	.32
2200	.25	4900	.40		2200	.28
2300	.28	5000	.44		2300	.49
2400	.21	5100	.48		2400	.46
2500	.22				2500	.45
2600	.23				2600	.61
2700	.24				2700	.74

IBD	▫ 1000	.23	2200	.04	4800	.29	
	1100	.31	2201	.23	4900	.29	
	▫ 1200	.33	2202	.17	▫ 5000	.30	
	▫ 1300	.43	2300	.23	5100	.30	
	▫ 1400	.36	2301	.15	5200	.30	
			▫ 2400	.31	▫ 5300	.30	
1. DB	100	.24	2500	.29	5400	.30	
	200	.24	▫ 2600	.36	▫ 5500	.31	
	▫ 300	.27	2700	.30	5600	.30	
	400	.31	2800	.22	5700	1.62	
	▫ 500	.27	▫ 2900	.27			
	600	.23	3000	.22			
	700	.22	3100	.22			
	800	.24	3200	.22			
	900	.26	3300	.22			
	1000	.26	3400	.22			
	▫ 1100	.26	3500	.22			
	▫ 1200	.29	3600	.45			
	1300	.27	3700	.22			
	1400	.27	3900	.22			
	1500	.29	4000	.22			
	1600	.39	▫ 4100	.22			
	1700	.39	4200	.22			
	1800	.38	▫ 4300	.22			
	1900	.38	4400	.51			
	2000	.35	4500	.26			
	2100	.18	4600	.32			
	▫ 2101	.26	4700	.29			

n = 222

$\bar{m}$ = .33

73.26

.AB	2800	.74		2300	.24	4900	.51
	2900	.74		2400	.24	5000	.36
				2500	.24	5100	.31
				2600	.20	5200	.38
.1.AD	▫ 100	.32		▫ 2700	.21	▫ 5300	.36
	▫ 200	.29		2800	.22	5400	.30
	300	.25		2900	.21	5500	.26
	▫ 400	.24		▫ 3000	.22	5600	.24
	500	.28		3100	.27	5700	.25
	▫ 600	.23		▫ 3200	.32	5800	.27
	700	.23		▫ 3300	.26	5900	.21
	800	.23		3400	.28	6000	.22
	900	.28		3500	.24	6100	.20
	1000	.24		3600	.22	6200	.24
	1100	.28		3700	.27	6300	.25
	▫ 1200	.30		3800	.25	▫ 6400	.24
	1300	.30		▫ 3900	.24	6500	.31
	1400	.30		▫ 4000	.24	6.6.1.BD ▫ 100	.21
	1500	.27		4100	.25	200	.23
	1600	.25		4200	.29	300	.33
	1700	.24		4300	.29	400	.30
	▫ 1800	.23		4400	.31	500	.30
	1900	.25		▫ 4500	.31	600	.32
	2000	.26		4600	.31	700	.27
	2100	.25		▫ 4700	.31	▫ 800	.19
	2200	.23		4800	.35	▫ 900	.21

Planning Area: LEWIS AND CLARK Map: 7-9-13
Goal 3 - - soils: II, III and IV.
Goal 4 - - site class: FC, some FB.

FINDINGS

(a)adjacent uses:
Agriculture.

(b)public facilities and services:
WATER - Olney-Walluski Water Association.
ROADS - State Highway 202.

(c)parcel size and ownership patterns:
There are 16 parcels in this exception area totaling 61.86 acres. The overall average lot size is 3.87 acres. There are two parcels ten acres or larger totaling 22.59 acres or about 37% of the total exception area.

(d)neighborhood and regional characteristics:
This exception area is developed to an average density of 1 d.u. per 5.16 acres.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- Public services and facilities are developed to a level which precludes farm or forest management.
- A pattern of small parcel sizes prevents efficient agriculture or forestry in this area.
- Both the number and density of residences in this area are incompatible with farm or forest management practices.

LLUSICI ATCH

1800	1.10
1901	3.15
2000, 2001	10.61
2200, 2301	1.42
2300	3.80
2400	1.12
2500	1.82
2600	1.80
3001	231
2700, 2701	4.62
2800	4.41
1700	3.11
701	.42
700	.23
800, 803	11.98

all

n = ~~15~~ 16

$\bar{a}$ = 3.46 3.87

61.86 ~~51.90~~ @ total

gt. 10 @

n = 2

22.59 @ total

37 %

F91.3 3/0/96

3/0/96

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: II
Goal 4 - - site class: FB

Maps: 7-9-11
7-9-12
7-9-13

FINDINGS

(a)adjacent uses:

SOUTH - Agriculture

NORTH }
EAST } - Forestry.
WEST }

(b)public facilities and services:

ROADS - State Highway 202.
WATER - Olney-Walluski Water Association.

(c)parcel size and ownership patterns:

This exception area consists of 8 parcels totaling 52.84 acres. The overall average lot size is 6.61 acres. There are 3 parcels ten acres or larger totaling 36.83 acres or about 70% of the total exception area.

(d)neighborhood and regional characteristics:

There are currently 7 structures in this area, including a store, a shake mill, a grange hall and a school building. The overall average density is 1 per 7.55 acres.

(e)natural boundaries:

This exception area is bounded on the south by the abandoned Astoria Pacific Railroad right-of-way, which seperates it from adjacent farm land.

CONCLUSION

This exception area is irrevocably built and committed to residential, commercial and industrial uses for the following reasons:

- The level of available public facilities is such that their continued delivery in a cost-effective manner depends on continued development in this area.
- A pattern of small parcel sizes precludes agriculture or forestry.
- Both the number and density of existing non-farm, non-forest structures is incompatible with farm or forest practices.

LNEY

9.11 ▫300 ▫2.00

2400 ▫1.01

7-9-11 2600 ▫13.06

500 } 10.19

-9.13 ▫ 400

401

-9.12 ▫501 } 13.54

600

▫ 700 2.00

800 } 3.56

~~[illegible]~~

.3 ▫300 7.34

7 parcels

5.60 @

39.78 @ total

all n = 8

@ = 6.61

Σ = 52.84

[illegible] n = [illegible]

@ = [illegible]

Σ = [illegible]

or 7[illegible]

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: Not Mapped
Goal 4 - - site class: FB

Maps: 7-8-17
7-8-20

FINDINGS

(a)adjacent uses:
NORTHEAST - Fish Hatchery.

SOUTH }
EAST }
WEST } Forestry
NORTHWEST }

(b)public facilities and services:
ELECTRICITY - West Oregon Electric Co-op.
ROADS - State Highway 202

(c)parcel size and ownership patterns:
This exception area includes 6 parcels totaling 64.18 acres. The overall average parcel size is 10.7 acres. There are two parcels larger than ten acres, totaling 41.33 acres or about 64% of the total exception area.

(d)neighborhood and regional characteristics:
The area is currently developed to an overall average density of about 1 d.u. per 13 acres.

(e)natural boundaries:
The Klaskanine River forms a natural boundary to the southwest, separating the exception area from adjacent forest lands.

(f)other relevant factors:
The Klaskanine River can not be used to irrigate farmland, according to the state watermaster. Only stock watering and domestic removal are permitted.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following reasons:

- A pattern of small parcel sizes precludes farm or forest management.
- The density of existing residences is incompatible with farm or forest management practices.
- A natural boundary separates the area from adjacent forest land.
- Restrictions on water removal from the Klaskanine River make many types of agricultural practices impractical.

3.17.	1000	13.11
	1002	5.45
7-8-20	□ 201	
7-8-17	700	28.22 ~~26.02~~
7-8-20	□ 401	
	□ 402	7.80
	□ 403	4.60
	□ 300	6.00

$n = 6$

$\bar{m} = 10.70$

~~$n = 5$~~

~~$\bar{m} = 12.54$~~

$\Sigma = 64.18$

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: IV, some II and III.
Goal 4 - - site class: FD, FE.

Maps: 8-10-25
8-10-36

FINDINGS

(a)adjacent uses:

WEST }
SOUTH } -- mixed agriculture and forestry.
NORTH }

EAST - Estuary.

(b)public facilities and services:

FIRE - LEWIS and Clark Fire District.
ROADS -State Highway 101 Alt., Fort Clatsop County Road.

(c)parcel size and ownership patterns:

This area consists of 13 parcels totaling 60.32 acres. The overall average lot size is 4.64 acres. There is only one parcel larger than ten acres: a 15.86 acre parcel which encompasses about 26% of the total exception area.

(d)neighborhood and regional characteristics:

There are presently 12 homes in this exception area at an overall average density of 1 d.u. per 5.03 acres.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- The continued efficient provision of the available public facilities depends on the continued residential development of this area.
- A pattern of small parcel sizes precludes farm or forest management of this area.
- The density of existing residences in this area is incompatible with agricultural or forest practices.

10.25 700, 704 } 15.86

702, 703, 701 } □ 5.24

800, 900 } □ 4.28

500 1.39

1000 □ 1.52

1100 □ 1.50

1200 □ 9.09

1201 □ 4.16

all

$n = 13$

$\bar{@} = 4.64$

$\Sigma = 60.32$

g.e. 5@

$n = 4$

$\bar{@} = 9.38$

$\Sigma = 37.51$

10.36 3000 □ 7.32

2900 □ 1.21

2700 □ 4.39

2707, 2207, 2704 } □ 3.32

2600 □ 1.09

ge 10@

$n = 1$

Σ 15.86

D: 12

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: IVw
Goal 4 - - site class: none

Maps: 8-9-19AA
8-9-19AD
8-9-19DA
8-9-19DD

FINDINGS

(a)adjacent uses:
Estuary and agriculture.

(b)public fcilities and services:
WATER - Youngs River/Lewis and Clark Water District.
FIRE - Lewis and Clark Fire District.
DIKES - Diking District No. 3
ROADS - State Highway 101 Alt.

(c)parcel size and ownership patterns:
This area consists of 26 parcels totaling 12.13 acres. The overall average lot size is .47 acres. The largest parcel is 1.86 acres.

(d)neighborhood and regional characteristics:
The area includes 16 commercial and residential structures at an overall average density of 1 per .76 acres.

CONCLUSION

This area is irrevocably built and committed to residential and commercial uses because of the following factors:

- Public facilities and services are available in this area at a level which precludes farm or forest uses.
- A pattern of small parcel sizes precludes farm or forest uses.
- Agricultural and forest practices are incompatible with both the number and density of residential and commercial structures in this area.

9

.9.19AA 300 □ .11

8.9.19 DA 300 .34

.9.19AD 1600 .06
1700 □ .17
1800 } .92
1900 } 1.05
2100 .13
2200 }
2301 } .52
2400 .22
2500 }
2600 } □ .42
2800 □ .34
3000 □ .32
100 □ .79
200 □ }
300 □ } .14
400 .12
500 .25
301 □ .28
600 □ .12
700 }
800 } □ .49
900 □ 1.86
1000 □ □ .12
1100 }
1200 } □ 1.52

8.9.19 DD 400 □ .46
500 □ .46
600 □ .46

all - n = 26
@ = .47
Σ = 12.13 acres.

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: IVw.
Goal 4 - - site class: FB.

Maps: 8-9-29 8-9-29BB
8-9-30AA 8-9-30AB
8-9-30AC 8-9-30AD
8-9-30BA 8-9-32BB
8-9-30BC 8-9-30BD
8-9-30CB 8-9-30DB
8-10-25AD 8-10-25DA

FINDINGS

(a)adjacent uses:

NORTH }
EAST } agriculture
SOUTH }

SOUTH - agriculture and forestry.
WEST - Lewis and Clark River Estuary.

(b)public facilities and services:

WATER - Lewis and Clark/Youngs River Water District.
FIRE - Lewis and Clark Fire District.
ROADS - State Highway 101 Alt., various paved county roads.
DIKES - Diking Districts nos. 2, 3 and 5.

(c)parcel size and ownership patterns:

This area consists of 247 parcels totaling 293.48 acres. The overall average lot size is 1.19 acres. There are only 4 parcels ten acres or larger comprising 48.61 acres or about 17% of the total exception area.

(d)neighborhood and regional characteristics:

There are a total of 201 structures in this area, including numerous commercial, industrial and institutional structures. The overall average density is about 1 per 1.46 acres.

(e)natural boundaries:

Jeffers Slough separates part of the southern part of this exception area from adjacent farm land. Another slough separates the northeastern portion of the area from adjacent farm land to the north.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- The level of public facilities and services available in this area is such that farm or forest uses are precluded.
- Efficient farm and forest management is precluded by the pattern of small parcel sizes in this exception area.
- Farm and forest management is incompatible with both the number and density of residential, commercial and industrial structures in this area.
- Natural boundaries separate portions of this exception area from adjacent farm lands.

30

.30 DB

101, 100 □ 11.71

200 □ .50

300 □ .37

400, 500 □ 1.81

600 □ 5.48

1.30 AC

1201 .33

1200, 1101 □ 1.24

1100, 1000 2.41

1300, 1401, 1402 3.32

1500 7.13

900 □ .31

800, 700 □ .68

600 □ .33

500 □ .28

400 □ .42

401, 402 □ .41

300, 200, 201 □ 2.12

8.9.30 AC

100 □ .29

1501 □ .34

1700 □ .46

1800 □ .38

1801 □ .55

2000, 1900, 1901, 1902 □ 2.03

8.9.30 AD

300 2.75

500 □ 1.04

400 □ 2.21

301, 200, 100 □ 4.95

8.9.30 AA

300 1.39

400 □ 3.07

500 □ 1.98

601, 602 □ .67

600 □ 2.12

102 2.86

104 3.63

102 2.82

103, 101 3.24

201, 902 □ .86

700 □ 1.40

8.9.30 AA

800 □ .33

901 □ 1.09

1000 □ 1.7

8.9.30 AB

600, 601, 602 □ 1.75

500, 401 □ 1.68

402 □ 1.19

8.9.30 BA

100 .75

400 .69

700 .15

800 □ .08

900 □ .16

1000 □ .30

1100 □ .36

1400 □ .92

1500 □ .2

1601 □ .2

1700 .2

1600 .2

1800 .9

2000 .9

2100 1.1

2200, 2350 .5

2201 .11

30BA 2601 .34
2600 □ .23
2601, 2500 } 1.26
2300 □ .35
2700, 2800 } □ 1.89
2900 1.97
3000, 3100, 3200, 3400 } □ .71
3300, 3401 } □ .29
3500, 3700 } □ .24
3600 □ .23
3800, 4000 } □ .30
3900 □ .24
4100 □ .35
4400 □ .17
1601 □ .17
4600, 4700 } □ .18
4800 □ .12
4500 □ .23
4300 □ .12
4200 □ .12
4900 □ .13
5200 □ .12

8.9.30BA 5300 □ .23
5400 .23
5500, 6600 } □ .24
5100 □ .35
5500 □ .18
5700 □ .23
5800 □ .23
5900 □ .12
6200 □ .12
6300 □ .23
6301, 6400, 6100 } □ .36
6000 □ .12
6500 □ .67
6600 □ .14
6700 □ .23
6800 □ .23
6604 .11
6900 .36
6902 .23
7000 □ .24
7100 .11
6901 □ .35
8.9.30 BB 2001 □ 3.70
2000 □ 4.09
1500, 1600 } .48

8.9.30BB 1500, 1601 } □ .46
201, 1300, 5700 } 4.05
400 □ .15
401, 600 } □ .20
1000 □ .22
1200, 1300, 1100 } □ .47
1700 .36
1400 .12
1703, 900 } □ .22
1702, 1701, 1704 } □ .44

8.9.30 BC 2300 □ .80
2200 □ .91
2400, 2500, 2600 } □ 2.61
2700 □ .25
2800 □ 2.37
2900 .87
3000 □ 3.62
1200 □ .92
1100 □ .87
1.01, 1.20 } 1.15
1400 □ .18

.0 BC

1302	□	.44
1500	□	2.62
1600	□	.87
1700	□	.68
1701	□	.19
1900	□	.56
1900		1.04
2000	□	.94
403	□	.24
401	□	.12
402	□	.10
300	□	.33
200	□	.55
100	□	.34
600	□	2.67
700	□	.87
800	□	.90
900	□	.90
1000	□	2.14

30 CB

200	□	1.80
301	□	.46
400	□	.38
500	□	.25
600	□	.36
[illegible]	□	[illegible]
650	□	.30
900	□	[illegible]

8.9.30 CB

1000	□	.31
1100	□	.33
1200	□	.33
1300	□	.60

8.9.30 BD

101	□	1.67
102, 100, 103	□	12.72

8.9.29.BB

100		14.00
200, 201	□	10.18
1100	□	.87
1200, 1300	□	.80
1402		.33
1400		.31
1000	□	.98
900	□	.75
1501		.08
1500	□	.56
1600	□	.35
1700	□	.27
1800	□	.52
2200		1.47
2300		.35
1900	□	1.07
2001	□	.41
2000, 2002	□	.42
[illegible]		[illegible]
306	□	.34
[illegible]		[illegible]

8.9.29BB

304	□	.40
800	□	.43
700	□	.43
600	□	2.95
500	□	.58
400	□	.86
302	□	1.34
301		.39

8.9.29

800	□	4.00

8.10.25 AD

100	□	.70
200, 300	□	.55
400		.34
500		.06
600	□	1.66
700		1.01
800	□	1.12
900, 1000	□	1.13
1200		.55
1100, 1400, 1500, 1600	□	2.25
1300	□	1.33
1700, 1501, 1701, 3302	□	2.97
1800, 1900	□	.46

25 AD

2000	□	1.33
2100	□	1.33
2200	□	1.90
2201, 2300	□	1.65
2400	□	.95
2500	□	1.00
2600	□	.46
2700, 2800	□	.46
2900	□	.46
3000	□	.46
3100, 3201	□	1.83
3200		.92
3400	□	.89
3500	□	.72
3600	□	.18
3700	□	.19
3800	□	.69

10-25DA

1100	□	1.05
1200		3.78
1300	□	2.00
1400	□	.51
1500, 1501, 1500	□ □ □	5.90
2501	□	1.74
2400	□	2.13

3.10.25 DA

2200	□	1.14
2100	□	2.40
2000	□	.50
1900	□	1.98
1800	□	1.77
1700	□	6.24
1600		.11
900	□	.46
800	□	.46
700	□	.92
500	□	.19
400	□	.17
300	□	.19
200	□	.92
100	□	3.53
900		1.29

(201 □)

All - n = 247

$\bar{@}$ = 1.19

$\Sigma @$ = 293.48

gt 5e - n = 8

$\bar{@}$ = 9.17

$\Sigma @$ = 73.36

[illegible] - n = 4

$\bar{@}$ = 12.15

$\Sigma @$ = 48.61

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: II, III, IV, some VI.
Goal 4 - - site class: FB, some FC.

Maps: 7-9-6, 7-9-6BC, 7-9-6BD, 7-9-6CB, 7-10-1, 8-9-30CA, 8-9-30CB, 8-9-30CC, 8-9-30CD, 8-9-31, 8-9-31BA, 8-9-31CC, 8-10-36

FINDINGS

(a) adjacent uses:

SOUTH }
WEST } agriculture.

EAST - forestry.

(b) public facilities and services:

WATER - Youngs River/Lewis and Clark Water District.
FIRE - Lewis and Clark Fire District.
ROADS - County roads, including Lewis and Clark Road, Mudd Rd., Seppa Rd., and others.

(c) parcel size and ownership patterns:

This area consists of 212 parcels totaling 457.67 acres. The overall average lot size is 2.16 acres. There are 10 parcels larger than ten acres, totaling 151.51 acres or about 33% of the total exception area.

(d) neighborhood and regional characteristics:

This area is built to a density of about 1 d.u. per 2.95 acres.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following reasons:

- The continued efficient provision of existing public facilities and services depends on continued residential development in this area.
- Efficient farm and forest management is precluded by a pattern of small parcel sizes.
- Farm and forest management practices are incompatible with both the number and density of existing residences.

.1	900	□		8.9.31	6600	□ 1.01	8.9.31 4900 □ 4.85
	903		20.88		6602	2.34	4901 2.40
	904				6902	4.83	
	600	□	.92		6800	4.40	8.9.31BA 900 □ 2.37
	700	□	.40		6801	4.84	901 .13
					6702, 6703	□ 2.46	800 1.00
0.36	1700	□	1.47		6704	□ .90	700 □ .23
	1701		4.40		6700	□ .98	600 □ .23
	1703	□	.60		6701	2.29	500 □ .23
	900	□	3.00		6000	□ 22.14	400 □ .23
	800	□	2.00		6500	□ 200	500 .05
	400		.09		6201, 6200	□ 1.50	200 .28
	401		.28		6400	□ 1.00	100 .05
	402	□	.16		6300	□ 1.00	1000, 1100 □ .54
	1002	□	.52		6100	□ 2.00	2200 .24
	1100	□	1.24		5900, 5902, 5901, 6001, 6003	13.30	2000 □ 1.56
	1202	□	.70		5900	□ .92	2300 .47
	1200	□	.36		5700	□ .76	1503 .11
	1203	□	.61		5600	□ .83	2400 .22
	120-	□	.28		5500, 5502	□ .62	1800, 1801 □ 4.29
	1300	□	1.71		5503	.50	1802 □ 2.17
	1500	□	.69		5501, 5403	□ 1.95	1700 □ .29
	1501	□	.70		5401	□ 2.15	1600 □ .23
	1600	□	1.03		[illegible]	□ 3.47	[illegible] □ .2
	1704		.96		5400	3.49	1200, [illegible] .4
9.31	5200	□	10.57				
	5202	□	.27				

9.31 CC	100	1.30
	200	2.01
	300	2.07
	400	1.78
7.9.6	1600	17.00
	1504	2.80
	1507	2.61
	1506	2.32
	1505	3.02
	1502	2.64
	1503	2.65
	1501	.75
	1400	5.14
	1201	10.31
	1300	2.03
	1200	3.85
	1000	7.70
	352	.85
	350	1.68
	301	3.97
	801	1.35
	800 a	2.35
	800 b.	15.00
	800 c.	3.30
	603	.69
	600	7.38

7.9.6	500	.68
	400	6.50
7.9.6 BC	400	~~2.41~~
	401	2.70
	300	2.90
	200	1.35
	500, 600	2.52
	700	2.10
	800	1.70
	900	.43
	1000	2.04
	1100	2.02
	1200	5.57
7.9.6 BD	100, 1100	3.94
	300	1.92
	400	4.18
	500	1.70
	600	2.14
	700	1.58
	800	1.64
	900	1.56
	1000	1.90
7.9.6 CB	100	1.56
	200	1.56

7.9.6 CB	600	.
	500	.
	700	1.0
	800	2.
	900	1.2
	1000	1.2
	~~1001~~	~~1.05~~
	1201	.6
	1100	.3
	1200	.5
	1202	.47
	1300	.43
	1301	.44
	1302	.43
	1400	.27
	1500	.40
	1600	.50
8.9.30 CA	200	1.2
	300	.3
	400	.5
	500	.9
	600	.91
	700	.9
	102	1.1
	800	.
	501	1.
	900	

.9.30 CB 101 } 4.33
104 }
~~103~~ } 2.16
102 }

9.30 CC 1301 □ 1.71
1400 □ 1.68
500 □ 330
400 □ 4.07
1101 1.52
1000 □ .33
900 □ 1.08
101 } □ .79
800 }
700 □ .41
701 □ .45
600 □ .61
301 □ .51
100 □ .46
200 □ .37
300 □ .37
1501 □ 2.04
1500 □ .40
2001 □ .60
2002 □ .50
2000 .40
1900 □ .51
1800 □ .50

8.9.30 CC ~~[illegible]~~
1700 □ 1.18
~~[illegible]~~
2562 □ .98
2200 □ .47
2100 □ .46
3000 □ .36
3001 □ .36
3200 } □ .72
3400 }
3500 □ .36
3700 □ .36
3900 □ .36
3600 □ .36
3300 □ .36
3301 □ .36
3100 □ .36
2300 □ .36
2901 □ .36
2700 □ .36
2600 □ .36
2400 □ .36

8.9.30 CD 600 □ .68
700 } □ 2.20
800 }
500 □ .53
300 □ .17

8.9.30 CD 200 □ 1.48
101 □ 3.67
100 17.33
900 □ 10.43
1000 □ .34
1100 } □ .72
1200 }
1402 } □ 7.16
1400 }
1301 □ .36
1300 □ .34

all: n = 212 parcels
@ = 2.16 acre
Σ @ = 457.67 acre

gr 5@ n = 18 parcels
@ = 11.26 @
Σ @ = 202.60

gr 10@ n = 10 - parcels
@ = 15.15
Σ @ = 151.51

(155 □)

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: II, III and IV.
Goal 4 - - site class: FC

Maps: 7-9-18
7-9-19
7-10-12
7-10-13

FINDINGS

(a)adjacent uses:

NORTH }
EAST } - agriculture and forestry.

WEST }
SOUTH } - forestry.

(b)public facilities and services:

FIRE - Lewis and Clark Fire District.
WATER -Youngs River/Lewis and Clark Water District.
ROADS -County Roads, including Fort Clatsop Road.

(c)parcel size and ownership patterns:

This exception area includes 56 parcels totaling 426 acres. The overall average lot size is 7.6 acres. There are 14 parcels larger than ten acres totaling 276.39 acres, or about 65% of the total exception area.

(d)neighborhood and regional characteristics:

This area is built up to an overall density of about 1 d.u. per 13.30 acres.

CONCLUSION

This area is irrevocably built and committed to residential development because of the following reasons:

- The continued efficient provision of the existing public facilities and services available at this site depends in part on continued residential development in this area.
- Forestry and agriculture are precluded by a pattern of small parcel sizes.
- Many farm and forest practices are incompatible with both the number and density of existing residences in this area.

.12	3100	
	3200	5.42
	3300	
	3400	4.14
	3400	.79
	3500	
	3600	3.48
	3201	1.80
	3202	2.18
	2200	40.62
	2100	
	1100	.76
	1200	.39
	1300	.38
	1900	1.00
	900	12.45
	1000	.90
	1600	17.62
	1900	14.83
	2100	1.22
	2000	.87
7.10.13	100	34.42
	200	9.74
	201	2.80
	300	.85
	[illegible]	[illegible]
	500	10.00
	600	[illegible]

7.10.13	800	19.34
7.9.18	600	10.26
	600	.38
	900	2.52
	1004	23.52
	1005	2.00
	1001	1.00
	1002	10.60
	1100	6.61
	1200	
	1003	17.32
	1201	
	300	4.61
7.9.19	900	2.44
	905	9.30
	903	17.28
	902	5.26
	901	2.20
	904	.82
	900	
	700	4.34
	600	2.48
	1100	7.75
	114	.96
	113	2.09
	[illegible]	[illegible]
	1109	6.00
	1109	[illegible]

7.9.19	1106 6.56
	1111 4.30
	1105 4.84
	1112 5.04
	1101 5.40
	1302 7.70
	1300 7.52

all n = 56
$\bar{@}$ = 7.60
$\Sigma @$ = 425.66

ge 10@ n = 14
$\bar{@}$ = 19.74
$\Sigma @$ = 276.39

ge 15@ n = 9
$\bar{@}$ = 23.74
$\Sigma @$ = 213.62

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: II, III and IV.
Goal 4 - - site class: FB, FC.

Maps: 7-9-7
7-9-7CA
7-9-7DB
7-9-7DD
7-9-8
7-9-8C
7-9-17
7-9-18

FINDINGS

(a)adjacent uses:

WEST }
SOUTH } - agriculture

NORTH }
EAST } - mixed agriculture and forestry.

(b)public facilities and services:

WATER - Youngs River/Lewis and Clark Water District.
FIRE - Lewis and Clark Fire District.
ROADS - Tucker Creek Co. Rd. and Logan Co. Rd.

(c)parcel size and ownership patterns:

There are 91 parcels in this exception area totaling 338.50 acres. The overall average lot size is 3.72 acres. There are 8 parcels larger than ten acres totaling 101.84 acres, or about 30% of the total exception area.

(d)neighborhood and regional characteristics:

- This exception area is includes a church, fire house and a grange hall in addition to 49 residences. The overall average residential density is about 1 d.u. per 6.5 acres.

CONCLUSION

This area is irrevocably committed to residential development due to the following factors:

- The continued cost-effective provision of existing public facilities depends in part on continued residential development in this area.
- Efficient farm or forest management is precluded by a pattern of small parcel sizes.
- Certain farm and forest management practices are incompatible with both the number and density of existing residences in this area.

7.9.7 400 } 9.92
7.9.7CA 500 }
7.9.7 502 1.19
503 1.00
500 □ 1.24
506 5.57
501 } □ 2.22
505 }
700 } □ 15.76
701 } □
1003 3.04

7.9.7CA 600 } □ 3.25
700 }
900 }
400 □ 1.00
200 1.31
300 .78
100 1.68
800 } 9.40
7.9.7 900 }
7.9.7DB 100 9.71
300 □ 1.25
[illegible] = [illegible]
400 [illegible]
[illegible]

7.9.7DB 600 □ 1.01
700 □ 3.92
800 3.87
900 □ .50
1000 □ .50
7.9.7DD 400 □ 1.38
500 1.08
700 1.00
600 1.00
1300 □ 1.36
1400 1.00
1500 □ 1.00
1600 □ 1.00
1700 □ 1.00
1801 □ .28
1800 □ 1.98
1900 □ .50
2000 □ .65
2100 □ .66
2200 □ .59
2201 □ .41
2202 □ .75
1200 □ 5.60
1100 □ 2.50
[illegible] = [illegible]
900 □ .53
800 □ 1.00

7.9.7DD 300 2.56
200 6.43
100 □ 1.00
7.9.8 1901 □ 2.00
2100 6.50
2000 □ 10.13
7.9.8C 400 5.00
300 4.63
800 } □ 4.00
900 }
700 2.00
502 } 12.16
500 }
501 □ .48
1100 □ .68
1000 □ .42
1200 5.72
1300 □ 10.00
1401 2.23
1404 .58
1400 □ 7.05
1500 } □ 1.74
1600 }
[illegible] .94
200 3.93
[illegible]

9.8C 100 □ 1.96

2000 3.83

all 91 parcels

7.9.17 800 □ 1.75

3.72 @

338.50 acres total

700, 703 } 7.84

702 □ .73 gk. 10 @ = 8 parcels

701 □ 1.21 12.73 acres

501, 500 } 10.00 101.84 @ £

400 □ 16.45

300 6.62

302 □ 2.00

201 □ 2.35

200 5.43

1402 4.25

1400 5.01

1402 2.75

1404 5.05

1301 6.80

1200 1.00

1100 □ 6.60

1000, 1001 } □ 12.93

901, 101 } 1.800

7.9.15

100, 7900 } 14.41

7.9.17

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: II, IV, V, some VI and VII.
Goal 4 - - site class: FB.

Maps: 7-9-5
7-9-5AB
8-9-29
8-9-29CA
8-9-32
8-9-32B
8-9-32C
8-9-32D

FINDINGS

(a)adjacent uses:

EAST }
NORTH } - agriculture.

SOUTH }
WEST } - forestry.

(b)public facilities and services:

FIRE - Lewis and Clark Fire District.
WATER- Youngs River/Lewis and Clark Water District.
ROADS- Youngs River Loop County Rd.

(c)parcel size and ownership patterns:

This exception area consists of 115 parcels totaling 296.07 acres. The overall average lot size is 2.57 acres. There are 8 parcels larger than ten acres totaling 114.15 acres or about 39% of the total exception area.

(d)neighborhood and regional characteristics:

There are a total of 88 residences in this exception area at an overall average density of 1 d.u. per 3.36 acres.

(e)natural boundaries:

At the north end of the exception area Cook's Slough separates the exception area from agricultural lands to the east. In the middle portion, Youngs River Loop Rd. separates the exception area from agricultural lands to the east.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- The continued cost-effective provision of existing public services and facilities depends in part on continued residential development in this area.
- Farm and forest management are precluded by a pattern of small parcel sizes in this area.
- Certain farm and forest practices are precluded by the number and density of residences in this area.
- Natural boundaries separate portions of this exception area from farm lands to the east.

.546. 1001, 1000 } □ 1.61

900, 900 } 1.37

1500 x □ .50

1500 4 □ .50

1500 □ 12.92

500 □ .47

400 □ .55

300 □ .46

200 1.00

.32 D 1600 □ 1.32

1700 □ .31

1501 □ .22

1400, 1300, 1000 } □ 2.99

1900 4.24

900 .30

1200 □ 19.6

400 .49

7.9.5 400 □ 7.06

201 □ 2.04

[illegible] □ 1.92

202 □ 4.16

101 □ [illegible]

7.9.5 102 □ 2.60

900 □ 11.50

all = 115 parcels

2.57 @̄

296.07 Σ@

gt. 5@ = 14 parcels

10.84 @̄

151.77 Σ@

88 hses

gt. 10 n = 8

@̄ = 14.27

Σ = 114.15 or 39%

Dow Rd.

34

8.9.29 CA 100 □ .60
102 .08
200 □ .66
300 □ .45
400 □ .46
500 □ .54
600 □ 1.00
1700 □ 1.43
1801 □ .35
1900 .49
8.9.29 1502 } 2.60
8.9.29 CA 2000 }
1800 4.09
1603 } 2.36
8.9.29 1400 }
8.9.29 CA 1500 □ .71
1400 □ 3.36
1300 } 7.71
1600 }
1200 □ .44
1602 □ .45
1100 } □ .45
1001 }
1000 □ .31
900 □ 2.48
700 □ .53

8.9.29 1505 } □ 6.33
1506 }
1504 □ 2.06
1600 □ 1.16
1503 4.02
1700 .84
1800 .77
1900 } □ 9.39
100 }
8.9.32B
201 1.00
200 □ 1.35
300 □ 3.07
400 □ .72
500 □ 1.90
600 3.10
700 5.00
900 □ 2.46
1000 □ 2.00
1101 □ 2.44
1100 □ .29
1200 □ .60
1300 □ .42
1400 □ .21
1500 □ .50
1600 □ 2.00
[illegible] □ [illegible]
1801 □ .35

B.9.32B 1900, 2000, 2100 □ 2.01

2300 1.09

2401 □ 2.03

2500 □ .50

2400 2.47

2902 □ 1.39

2600 □ 2.04

2903 □ .87

2800 □ .39

2900 □ 1.68

2905 1.93

2904 □ 3.31

2905 □ .50

3100 □ .92

3201 .78

3200 □ .97

3300 □ .65

3602 □ 1.04

3601 □ .94

3500, 3400 .39

3604, 3600, 3603 11.70

C.9.32 300 17.18

300 5.46

300 11.96

C.9.32C 400 □ .75

300 □ .51

200 □ .49

100 □ .40

500 □ 2.17

600 6.74

1000 □ .55

900 □ 14.25

1200 □ 1.60

1100 □ .40

1300 □ 5.03

1400 □ .94

1402 □ 3.08

~~1500 □ 3.18~~

~~1501~~

1500 □ 1.34

1700 □ .52

1800 □ .69

1600, 1800, 1400, 1300 □ 14.79

7.9.5 AB

1200 □ 4.03

1100 □ .36

PETER JOHNSON FUND

35

7.9.16 500 □ 12.62

509, 509 □ 5.25

500 11.74

501, 502 ~~□~~ 14.84

503 4.76

504 .52

508 5.38

515 1.50

514 3.40

507 21.31

510 .30

511 □ 2.42

512 □ 1.97

513 4.94

7.9.9 900 □ 9.58

1700 □ 9.50

1500 □ 1.00

2200 3.50

1100 □ 7.00

1000 □ .87

901 □ 1.75

1600 □ 10.02

2001, 2000 □ 23.76

7.9.9 1200, 1202 □ 9.15

1201, 1400 □ 3.44

1500 □ 2.30

2700 □ 7.81

2600 .48

2301, 2800 □ 10.65

2300 14.23

2302 □ 1.64

2303 □ 1.24

2310, 2309 □ 1.28

2305 □ 1.40

2306 □ 2.69

2312 □ 1.46

2308 □ 4.04

2900, 2304 2.44

2901 .51

2400, 2500 6.46

7.9.10 1600 2.64

1700 □ 6.32

all -- na = 65
@ 3.95
&@ 257

gt. 10@ n = 8
@ = V
&@ = 1

46 7/8

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: not mapped
Goal 4 - - site class: FC

Maps: 8-9-21BA
8-9-21BD

FINDINGS

(a)adjacent uses:

NORTHEAST - City of Astoria (residential).
EAST - Forestry.
SOUTH - Forestry.
WEST - Estuary.

(b)public facilities and services:

ROAD - State Highway 202.

(c)parcel size and ownership patterns:

This area consists of 24 parcels totaling 25.84 acres. The overall average lot size is 1.08 acres. The largest parcel is 5.39 acres.

(d)neighborhood and regional characteristics:

There are a total of 16 houses in this exception area at an overall average density of 1 d.u. per 1.62 acres.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- Farm or forest management is precluded by a pattern of small parcel sizes in this area.
- Certian agricultural and forestry practices are incompatible with both the number and density of existing residences.

21BA	1200, 700	1.66	8-9-21BD	300, 800, 500	1.77
	600	.17		301	.17
	1400, 1301, 800, 200, 300	3.63		700, 701	.22
				1900	.32
				1600, 1800	.70
	1100, 1000	.29		1700, 1401	1.12
				1500	.82
	1300	.29		1300, 1501	.45
	900	.29		1200	.07
	3200	.11		1100	.32
	500, 2901, 2900, 3300, 100	.539	all	n = 24	
				@ = 1.08 @	
				total @ = 25.84 @	
	2201	.34			
	2800	.17			
	1500	.19		Brech Rt 1	Box 984
	1600, 1701, 1700, 1800, 2700	1.54		faulson	987
				Goodrich	988
				Clatterbuck	984
	3100	.22			

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: not mapped
Goal 4 - - site class: FB and FC.

Maps: 8-9-26
8-9-27
8-9-34
8-9-35

FINDINGS

(a)adjacent uses:

WEST - agriculture.

NORTH }
SOUTH } - forestry.
EAST }

(b)public facilities and services:

ROADS - Paved County roads.
WATER - Olney-Walluski Water Association.

(c)parcel size and ownership pattern.

This area consists of 34 parcels totaling 176.70 acres. The overall average lot size is 4.53 acres. There are 5 parcels larger than 10 acres totaling 60.90 acres or about 34% of the total area.

(d)neighborhood and regional characteristics:

There are currently 27 dwellings in this exception area at an overall average density of 1 d.u. per 6.54 acres.

(e)natural boundaries:

A county road separates this exception area from farmland to the west.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- Continued cost-effective provision of existing public facilities depends in part on continued residential development in this area.
- Farm and forest management is precluded by a pattern of small parcel sizes.
- Certain farm and forest management practices are incompatible with both the number and density of existing residences.

.26 □ 601 } 11.66
600 }
700 6.93
□ 500 4.50
□ 1200 4.51
1400 8.62
1003 2.04
□ 1000 2.33
□ 1001 .92
□ 1100 4.97
□ 1401 7.66
2102 }
2000 } 4.00
1900 }
□ 1500 6.53
□ 1901 .90
1800 }
1702 }
□ 1502 } 11.43
1503 }
□ 1701 2.00
□ 1700 3.88

8.9.34 □ 101 1.16
102 } 1.44
103 }
□ 100 .60

8.9.35 □ 2201 4.50
□ 2202 1.12

8.9.27 1702 6.39
1800 1.00
□ 1700 }
1703 } 6.40
1502 }
1500 1.79
□ 1403 1.64
□ 1402 .88
1400 4.95
□ 1201 3.65
□ 402 }
400 } 15.25
□ 500 2.05
□ 600 .50
□ 900 .84
□ 700 }
901 } 1.14
□ 701 }
702 } 2.61
800 9.38
501 4.06

8.9.23 500 5.60
□ 100 5.72

all n = 39
@ = 4.
Σ @ = 176

gt.10@ n = 2
@ = 12.
Σ @ = 60

Planning Area: LEWIS AND CLARK Map: 8-9-28D
Goal 3 - - soils: VIII
Goal 4 - - site class: FB

FINDINGS

(a)adjacent uses:
SOUTH - residential.
EAST - residential.
NORTH - agriculture and forestry.
WEST - estuary.

(b)public facilities and services:
WATER - Willowdale Water District.
ROADS - Paved private roads.
SEWER - A DEQ-approved sewer system is available on the site, but there is insufficient water at this time for its full operation.

(c)parcel size and ownership patterns:
There are 11 parcels in this area totaling 70.38 acres. The overall average parcel size is 6.4 acres. The largest parcel is 52.36 acres and is a developed industrial site.

(d)neighborhood and regional characteristics:
This area includes 7 single family residences, a number of industrial buildings (currently vacant), and some multi-family housing.

CONCLUSION

This area is irrevocably built and committed to residential and industrial development due to the following factors:
- The level of existing public facilities is such that their cost-effective provision is in part dependent on residential and industrial development of this site.
- A pattern of small parcel sizes precludes farm or forest management.
- Many farm and forest management practices are incompatible with both the number and density of existing non-resource structures in this area.

8.9.28D 1600 } 2.17
1700 }
□ 1701 .63
□ 1800 1.22
1900 } 2.26
□ 2000 }
□ 2100 1.02
□ 2200 .64
2400 2.23
2700 }
□ 1500 } 52.36
2500 }
2600 3.00
□ 703 .90
□'s 800 3.95

all n = 11
$\bar{@}$ = 6.40
Σ @ = 70.38

w/o 52.36@ n = 10
$\bar{@}$ = 1.50
Σ @ = 18.00

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: II, III, some VI and VIII.
Goal 4 - - site class: FB, FC.

Maps: 8-9-28
8-9-28D
8-9-33

FINDINGS

(a)adjacent uses:

NORTHWEST - residential and light industrial.
SOUTH - mixed forestry and agriculture, and cemetary.
EAST - forestry.
NORTH - mixed forestry and agriculture.

(b)oublic facilities and services:

WATER - Willowdale Water District.
ROADS - State Highway 202 and Christians County Road.

(c)parcel size and ownershio patterns:

This area includes 42 parcels totaling 200.70 acres. The overall average lot size is 4.78 acres. There are 6 parcels larger than ten acres, totaling 90.05 acres or about 45% of the total exception area.

(d)neichborhood and regional characteristics:

The current overall average oensity in this area is about 1 d.u. per 7.4 acres.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- Continued cost-effective provision of the existing public facilities and services is in part dependent on continued residential development in this area.
- Farm and forest management is precluded by a pattern of small parcel sizes.
- Certain farm and forest management practices are incompatible with both the number and density of existing residences.

Willowdale

23

1900		6.03
1908		3.29
1907		5.18
1502		6.40
1500		20.01
1400, 200	□	12.00
1600		11.72
1100	□	4.00
1000	□	6.28
1002	□	.94
1001	□	1.66
[illegible], 1100	□	.38
800		.90
1300		3.68
501	□	2.12
500		8.60
600	□	.90
700	□	2.40
402	□	2.60
1301		8.30
400	□	.50
301	□	.99
[illegible]00	□	15.02
102	□	.90
101	□	4.45
103	□	.87

8.9.28 602 □ 1.12

8.9.28D

100	□	1.31
200		.44
300		6.34
301	□	.91
400		2.75
500		4.00
600	□	9.01
702, 700, 701	□	19.02
900, 902	□	3.47
901	□	.81
1000	□	5.36
1200	□	.85
1201	□	1.41
1100	□	1.50
2700		12.28

all

n = 42

$\bar{@}$ = 4.78

$\Sigma @$ = 200.70

G.T. 10 @

n = 6

$\bar{@}$ = 15.01

$\Sigma @$ = 90.05

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: mostly IV, some III, VI and VII.
Goal 4 - - site class: FB, FC.

Maps: 7-9-3
7-9-4
8-9-33

FINDINGS

(a)adjacent uses:
SOUTH - agriculture.
NORTH - mixed agriculture and forestry.
EAST - forestry.
WEST - estuary.

(b)public facilities and services:
WATER - Olney-Walluski Water Association.
ROADS - State Highway 202.

(c)parcels size and ownership patterns:
There are 17 parcels in this exception area totaling 63.96 acres. The overall average lot size is 3.76 acres. There are three parcels larger than ten acres, totaling 39.75 acres or about 62% of the exception area.

(d)neighborhood and regional characteristics:
This exception area currently has 12 houses at an overall average density of 1 d.u. per 5.33 acres.

(e)natural boundaries:
State Highway 202 separates this exception area from estuarine and agricultural resources to the west.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- In order to continue delivering existing public facilities in a cost-effective manner, continued residential development of this area is necessary.
- Farm and forest management of this area is precluded by a pattern of small parcel sizes.
- Many farm and forest management practices are incompatible with both the number and density of residences in this area.
- A natural boundary separates this area from resource lands to the west.

70

7.9.3 ~~100~~

□ 2300 1.38

~~1905~~

□ 1901 } 1.24
1905 }

1902 .86

1909 2.01

1910 1.90

2301 (+) 4.02

□ 2400 1.61

1905 }
□ ~~19~~ } 13.35
2501 }

2900 3.20

□ 3000 2.29

□ 3100 5.17

□ 3200 15.12

7.9.4 □ 100 3.45

all $n = 17$

$\bar{@} = 3.76$

7.9.3 □ 1400 5.11

$@\Sigma = 63.96$

□ 1200 5.33

□ 1100 1.21

g.t. 10@ $n = 3$

□ 1600 11.28

$\bar{@} = 13.25$

1500 .55

$@\Sigma$ 39.75

.2 101 1.54

□ 100 .86

402 1.93

□ 401 .96

□ 200 .47

□ 400 4.62

□ 600 5.48

501 4.13

□ 500 .87

□ 900 7.30

□ 1500 12.19

□ 1003 3.96

□ 1001 5.44

□ 1200, 1301 } 41.38

□ 1600 4.47

□ 1603 1.17

□ 1601 1.05

800 5.00

□ 700 2.50

□ 301 .92

□ 300 5.00

□ 302 1.04

204 1.50

□ 1800, 1 } 32.95

□ 200

8-9-36

□ 3100 7.41

3101 .84

3200 7.90

□ 3102 1.10

3000 5.77

□ 3202 7.42

□ 3001 .93

□ 3090 .72

□ 3002 .39

□ 2800 .38

2900 .55

1801 .15

2700 .71

7-4-3 □ 101 4.69

100, 102 } 6.31

31 □

acc. n = 39 parcels

$\bar{x}$ = 4.91

total = 191.70

wt. 100 n = 3

$\bar{x}$ = 27.6

Grand

Planning Area: LEWIS AND CLARK
Goal 3 - - soils: Mostly IV, some II, III and V.
Goal 4 - - site class:Mostly FB, some FC and FA.

Maps: 7-9-1
7-9-2
7-9-3
8-9-36

FINDINGS

(a)adjacent uses:
Agriculture.

(b)public facilities and services:
WATER - Olney-Walluski Water Association.
ROADS - Labiske County Road, Walluski Loop County Road.

(c)parcel size and ownership patterns:
This area consists of 39 parcels totaling 191.40 acres. The overall average lot size is 4.69 acres. There are three parcels larger than ten acres, totaling 85.92 acres or about 45% of the total exception area.

(d)neighborhood and regional characteristics:
There are presently 31 houses in this area at an overall average density of 1 d.u. per 6.17 acres.

(e)natural boundaries:
The southwest portion of the area is separated from adjacent forest lands by the Walluski River. The west end of the exception area is seperated from adjacent farm land by Walluski Loop Road.

CONCLUSION

This area is irrevocably built and committed to residential development due to the following factors:

- The continued cost-effective provision of existing public services is in part dependent on continued residential development in this area.
- Farm and forest management is precluded by a pattern of small parcel sizes in this area.
- Certain farm and forest management practices are incompatible with both the number and density of existing residences in this area.
- Natural boundaries separate portions of the exception area from adjacent farm and forest land.

IS AND CLARK
II, III and IV.
.lass: FB and FC.

Maps: 7-9-10
7-9-11

FINDINGS

es:
.iculture

forestry.

; facilities and services:
- Olney-Walluski Water Association.
; - State Highway 202.

rcel size and ownership patterns:
ıis area consists of 20 parcels totaling 127.19 acres. The overall .verage parcel size is 6.36 acres. There are 3 parcels larger than ten ıcres, totaling 41.41 acres or about 33% of the total exception area.

d)neighborhood and regional characteristics:
There are currently 14 residences in this exception area at an overall average density of about 1 d.u. per 9.09 acres.

CONCLUSION

This area is built and irrevocably committed to residential development due to the following factors:

- The continued cost-effective delivery of existing public facilities is in part dependent on continued residential development in this area.
- Farm and forest management is precluded by a pattern of small parcel sizes.
- Certain forest and farm management practices are incompatible with both the number and density of existing residences in this area.

100	15.59
200	8.20
300	8.20
400	5.23
600	6.90

1.9.11

500, 501	6.34
402	2.06
403	2.00
400	6.33
404	3.00
800	10.65
1000	9.89
1200	2.48
1300	2.60
1301	2.92
1400	5.08
1402	1.00
1100	15.17
700	9.50
600	4.00

N = 20

$\bar{x}$ = 6.36

@ = 127.19

lanning Area: NORTHEAST

Goal 3 - - soils: II, IIe, III, IIIe, IV, IVe, VI, VIe and VII.

Goal 4 - - site class: FB, FC and FD.

Maps:

8-8-19	8-8-19BD
8-8-19DA	8-8-19DB
8-8-18CC	8-8-20
8-8-30	8-9-11
8-9-12	8-9-13
8-9-14	8-9-14AD
8-9-14DA	8-9-14DD
8-9-23	8-9-24
8-9-24AD	8-9-24B
8-9-24BC	

FINDINGS

(a)adjacent uses:

Forestry and aquatic.

(b)public facilities and services:

WATER - John Day Water District and Fernhill Water District.

FIRE - John Day Fire District.

ROADS - State Highway 30, Fernhill County Road, Claremont County Road, and John Day River County Road.

(c)parcel size and ownership patterns:

This exception area includes 256 parcels totaling 896.43 acres. The overall average lot size is 3.50 acres. There are 25 parcels larger than ten acres totaling 422.20 acres, or about 47% of the exception area.

(d)neighborhood and regional characteristics:

There are a total of 165 residences in this exception area at an average overall density of 1 d.u. per 5.43 acres.

CONCLUSION

This area is built and irrevocably committed to residential development for the following reasons:

- Continued cost-effective delivery of the existing public facilities and services is in part dependent on contiued residential development of this area.
- Farm and forest management are precluded by the pattern of small parcels in this area.
- Many farm and forest management practices are not compatible with either the number or density of existing residences in this area.

1.11

800	12.40
4900	5.32
4901, 5000	2.29
5100	2.40
5200	3.44
5300	2.04
5400	4.71
4600	1.00
5500	1.81

9.12

200	3.20
301	1.00
400	8.50
300	.62
500	1.47
502	.80
501	.95
402, 403	.63

.9.13

200, 300, 500	7.71
400	1.35
102	3.15
601	2.79
603	2.28

8.9.13

700, 902, 901	2.75
900	11.20
1000, 1101, 1180	6.40
1200	2.82
1300	.56
1301	.44
1400	14.40
1900	2.00

8.9.14

3500	20.00
3400	20.00
6300	5.04
6400	4.00

8.9.14 AD

3900, 4000, 4101	5.32
4100	1.98
4200	1.37
4300	3.64
4201	.79
2700, 2600	.81
2500	.43

8.9.14 AD

2700, 2300	.78
2800	.31
2900	.32
3000	.30
3100	.23
3200, 3300	.44
3301, 3400	.44
3700	9.93
3800, 100, 200, 300, 400, 500	5.27
1300	.98
3602, 3601, 3600	6.17
3603	.67
4400, 4401	1.10
2000	1.35
3500	2.20

DA 900 } 4.07
1000
1400 □ .65
1100 □ 1.07
1300 □ .55
1500 □ .62
1200 □ .46
1600 □ .28
1700 □ .65
800 (210) 3.03
700 } □ 2.48
1800
1900 □ .40
100 □ .165
200 1.35
300 □ 1.75
400 .10
500 } □ .165
600
2001 } □ 6.35
2000
9.14 DD 100 7.69
900 } □ 14.08
1100
1300 }
1200 } 4.97
200 □ .52
201 □ .59

8.9.14DD 300 □ .67
800 □ 1.19
600 } 11.69
700
500 2.61
501 □ 1.00
8.9.23 200 6.04
205 □ 17.28
201 □ .84
300 □ 1.00
400 □ 1.00
500 □ 2.00
101 5.00
100 □ 1.50

8.9.24B 1400 □ 7.20

8.9.24BC 800 .11
900 □ .07
1000 .13
1100 .20
1300 }
1400 } 1.87
1500
1600 .22
1700 □ .17
1800 .28
1900 .18

8.9.24BC 2000 }
2100 } .35
2200 .12
2300 }
2400 } .12
2500 .45
2600 .09
8.9.24B 3400 □ 20.54
3500 } □ 26.73
8.9.24 6100
6101 9.60
6300 1.99
7300 □ 6.50
7600 5.35

8.8.19 15000 }
15700
15800
15900
16700 13.24
16900
17600
17700
16000 .11
16800 .64
17800 }
17900 } □
18000 .73

L 14900		8.8.30	600	8.8.19	903
15100			800 □ 4.66		902 □ .74
15600			1300		900 □ 2.08
16100			1900		2700 □ 11.15
16600			2300		2800 □ 7.55
15200			3000 10.69		2500 5.07
14800			1100		1200 2.10
14700	24.47		2100		3501 6.02
15300			900		3402 □ 2.46
15400			1000		3400 □ 2.59
16300			2000 10.10		6200
14600			2200		3600 16.65
9400			3100		7900
14900			1200 .60		3600
15000					3502 13.85
16500 □ 2.41		8.8.19	13900		3500 5.52
17500 .11			14000 □ 2.68		3601 9.78
17400 □ 17.07			14500 □ 14.10		3400 5.14
17200			13600		8000 □ 6.63
17300 □ 2.03			14100 □ 2.06		8004
15500			13600 .46		8005 7.23
16200	8.15		13700 .23		
16400			8100 3.00	8.8.19 BD	100 □ 4.35
8.30 500			8101 □ .62		200
1500			7500 [illegible]		300 □ 1.5
1700	9.25		8200 □ 16.07		500
1800			107 28.33		800

,D

201	.16
400 □	.34
501 □	.38
600	3.56
700 □	8.37
1001, 1000 □	1.31
1200	1.57
1300	.71

.8.19 DA

200	.34
300	.17
400	.17
500	.45
2200	1.96
1000, 1200, 1100	.23
1300	.06
1400	.86
1500	.22
2400 □	2.73

.19 DB

400, 300 □	.27
[illegible]	.31
200 □	[illegible]

8.8.19 DB

901 □	.56
800, 900	.07
902 □	.39
500, 600, 700	.72
1900 □	3.55
1301	.07
2201	1.90
1500	.11
1500	.50
1400, 2700 □	1.50
2800, 2900	2.00
3000	1.05
2600	.46
2500	.10
3100, 2400	2.65

8.8.20

400	5.13
901 □	1.79
600	1.14
603	.57
601, 800 □	2.15

8.8.20

1000 □	1.2
1301	2.8
1400	3.1
1402	2.9
1600 □	2.8
1700	3.0

8.8.18 CC

100 □	1.7
200 □	1.7
300 □	1.0
400 □	1.
500 □	1.1
600 □	.4
700, 800 □	2.3
901, 902, 903	3.4
1000 □	2.
1400 □	2.
1300	.9
1200	.9
1100	.2
2800 □	.7
[illegible]	
2600	1.0

cc 1600 □ 2.40

2400 □ .32

2500 □ .31

1700 .52

1800 □ .52

1900 .52

2000 □ .30

2100 □ .34

2200 .18

2300 □ .50

8.9.24 AD 1002 □ 2.04

1001 □ .33

1200 □ 1.22

1300 □ .95

1301 .68

1400 □ 3.42

1402 □ 1.15

1500 □ 3.76

8.9.24 B 200 □ .80

400, 300 □ 1.70

501 □ 3.42

500 □ 4.33

503 .38

800 □ 1.40

1000 1.23

8.9.24 BC 700 □ .99

500 □ .73

300, 200, 100 □ 8.27

8.9.24

200, 201, 300 □ 3.00

2200, 2202 18.70

2201 1.30

2001 18.64

9.24 AD

100 11.30

200 □ .50

300, 400 □ 4.24

700, 500 □ 4.72

600 □ 1.10

800 .54

900 □ .65

1100 □ .88

M = 8.56

$\bar{M}$ = 3.56

$\hat{M}$ = 90.0

Planning Area: NORTHEAST
Goal 3 - - soils: not mapped.
Goal 4 - - site class: FB and FC.

Maps: 8-8-16
8-8-16DA
8-8-16DB
8-8-16DC
8-8-16DD
8-8-21

FINDINGS

(a)adjacent uses:

NORTH }
EAST } - aquatic.
WEST }

SOUTH - forestry.

(b)public facilities and services:

WATER - Burnside Water Association.
FIRE - Knappa-Svenson-Burnside Fire District.
ROADS - State Highway 30, various improved county roads.

(c)parcel size and ownership patterns:

This area includes 106 parcels totaling 109.84 acres. The overall average lot size is 1.66 acres. There is one parcels larger than ten acres: a 12.08 acre parcel comprising about 11% of the total exception area.

(d)neighborhood and regional characteristics:

There are a total of 55 residences in this area at an average overall density of about 1 d.u. per 2.00 acres.

CONCLUSION

This area is built and irrevocably committed to residential development for the following reasons:

- Continued cost-effective delivery of existing public facilities and services depends in part in continued residential development in this area.
- Farm and forest management are precluded in this area by a pattern of small parcel sizes.
- Certain farm and forest management practices are not compatible with either the number or the density of residences in this area.

5100 □ .96

700 1.15

501 □ 2.30

502 □ .56

600 □ 8.43

300
400 } 1.91

200
701 } □ 12.02

400
500 } □ 1.64
600

700 □ .51

701 □ .25

704 □ .31

705 .34

702 □ .70

703
801 } .47

400 □ 1.24

900 □ .70

1000 □ .27

1101 .17

1200 □ .58

8.8.16 DA

1300 □ 2.10

1400 □ .58

1500
1600 } □ 1.83

1700 .15

1800 □ 1.41

2000
2300 } □ .38

2100 □ .15

2401
2400 } □ .64

2402 □ 2.48

2501 □ .37

2500 □ 3.31

8.8.16 DB

101 □ 3.09

102 □ 3.61

107 .33

110
100 } □ .69

104 □ .88

103 □ .98

105 □ .17

1000 □ 2.83

8.8.16 DB

1200 1.32

1300 □ 1.9

300 □ .7

700 □ 2.0

500
501 } □ 1.4

700
600 } □ .91

800 □ 1.6

900 □ .7

901 □ .2

8.8.16 DC

301 □ .2

300 □ .7

502
600 } □ .7

200 □ 1.0

100 □ 2.0

700 □ 2.3

703 □ .

501
601 } □ 1.

701 □ 1.

704 □ .

6DD 400 4.40

301 3.09

200 8.81

100 } 2.44

600 }

500 }

501 } 1.36

all n = 66

$\bar{x}$ = 1.66

ε = 109.84

g = 106 more

anning Area: NORTHEAST
oal 3 - - soils: not mapped.
oal 4 - - site class: FB, FC and FE.

Maps: 8-6-22
8-6-26
8-6-26CB
8-6-27
8-6-28
8-6-35
8-6-36

FINDINGS

(a)adjacent uses:

EAST - residential (Westport) and forestry.
SOUTH- Highway 30, forest land and residential (Oklahoma Hills area).
NORTH- Columbia River.
WEST - forestry.

(b)public facilities:

The Wauna Westport Paper Mill (Crown Zellerbach) is largely self-sufficient in terms of services. The other parcels are not served by either public water or fire protection. This area is designated as an industrial development site because of its unique transportation access characteristics: rail, water and highway transportation are available.

(c)parcel size and ownership patterns:

There are a total of 4 parcels in this exception area:

(1)	582.14 acres	—	the mill site.
(2)	2.47 acres	—	power substation.
(3)	29.06 acres	—	vacant.
(4)	51.83 acres	—	vacant.
(5)	62.63 acres	—	vacant.
	728.13 acres	—	total.

(e)natural boundaries:

This area is generally separated from other lands to the south by State Highway 30 to the south.

CONCLUSION

This area is built and irrevocably committed to industrial development for the following reasons:

- The area is well served in terms of transportation facilities.
- A large portion of the area is already developed as a pulp mill.
- The area is generally separated from other lands by State Highway 30.

8.6.22 100
200

8.6.23 500
400
300
200

8.6.26 100

8.6.27 500
200

8.6.27 200
100

8.6.27 200
101

- Mill Site - CE 582.14 @

2.47 @ BfA

8.6.24 100 29.66 CE

8.6.25 c 51.93

Planning Area: NORTHEAST
Goal 3 - - soils: not mapped.
Goal 4 - - site class: FB and FC.

Maps: 8-6
8-6-5

FINDINGS

(a)adjacent uses:
Forestry, aquatic, including a deep water channel.

(b)public facilities and services:
ROADS - Clifton County Road.

(c)parcel size and ownership patterns:
This area consists of two subareas. The Bradwood area is a 47.4 acre parcel zoned for Marine Industrial uses (MI), having access to a deep water channel. The Clifton area consists of 11 parcels totaling 18.23 acres located generally north of the county road, between the road and the river. The overall average lot size is 1.66 acres. The largest parcel is 8.28 acres.

(d)neighborhood and regional characteristics:
The clifton subarea consists of 7 structures at an average overall density of 1 per 2.6 acres. These include residences and structures associated with the fishing industry.

(f)other relevant factors:
The Clifton subarea is long and narrow.

CONCLUSION

This area is built and irrevocably committed to residential and industrial development for the following reasons:

- A deep water channel is adjacent to the area.
- Farm and forest practices are generally precluded by a pattern of small parcel sizes in this area.
- Certain farm and forest practices are incompatible with the number and density of non-farm, non-forest structures in this area.
- The configuration of the Clifton area is such that farm or forest management is not practical.

Graduate Area

200 □ 47.44 (cerro ml)

	1102 □	8.28
6.5	700	
	701	3.00
	703 □	.00
	704	.55
	702	1.32
	600 □	1.22
	500 □	1.26
	300 □	.84
	100 □	.25
	401 □	.04
	200	.21

(c. f.)

$n = 12$ (11)

$\bar{x} = 5.47$ (1.66)

$\sigma = 65.67$ (18.23)

$\square = 8$ (7)

Area: NORTHEAST
- - soils: IIe, IVe and VIe.
- - site class: FA and FB.

Maps: 8-7-10
8-7-11
8-7-15
8-7-16
8-7-16D

FINDINGS

(a) adjacent uses:

NORTH - agriculture and forestry.

SOUTH }
WEST } - forestry.
EAST }

(b) public facilities:

ROADS - Upper Brownsmead County Road, Ziak-Gnat Creek County and Davis Bottom County Road.
WATER - Knappa Water Association.
FIRE - Knappa-Svenson-Burnside Fire District.

(c) parcel size and ownership patterns.

This area consists of 74 parcels totaling 394.58 acres. The overall average lot size is 5.33 acres. There are 7 parcels larger than ten acres, totaling 131.83 acres or about 33% of the total exception area.

(d) neighborhood and regional characteristics:

There are a total of 49 structures in this area, including one industrial building. The overall average residential density is 1 d.u. per 8.05 acres.

(e) natural boundaries:

Ziak-Gnat Creek Road separates part of this exception area from a natural aquatic area to the east.

CONCLUSION

This area is built and irrevocably committed to residential development for the following reasons:

- continued cost-effective delivery of existing public facilities and services depends in part on continued residential development in this area.
- Farm and forest management is precluded by a pattern of small parcel sizes in this area.
- Certain forest and farm management practices are not compatible with either the number or density of residences in this area.
- A natural boundary separates this exception area from resource lands to the east.

6.16	900	4.50	8.7.16D	200	6.32	8.7.15	300	4.70
	1000	= 2.98		2100			200	= 9.60
	1001	= .44		2200	3.02			
	1002	= .78		2300	.70	4.7.10	210	2.17
	1100	= 1.03		1700	= 5.76		2103	=
	1203	1.33		1500	= 1.74		2100	
	1203	= 2.03		1100	5.18		2000	
	1201	= 1.57		900	= 2.14		2001	= 3.71
	1301	2.64		1001	2.66		90	= 19.50
	1500	6.41		902			1002	= 17.55
	1702	4.50		1500	1.84		1100	4.57
	400	9.60		900			1200	= 7.30
				901	2.17		1300	9.75
8.7.16D	100	= 4.52		1000	2.44		1400	6.07
	102			500	= 1.68		1500	= 13.77
	103	= 1.05		1001			1600	= 15.26
	101	= .71	8.7.16D	400	= 1.90			
	1800	= 1.83		903	= 1.03	8.7.11	1801	= 2.80
	1801	1.58		1002	= 1.03		1701	= 7.00
	1708						1301	3.95
	1700	= 2.92	8.7.15	900	= 20.57			
	200	= 4.15		902	.28		1600	= 9.63
	300	3.35		700	= 1.70		1500	= 9.70
	1050	= 2.91		701	= 1.82		1400	= 9.85
							1.02	
	1900	= 4.1		500	=		900	=
				401	= 2.78		800	

DD = 9.35

500 = 19.02

400 } = 29.66
401 }

150 = 2.28

125 = .38

300 = 5.22

---

n = 74

$\bar{x}$ = 5.33

$\hat{\sigma}$ = 394.58

---

n = 7

$\bar{x}$ = 18.83

$\hat{\sigma}$ = 131.83 or 33%

.anning Area: NORTHEAST
.oal 3 - soils: II, III, IVw and VIe.
Goal 4 - site class: Mostly FB, some FA, FC and FG.

Maps:

8-7-8CC	8-7-16
8-7-17	8-7-17B
8-7-17C	8-7-17CD
8-7-18	8-7-19
8-7-19BA	8-7-19DA
8-7-20	8-7-20AA
8-7-20B	8-7-20BB
8-7-21	8-7-29
8-7-30	8-8-14
8-8-15	8-8-16DD
8-8-21	8-8-22A
8-8-22B	8-8-22BA
8-8-22C	8-8-22D
8-8-23	8-8-24
8-8-25	8-8-25DA
8-8-26	8-8-26CC
8-8-26D	8-8-27
8-8-27B	8-8-27C
8-8-27D	8-8-34

FINDINGS

(a)adjacent uses:

WEST - forestry.
SOUTH- forestry.
EAST - forestry and agriculture.
NORTH- forestry, agriculture and aquatic areas.

(b)public facilities and services:

WATER - Burnside Water Association, Wickiup Water District, Knappa Water Association, Carmen Creek Water Association.
FIRE - Knappa-Svenson-Burnside Fire District.
ROADS - State Highway 30, various paved county roads.

(c)parcel size and ownership patterns:

This exception area consists of 835 parcels totaling 4,031.73 acres. The overall average lot size is 4.83 acres. There are 107 parcels larger than ten acres totaling 2,235.57 acres or about 55% of the total exception area. Of those parcels larger than ten acres, there are 39 lots larger than 20 acres, totaling 1,235.41 acres or about 31% of the total exception area. These larger parcels are surrounded by smaller parcels.

(d)neighborhood and regional characteristics:

There are a total of 682 residential, commercial and institutional structures in this area at an overall density of about 1 per 5.91 acres.

CONCLUSION

This area is built and irrevocably committed to residential and commercial development for the following reasons:

- Continued cost-effective delivery of existing public facilities and services depends in part on continued residential and commercial development in this area.
- Farm and forest management are precluded by a pattern of small lot sizes in this area.
- Many forest and farm management practices are not compatible with either the number or density of residences and other non-farm, non-forest uses in this area.

	n	$\bar{a}$	Σ	% acreage	□	[illegible]
lo.	835	4.83	4,031.73	100 %	682	≈ 1/5.
e lo.	107	20.34	2,235.57	55%	86	≈ 1/26
e hi.	39	31.63	1,235.41	31%	22	≈ 1/56

Kruger / [illegible]

8-8-21	5600	□ 9.16	8.8.224	1601	□ 2.40	8.8.224	2500 □ .23
	1500			1600	□ 1.32		2600 □ .54
	1600			401	1.83		2400 .60
	1700	7.69		432	□ 2.80		2700 □ 1.73
	1400			4400			1700 □ [illegible]
	1300			4500	5.46		3000 □ .72
				4000	□ 4.43		3700 □ 1.80
8-8-16 DD	600	2.10		4700	□ .15		3200 □
				4601	□ .13		3500 1.96
8-8-15	6501			4901	□ 2.37		1801 □ .79
	6001	13.25		4100	□ .49		4003 .71
	1400	2.14		5000	□ .25		4000 □ .95
	1401	□ 7.81		5001	□ 1.11		4030
				4500			4100 □ .00
8-8-22A	600	□ 2.79		5000	□ .69		
	500	□ .75		4300	□ .09	8.8.22B	400 □ 1.2
	9.00	□ 5.92		5501	□ .37		500 □ .60
	1000	□ 9.95		3500	□ 7.82		301 .41
	1100	□ 6.61		2900	□ .17		300 □ .52
	1901	3.25		2901	□ .16		601 □ .72
	2001	.36		2900	□ .15		900 □ 1.02
	800	□ 5.10		2902	.05		2001 □
	1500	□ 7.60		3000	□ .08		100
	[illegible]	□ 1.35		3001	□ [illegible]		1001 1.47
	[illegible]	□ [illegible]					
	700	□ .40		[illegible]	□ [illegible]		[illegible]
	1500	□ 3.84		3400	□ .60		8001

5:	2901 .58	8.8.22B. 100	29.20	8.8.22C	1011 2
	2900 4.24	1101	2.17		1200 3.
	2500 } 1.45	1200	2.72		1400 1.
	2802 }	1100	14.80		900 17.
	500 1.91	1102	2.34		700 }
	2.00 1.55				601 10
	300 7.06	8.8.22BA. 100	.44		200
	1000 1.20	200	.33		600 . 3
	2501 .68	300	.30		100 3.1
	2401 4.03	400	.39		101 . 3
	2300 .38	500	.37		500 }
	2400 .75	600	.31		500 }
	2100 .54	700	.41		1500 20.37
	2200 .90	800	.35		1600 .39
	2000 } 3.49				1700
	2001 }	8.8.22C. 1000	5.39		1800 4.4
	700 .32	1007	5.41		1900 4.17
	1900 .16	1000	4.07		2100 } .60
	1800 1.52	1004	1.35		2200 }
	1600 } 2.02	1008	5.40		
	1601 }	1002	5.35	8.8.22D	1200 . 4
	1500 } 4.85	1300	13.10		1100 . 2
	1501 }	900	.07		1300 . 1
	1401 .69	1005	5.55		1400 . 7
	1.7	1003	5.52		1000 . 0
		1009	200		

D 1000 □ .34 8.8.22D 2900 □ 11.93 8.8.27 1400 □ 3.81

900 □ 4.73 3002 1.77 1402, 1413 □ 1.04

800 □ 4.77 3001, 3003 .23

701 5.00 1500 □ 4.78

700 □ .36 3101 1600 □ 17.51

702 □ 1.11 3100 □ 5.07 1602 □ 1.06

601 □ .64 1700 □ .37

602 □ 1.99 8.8.27 200, 303 □ .67 1601 □ 20.00

600, 500 14.95 301 □ 5.07 1402 7.76

400 .53 302 □ 1.29 1405 1.32

300 □ 1.85 400 □ .75 1401, 1403 □ 6.64

2015, 2003 □ 12.81 500 (13 □) 16.10 1404 □ 3.17

600 □ 9.85 2503 .54

1016, 1003 □ 14.00 700 □ .58 2501 □ .64

800 □ .79 2502 □ .47

1900 □ 2.92 900 □ .52 2400 □ 1.36

2001 □ .90 1002 □ 1.03 2300 □ .70

2000 □ 35.53 1001 □ 1.73 2200 □ .62

2300 .98 1000 □ 1.06 2000 □ .23

2200, 2100 1100 □ 1.31 2100 □ 3.86

1200 □ 1.13 2000 □ 4.74

2700 □ 12.81 1101 □ 1.13 2500 5.31

1200 □ 1.14 2700 □ 1.34

1000 2.32

2400 .98 1401 □ 5.00

EB	400 □ 37.29	8.8.27 D	300 □ 6.92	8.8.34	100 □ 14.8
	500 9.79		400 □ 10.50		104 □ .52
	800, 801 □ 4.80		501, 500, 200 □ 11.14		103 □ .68
	901 7.04		600 .18	8.8.26	1700, 1800 □ 38.96
	913 □ 4.94		400, 1200 □ 5.45		2001 .80
	902 □ 5.12		1300		2002 □ 25.2
	300 □ 16.51 ✓		701 □ 3.67		2000 □ 1.02
	200, 205 9.61		2100 □ 2.65		2300 □ 2.97
	100 □ 1.70		2200 □ 3.50		2304 □ 2.50
	202, 204 □ 2.13		2300 1.56		2803, 2803, 2801 □ .46
	203, 2017 □ 7.71		2400 □ 1.50		
			2600 3.45		
	1400 □ 1.45		2000 □ 13.63		2700 □ 13.9
	1300 □ 9.95		100 □ 1.97		2100 15.15
	1000 □ 5.25		200 □ .32		2001 □ 4.02
	1200 □ 6.86		201 7.61		2500 □ 33.59
	1100 □ 7.53		900 9.85		2100, 2101 □ 21.60
			1000 □ .50		
8.27C	400 □ 7.00		1100 .87		1901, 1900 32.13
	401 □ 3.00		1500 □ 9.64		1500 □ 4.52
	300 □ 10.32		100 □ 6.67		1600 □ .52
	200 □ 2.16		1700 □ 13.69		1400 □ 1.04
	100 □ .95		1900 □ 17.06		
	800 □ 1.10				1500, 1504 □ 2.97
	700 □ 2.07				

8.8.26

1300 1.51
1301 1.00
1400 ¤ 4.36
1302 11.17
1041
1037 ¤ 15.10
1006 4.00
1001 ¤ 6.00
2001 ¤ 11.64
1201 ¤ 6.08
1001 ¤ 7.34
1100 2.68
1103 1.81
1102 1.12
1000 ¤ 1.24
1200 ¤ 4.32
1202 ¤ .49
900 ¤ 2.32
1005 ¤ 1.04
1003 ¤ 5.46
1008 .48
1007 ¤ .56
1000 ¤ .55
1006 4.00
2002 12.13

8.8.26

200 ¤ .48
300 ¤ 1.08
301 .82
400 ¤ .90
500 ¤ 7.08
600 ¤ 5.68
700 ¤ .60

8-8-26 CC

100 ¤ 1.92
201 ¤ 1.52
200 ¤ .64
300 ¤ 6.00
400 ¤ 3.50
500 ¤ 2.50
700 ¤
7017 4.77
500 ¤ 3.08

8.8.26D

100 ¤ .95
101 ¤ 5.50
200 ¤ 2.01
300 ¤ 2.07
403 ¤ .77
4[illegible] ¤ 1.72
7[illegible] ¤ 4.69
702

8.8.26 D.

700 4.69
801 ¤ .99
800 5.09
[illegible] 2.93
[illegible] ¤ 10.00
1100 ¤ 3.22
1200 ¤ 3.20
1300 ¤ 3.20

8.8.23

100 ¤ 1.04
101 ¤ .42
2003 1200 ¤ 19.30
201 .23
[illegible] ¤ 2.66
900 ¤ 5.86
804 ¤ .90
803 801 ¤ 9.36
301 ¤ .97
601 1.08
602 ¤ .46
603 603 ¤ 2.00
[illegible] ¤ 2.35
700 ¤ 17.00
2501 ¤ 2.75

500	4.70	86.24	1350	14.46	88.25
3700	18.19		1400	1.09	
3000	18.42		1500	.90	
5101	1.43		1700	1.00	
600, 601	15.24		1800	4.46	
			1900	15.31	
701	22.77		2000		
2700, 2600, 2601	20.06		2100	.20	
			2201	.95	
2501, 2500, 2400	57.42		2200	18.29	
			2300	19.69	
			4203	1.33	
			4201, 4200	.84	
3800	29.59				
3400, 400, 600, 4202	96.72		400	20.95	
900	2.85		500	26.98	
1000, 1100	9.03		900	3.82	
			901	.69	
			1000	4.85	
			700	20.00	
1102	.36		1100	24.10	
1202	.99		[illegible]	[illegible]	
700	3.63		1107	15.33	
[illegible]	[illegible]		[illegible]	[illegible]	
[illegible]	[illegible]		[illegible]	[illegible]	
200, 201	.898		1200	15.09	

1404	.97	
1400	1.06	
1401	1.00	
1405, 1406	1.23	
1402	[illegible]	
1101	[illegible]	
2200(w)	29.75	
2200(D)	7.19	
1700	11.56	
500, 100	23.67	
101	[illegible]	
200	.35	
702	3.84	
300, 2100, 2101	11.72	
2104	3.97	
2105	24.70	
402	4.00	
4017, 2166	2.94	
2191	.42	
500	[illegible]	
1400	.30	
100	.24	
[illegible]	[illegible]	
400	.24	

100	2.47	8.8.23	4300 }	4.8.23	6000 9.35
2502	3.01		4400 } 9.77		6100 25.18
2000	5.80		4500 17.43		
1950	7.92		7000 1.12	8.8.24	000 24.00
1000	1.61		5900		1000 5.06
2700 }			4500 } 6.46		6010
2702 }	6.67				
			4700 2.74		501 1.00
2701	.48		4701 } 1.56		
1100	18.80		4702 }	8.8.24	407 3.39
700	.53		5601 1.00		405 [illegible]
801 }			5002 2.33		402 [illegible]
1900 }	15.34		5500 4.07		401 9.34
2000 }			5000 9.57		403 } 3.00
2100	3.10		5100 16.45		403
2200	.25		5101 1.50		404 3.00
2300	2.12		5102 .65		406 6.74
2300	1.56		4102 } 18.51		409 3.06
3400	.30		5000 }		410 3.02
3500	.60		1000 .72		500 45.59
3700	.94		5500 7.50		2300 } 7.15
3900	1.50		5400 1.00		2900 }
3900	1.72		400 1.72		3001 .90
3900	11.50		901 4.92		3002 .53
400	.05		500 4.44		3000 .53
[illegible]	[illegible]		[illegible]		[illegible]
4200	9.77		5500 7.11		3300 } 4.33

DA	500	.27	8.7.30	1200	21.30	8.7.30	3200 .20
	600	.25		1100	23.60		2001 3.00
	700	.25		1200	6.75		1001 8.62
	800	.29		1400	2.72		1003 .79
	900	.35		1500	.73		1004 .51
	1000	.32		1600	3.55		1005 .76
	1100	.29		1900	13.04		1006 .55
	1200	.29		1303	6.51		1005 1.50
	1300	.30		1302	15.91		3001 4.04
	1400	.30		1801	13.14		3000 .76
	1500	.30		1400	2.08		3002 1.20
	1600	.24		2101	5.02		
	1700	.33		2100 2000	3.00	8.7.19	2102 1.00
	1800	.25		2300	3.80		2101 29.07
	1900	.23		[illegible]	[illegible]		[illegible] 1.00
	2000	.20		2400	[illegible]		[illegible]
	2100	.31		3100	.13		[illegible] .35
	2200	.24		2500	7.63		1000 22.23
	2300	.28		2601	1.00		1001 2.57
	2400	.24		2600	6.10		1002 2.64
	2500	.26		2400	12.37		1005 .97
	2600	.30		2402	[illegible]		1003 1.09
	2700	.32		[illegible]	[illegible]		[illegible]
				[illegible]	[illegible]		[illegible] .35
	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]
	900	.70					500 .40

Planning Area: CLATSOP PLAINS
Goal 17 - - an exception to section (3)(f)

Maps: 7-10-16C
7-10-21
7-10-21BA
7-10-21BD
7-10-21CD
7-10-28AB
7-10-28AC
7-10-28DB

FINDINGS

(a)adjacent uses:

NORTH - residential
SOUTH - residential
EAST - residential
WEST - Pacific Ocean.

(b)public facilities and services:

WATER - Surf Pines Water District.
FIRE - Warrenton Rural Fire District
ROADS- Paved private roads.

(c)parcel size and ownership patterns:

There are 73 parcels in this exception area totaling 168.59 acres. The overall average lot size is 2.31 acres. The area includes 3 parcels larger than ten acres, totaling 44.36 acres or about 26% of the total exception area.

(c)neighborhood and regional characteristics:

There are a total of 28 houses in the Surf Pines exception area at an overall average density of 1 d.u. per 6.02 acres.

CONCLUSION

This area is built and irrevocably committed to land divisions not otherwise permitted under Goal 17 for the following reasons.

- Lands surrounding this area are divided into small residential parcels.
- Public facilities and services are developed to a level which supports continued small lot residential development in this area.
- The area is already divided into small residential parcels: only a small portion of the land is not yet divided.
- The area is already developed to residential densities.

3f

$\bar{E} = 2.31$
$S = 168.59$

$\bar{E} = 14.74$
$S = 44.36$

□ = 28

.10.16 C	400 □	1.50	7.10.21 BD	1300	1.20	7.10.28 AB	1000 □	2.15
	500 □	1.27		1400 □	1.19		1001	□ 2.1
	600	1.29		1500	1.19		1002	
	700 □	1.30		1600	1.19		900	9.4
	800 □	1.32		1700 □	1.18		700	2.6
	900	1.34		1800	1.18			
	1000	1.35		1900	1.18	7.10.28 AC	700	2.4
	1100	1.36		2000	1.18		1000	2.5
	~~1200~~	~~1.20~~		2100	1.17		1400	2.2
7.10.21 BA	800	1.30		2200	1.17		1300	2.2
	900	1.21		1100	1.18		1200 □	7.1
	1000	1.24		2300	3.09		1100	□ 2.4
	1200		7.10.21	1000	19.08		1000	
	1100 □	1.25	7.10.21 CD	500	1.27		900	
	1200 □	1.28		600	1.29		800	□ 3.1
	1300	1.25		700 □	1.30		700	
	1400	1.40		800	1.32	7.10.28 DE	1200	1.5
	1500	1.45		900 □	1.62		1000	1.6
	1600	1.21		1000	3.45		1500 □	1.2
	1700 □	1.21		1200 □	2.13		1400	1.6
	1800	1.20		1201 □	1.71		1300 □	1.2
	7001	15.20		1300	1.43		1200 □	1.2
.10.16 C	1200			1400 □	1.86		1300 □	1.2
.10.21 BA	1900	3.43		1500	1.30		1200 □	1.1
	[illegible]	[illegible]		1500	1.22		1100	
	1300 □	[illegible]		1700	1.59		[illegible]	

87

300 2.75

103 } 27.51
.18 600

.19 102 } □ 1.20
103

109 □ 6.80

2800 □ 12.66

2801 □ .80

2700 9.89

2400 }
2401 } 12.42
8.7.20 800

8.7.8 CC 800 □ 2.57

200 □ 1.21

300 1.49

400 □ 1.18

500 □ 2.08

600 .31

8.7.17 3000 □ 16.20

1100 11.89

200 6.00

2400 41.34

2500 [illegible]

[illegible]

204 □ 11.20

253 } □ 5.91

10
8.7.17 2505 (470) 7.11

2800 □ 26.40

8.7.17E 500 .66

600 □ .32

[illegible] .16

300 .80

900 □ 1.24

400 □ .81

300 .43

1000 □ 1.28

1100 □ .52

1200 □ .64

500 .32

1400 1.40

200 □ 2.35

100 □ 9.70

1500 □ 1.00

1600 □ .83

1700 □ 1.10

8.7.17C 2[illegible] □ .42

[illegible] □ .45

400 □ .93

[illegible] □ 7.71

[illegible] 9.64

1600 □ .92

8.7.17C 1300 □ 2.3

1400 }
1302 } □ 1.0

1500 □ .3

1200 }
1201 } □ 1.2

1100 □ 2.12

1000 }
900 } □ 3.42

700 3.6[illegible]

[illegible]

500 .31

600 9.75

[illegible]

400 [illegible]

100 6.25

107 □ 2.24

500 □ 1.29

105 □ .51

106 □ .52

1.3 5.00

1.2[illegible]

5.00

1.01

104 □ 2.11

[illegible]

[illegible] .5[illegible]

CCD 100 } = .37
200 }
300 5.39
200 } = .46
200 }
300 }
300 } = 2.32
300 }
301 .51
300 = .29
300 .25
300 }
302 } .43
350 }
350 } = .34
300 }
350 = .27
300 }
300 } = .44
300 }

8.7.20 1300 8.60
1100 = 1.25
1000 = .50
900 = .60
700 = 1.50
1200 = 9.97
1000 = .50
600 = 7.80
500 = 8.80
600 22.29
400 = 27.53
401 = 1.03
402 = 1.39
305 14.29
300 = 1.75
300 = 1.75
300 = 1.76
313 1.14
303 = .88
309 2.82
302 } = 5.41
312 }
312 } = .27
302 }
312 }
311 } = 4.47
307 }

5.7.20 B 101 } = .7
100 }
200 = .3
300 = .5
400 (see) 4.
500 1.
600 } = .6
700 }
800 6.7
1000 = .3
1100 = .3
1200 .6
900 = 5.0
1500
1700 = 1.6
1300
1600 2.0
2500 = .24
1700 = .58
1800 } = 1.41
1800 }
1900 = 2.55
2000 } = 1.25
2100 }
2200 } 1.0 =
2300 = .5

1300 = .42
1400 3.54

7.20 1400 17.60
1600 3.17
1600 3.02
1002 3.68
1500 .32
1300 = .42
1400 3.54

87-20B	3100	4.50
	3200	2.46
	3300	
	3400	12.56
	3500	5.00
	3500	2.80
	3600	.53
	3001	1.05
	3000	6.45
	2100	8.00
	2001	
	2014	12.99
	2002	.96
	2300	7.40
	2001	1.27
	2001	
87-20 BB	2201	
	2200	1.99
	2001	
	2100	
	2300	4.11
	2101	
	2400	.32
	[illegible]	[illegible]
	200	.51

87-20BB	300	.56
	400	.50
	500	1.30
	600	
	700	.64
	800	.89
	900	.57
	1000	.51
	1100	.32
	1200	.34
	1300	.50
	1400	.42
	1500	.42
	1600	.45
	1700	.99
	1700	
	1800	
	1803	3.56
	1804	
	1802	.51
	2000	.47
	1901	
	1900	.44
	[illegible]	[illegible]
	[illegible]	.76
	300	.38

87-19 CB	400	.3
	500	.3
	600	.3
	700	.3
	800	.27
	900	[illegible]
	1000	.40
	1100	.36
	1200	.36
	1400	.36
	1500	.34
	1600	.35
	1700	.26
	1800	.29
	1900	.29
	2000	.36
	2100	.42
	2200	.36
	2300	.29
	2400	.27
	2500	.29
	2600	.29
	2700	[illegible]
	[illegible]	[illegible]
	[illegible]	[illegible]
	400	.39

13

19	500	.34	8.7.20AA	200	.32	8.7.20AA 1699	= 2.00
	600	.33		300	.27		
	700	.67		400	.26	8.7.21 707	5.44
	800	1.25		500	.26	600	.95
	900	.67		607 / 701	.20	500	2.11
	1000	.32		700	.18	8.7.29 300	1.50
	1100	.34		900	.23	400	3.50
	1200	.34		900	.29	411	.46
	1300	.34		1000	.32	405 / 410	16.01
	1400	.34		2300	.29	404	6.43
	1500	.25		2400	.47		
	1600	.25		2700	.258		
	1750	.25		2200	.34	8.7.16 2801	3.69
	1801	.34		[illegible]	.31	2700	.46
	1803	.34		[illegible]	.27	2600	9.50
	1900	.34		1900	.20	2901	.58
	1902	.34		1800	.29	2800	.79
	2000	1.30		1700	.36	2923	.53
	2100	1.74		1600	.25	2902	.83
	2202	.32		1500	.32	2900	3.72
	2300 / 2301	.64		1400	.35	3002	1.10
	2400	.32		1100	.26	3000 / 3001	9.35
	2500	.36		1300	.24	[illegible]	
	[illegible]	[illegible]		[illegible]	.23	[illegible]	[illegible]
	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
	8.6.4A 2500	3.43		1499	.25	3100	3.14
	100	.34		1579	.25		

ning Area: NORTHEAST

Maps: 8-6-25CD
8-6-25DC
8-6-36

.l 3 - - soils: IVw and VIe (preliminary).
al 4 - - site class: None.

FINDINGS

(a)adjacent uses:

EAST - agriculture.

NORTH }
SOUTH } - Columbia River Estuary.
WEST }

(b)public facilities and services:

WATER - Westport Water Association
ROADS - Paved public and private roads.

(c)parcel size and ownership patterns:

This area consists of 51 parcels totaling 98.95 acres. The overall average parcel size is 1.94 acres. There is only one parcel larger than 10 acres: a 70.49 acre parcel comprising about 71% of the total exception area.

(d)neighborhood and regional characteristics:

The area includes 11 homes at an overall average density of 1 d.u. per 9.00 acres. All of these homes are concentrated in the northen 1/3 of the exception area at an effective density of 1 d.u. per 2.59 acres.

CONCLUSION

This area is built and irrevocably committed to residential development for the following reasons:

- Continued cost-effective provision of existing public facilities depends in part on continued residential development in this area.
- Forest and farm management are precluded by a pattern of small parcel sizes in this area.
- Many farm and forest management practices are not compatible with the density of residences in this area.

1

-6-1 7027 5.18
-6 300
(GP) 301
7-6-1 [illegible]
701 1.01
7-6-1 [illegible]

7-6-1 700 2.25
400 5.94

7-6-1A ~~800 a. 3.50~~
b. [illegible]

1200 10.30
1000 9.05
300 1.56
[illegible] .91
400 / 500 .32
501 / 600 .39
601 .09
700 .06
900 .09
100 / 200 [illegible]

7.6.1B 100 / 200 12.10
101 8.08
102 2.90
400 / 401 3.49
700 .55
600 .33
203 .74
~~300 .49~~
207 .56
206 / 208 / 204 / 205 10.85
205 1.09
201 1.13
300 6.19
302 .72
301 .24

7-6-1FC [illegible] .27
[illegible] .27
[illegible] .64

7.6.1BC
600 .52
700 .36
800 .39
900 .34
1000 [illegible]
1100 .35
1200 .3[illegible]
1300 .36
1400 .49
~~1500 .38~~

7-6-1 C.B.
100 .25
200 .3[illegible]
300 .3[illegible]
400 [illegible]
500 .25
600 .2[illegible]
700 .7[illegible]
800 .60
900 .67
1000 .16
1100 .1[illegible]
1200 [illegible]
[illegible]

170

26-1CB 1800 .30
1900 .43
2000 .45
2100 .37
2200 .38
2300 .42
2400 .35
2500 .42
2600 .46

7.6.36 1600 .45
1700 .37
1800
1900
1901 .53
2000
2100 .11

8.6.36 1903 1.24
1902 .23
1900 4.57
1904 (350) 12.31
1600 .23
1700 .18
1500
1501 .50

8.6.36 1301 2.80
1300 6.42
1400
1500 12.16
1100 1.29
1000 1.41
1101 .17
1200 1.23
902 .17
901 .37
900 .12

8.6.36 CA 2200 1.18
2202
2204
2200 1.66
2203
2100
2201 .68
2205 .29
2102 .15
2201 .32
1500 .21
1400 .06
2201 .25

8.6.36 CA 2310
2304
2500
2305
2312
2316
2306
2311
2600
2303
2315
2301
2317
2318
2314
2314
2302
2700
2800
2321
2300
8.6.36 DC 200
100
300
400

0.36 DC 800 □ .09

900 □ .10

1000 □ .09

1100 □ .60

1200 □ .41

1300 □ .21

1400 □ .27

1700 □ .11

1800 □ .12

1900 □ .19

2000 □ .32

1400 □ .32

1500 □ 3.30

all – n = 144 ge 10 = n = 8

$\bar{x}$ = 6.61 $\bar{x}$ = 12.33

Σ = 23.32 Σ = 98.65 or 95

□ = .55

Planning Area: NORTHEAST
Goal 3 - - soils: Not Mapped.
Goal 4 - - site class: FB and FC, some FD and FE.

Maps: 8-6, 8-6-27DA, 8-6-34AA, 8-6-35AB, 8-6-35BB, 8-6-26CC, 8-6-27DD, 8-6-35, 8-6-35BA

FINDINGS

(a)adjacent uses:

WEST - forestry
SOUTH -forestry
EAST -forestry
NORTH -industrial, wetlands.

(b)public facilities and services:

FIRE - Wauna-Westport Fire District.
WATER- Wauna Water District.
Various surfaced county roads.

(c)parcel size and ownership patterns:

This area consists of 83 parcels totaling 168.12 acres. The overall average lot size is 1.89 acres. There are 3 parcels larger than 10 acres, totaling 58.95 acres or about 30% of the total exception area.

(d)neighborhood and regional characteristics:

This area is built to an overall average density of 1 d.u. per 2.80 acres.

(e)natural boundries:

The Bonneville Power Administration right-of-way forms a natural boundary to the south of this exception area.

CONCLUSION

This area is built and irrevocably committed to residential development for the following reasons:

- Continued cost-effective delivery of existing public facilities and services depends in part on continued residential development in this area.
- Agriculture and forestry are precluded by a pattern of small lot sizes in this area.
- Many farm and forest management practices are not compatible with either the number or the density of residences in this area.
- A natural boundary separates the southern portion of this exception are from adjacent forest land.

1

2.27 DA 700 1.65	8.6.27 DD 1100 □ .42	8.6.35 AB 1000 } □ .6	
800 .34		1100	
900 .60	8.6.26 CC 500 .37	1200 □ .4	
500 □ 5.02	400 } □ .81	1300 .3	
500 □ .41	300	1400 □ .40	
700 □ 1.8	300		
1100 □ 5.57	300 □ 1.98	8.6.35 BA 100 □ 1.00	
1102 □ .48	1400 12.30	2200 } □ .82	
1101 } □ 1.65	1300 □ .59	8.6.35 201	
1200 }	1200 } 1.354	2000 } □ .98	
1500 □ .50	800	2100	
1400 □ .65	1100 .28	1900 } □ .32	
1400 } □ 1.93	1000 □ .31	1800	
8.6.27 DD 200	900 □ .40	1700 } □ 5.84	
201 □ .37	700 □ .64	2300	
300 16.00	600 .05	1500	
500 } 1.37		1501 } □ .62	
600	8.6.35 200 □ 9.20	1600	
700 .87		1400 □ .18	
800 □ .35	8.6.35 AB 100 □ .30	900 .45	
1000 □ .35	200 □ .35	903 □ .30	
900 □ .55	300 □ .34	2400 } □ 3.36	
1700 □ .35	400 .29	900	
1600 □ 1.27	500 □ .29	1300 } □ 2.97	
[illegible]	[illegible]	[illegible]	
1300 } .79	900 } □ .53	[illegible]	
1200	1000		

2

.35 1200 } 8.63 14A 100 .73

1201 } = 1.13 901 = .39

1202 } 200 = .45

903 } 201 = .47

902 } = .70 300 = .95

904 400 = 1.80

1203 = .37 500 } .68

1000 } .27 600 }

1100 } 700 .17

600 = .44 800 = .23

701 902 .25

702 1000 .65

907 } = 3.47

800 }

904 }

all: n = 33

$\bar{x}$ = 1.39

s = 168.12

6.35 BB 300 } = 8.20

400 }

200 4.40

500 } gel 16: n = 3

600 } $\bar{x}$ = 14.65

100 } s = 53.95 or 35%

700 } = 28.65

.6.3700 = 66

.35

Planning Area: CLATSOP PLAINS
Goal 3 - - soils: IVw and VIe.
Goal 4 - - site class: FG, some FC.

Maps: 8-10-28
8-10-28CA
8-10-33A
8-10-33D

FINDINGS

(a)adjacent uses:

NORTH - residential and commercial (City of Warrenton).
WEST - residential (west side of State Highway 101).
EAST - wetlands and small agriculture/forestry.

(b)public facilities:

WATER - City of Warrenton.
FIRE - Warrenton Rural Fire District.
ROADS - State Highway 101.

(c)parcel size and ownership patterns:

This area consists of 19 parcels totaling 50.66 acres. The overall average lot size is 2.67 acres. There is one parcel larger than ten acres: a 10.28 acre parcel comprising 20% of the total exception area.

(d)neighborhood and regional characteristics:

The area is built-up to an average density of 1 d.u. per 3.90 ares.

CONCLUSION

This area is built and irrevocably committed to residential development for the following reasons:

- Continued cost-effective delivery of existing public facilities depends in part on continued residential development in this area.
- Agriculture and forestry are precluded by a pattern of small parcel sizes in this area.
- Many farm and forest management practices are not compatible with either the number or the density of residences in this area.

54

.0.33A	1200		4.64
	1300		3.71
	1400	□	.62
	1401	□	.29
	1500	□	.24
	1700	□	1.66
	1800	□	1.90
	1900	□	8.29
	2000	□	1.00

all $n = 19$

$\bar{@} = 2.67$

$\mathcal{E} = 50.66$

ge.10 $n = 1$

$\mathcal{E} = 10.28$

□ = 13

8.10.33D	1100		5.58
	1200	□	1.67

8.10.28	3400		10.28
	3700		2.19
	3100	□	5.74
	3102	□	.58
	3101	□	.53

5.10.28CA	2400	□	.57
	2300, 2302		.95
	2301	□	.23

Planning Area:CLATSOP PLAINS
Goal 3 - - soils: II, IVw and VIe
Goal 4 - - site class: FC and FD.

Maps: 7-10-4
7-10-4A
7-10-4AB
8-10-33A
8-10-33D
8-10-34

FINDINGS

(a)adjacent uses:

SOUTH - agriculture and forestry.
WEST - State Highway 101 and residential.
NORTH - forestry and wetlands.
EAST - forestry.

(b)public facilities and services:

FIRE - Warenton Rural Fire District.
WATER- City of Warrenton.
ROADS- State Highway 101, Perkins County Road and Dolphin Road.

(c)parcel size and ownership patterns:

This area includes 52 parcels totaling 228.29 acres. The overall average lot size is 4.39 acres. There area 7 parcels larger than ten acres, totaling 117.56 acres or about 51% of the total exception area.

(d)neighborhood and regional characteristics:

The overall average density in this area is 1 d.u. per 6.92 acres.

CONCLUSIONS

This area is built and irrevocably committed to residential development for the following reasons:

- Continued cost-effective delivery of existing public facilities depends in part on continued residential development of this area.
- Agriculture and forestry is precluded by a pattern of small parcel sizes in this area.
- Many farm and forest management practices are not compatible with either the number or the density of residences in this area.

7.10.4 1800, 1801 } .40

1900, 2000 } □ 1.10

7.10.4A 100, 101, 201 } □ 2.03

103 □ 3.00

200 3.80

300 3.56

900 □ 5.00

1000 5.00

1101 □ 1.25

1100 □ 6.25

1200 □ 2.50

1400 □ 4.00

1501, 1500 } □ 3.00

1600 □ 1.00

1700 6.57

900, 800 } □ 9.59

500 □ 2.34

[illegible] □ [illegible]

700 1.94

7.10.4A 702, 600 } □ 10.42

7.10.4AB 100 .56

200 □

201 □ .56

300 □ .35

400 .37

500 .57

600 .40

700 □ .52

800 □ .45

801 □ .54

8.10.33A 1000, 800 } 3.49

400 □ 4.00

8.10.33D 103 24.34

~~[illegible]~~

900 □ 6.75

600 □ .73

500 □ .93

900 1.10

900 □ 1.00

[illegible] □ [illegible]

100, 1000 □ } 5.00

8.10.34 900 15.00

1007, 1002 } 16.[illegible]

1003 □, 1004 } 28.[illegible]

702 10.[illegible]

707 .[illegible]

705 .[illegible]

704 1.3

700 □ 12.0

901 □ 1.2

901 □ 2.[illegible]

902 □ 1.[illegible]

904 □ 3.[illegible]

903 2.[illegible]

all

n = 52

$\bar{x}$ = 4.39

Σ = 229.29

ge.10e

n = 7

$\bar{x}$ = 16.79

□ = .33

.15 AC	100	□	.15	7.10.15 AC	2800	□	.21	7.60.15 AC	5700	□	.22
	200	□	.15		2900	□	.17		5900	□	.11
	300	□	.15		3000	□	.14		6000	□	.11
	400	□	.16		3100		.17		6100	□	.11
	500		.19		3200		.17		6200	□	.11
	600	□	.22		3300		.20		6300		.29
	700	□	.28		3400	□	.20				
	800	□	.27		3500		.11		6400	□	.30
	900	□	.17		3501		.12		6500	□	.32
	1000		.15		3600	□	.21		6600	□	.18
	1100	□	.15		3700	□	.20		6700	□	.2
	1200	□	.20		3800	□	.20		6800	□	.2
	1300	□	.24		3900		.20		6900	□	.2
	1400		.10		4000		.20		7000	□	.2
	1401		.10		4100	□	.20		7100	□	.1
	1500	□	.20		4200	□	.20		7200	□	.2
	1600	□	.20		4300	□	.21		7300	□	.2
	1700	□	.20		4400	□	.23		7400	□	.2
	1800		.20		4500	□	.29		7500	□	.2
	1900		.20		4600	□	.11		7600	□	[illegible]
	2000		.18		4700	□	.21		7700	□	[illegible]
	2100		.05		4800	□	.25		7800	□	[illegible]
	2200		.14		4900	□	.20		7900	□	[illegible]
	2300	□	.18		5000	□	.18		8000	□	
	2400				5100		.88	7.10.15 BA	100	□	
	2401				[illegible]		[illegible]		[illegible]		
	2600		.67		5300		.66		300		
	2700	□	.17		5600		.08		400		

Planning Area: CLATSOP PLAINS
Goal 3 - - soils: IVw and VIe.
Goal 4 - - site class: FB and FD.

Maps: 7-10-15
7-10-15BA
7-10-15DB

FINDINGS

(a)adjacent uses:
WEST - residential and wetlands.
NORTH and SOUTH - county-owned recreational lands.
EAST - Cullaby Lake.

(b)public facilities and services:
WATER - City of Warrenton.
SEWER - Shoreline Sanitary District.
FIRE - Gearhart Rural Fire District.

(c)parcels size and ownership patterns:
This exception area includes 129 separate parcels totaling 41.32 acres. The overall average lot size is .32 acres. There are no lots larger than 5 acres.

(d)neighborhood and regional characteristics:
There area presently 94 homes in this area at an overall average density of 1 d.u. per .44 acres.

(e)natural boundaries:
Cullaby Lake separates this exception area from forest lands to the east.

CONCLUSION

This area is built and irrevocably committed to residential development for the following reasons:

- Continued cost-effective delivery of existing public facilities and services in this area depends in part on continued residential development of this area.
- Agriculture and forestry are precluded by a pattern of small parcel sizes in this area.
- Many farm and forest management practices are not compatible with either the number or the density of residences in this area.
- A natural boundary separates this exception area from adjacent forest lands.

2

.15BA	500	.29
	600	.35
	700	.20
	800	.20
	900	.46
	1000	.48
	1100	.22
	1200	.22
	1300 } 1400 }	.83
	1500	.20
	1600	.40
	1700	.29
	1800	.32

.10.15DB	100	.34
	200	.36
	300	.35
	400	.33
	500	.35
	600	.33
	700	.22
	800	.23
	900	.23
	1000	.22
	1100	.22
	1200	.20
	1300	.20

7.10.15DB	1400	.20
	1500	.21
	1600	.19
	1700	.17
	1800	.17
	1900	.17
	2000	.17
	2100	.21
	2200, 2500, 2400, 2300, 3000, 2800, 3100, 2500, 3200, 2600, 3300, 2700, 3400, 3500, 3600, 3700, ⋮, 4700 }	5.51

7.10.15	1304	.82
	1318	.14
	1309	.20
	1328	.33
	1312	.64
	1302	1.75
	600	2.30
	[illegible]	[illegible]
	800	.50
	900	.50

7.10.15 1000 ___ ,
1001 }
1316 }

all n = 129
$\bar{@}$ = .32
Σ = 41.32

□ : 94 / 41.32
= 2.27 d.u. / acre

Planning Area: CLATSOP PLAINS
Goal 3 - - soils: II, III, IV and VI.
Goal 4 - - site class: FB.

Maps: 6-10-33
6-10-34

FINDINGS

(a)adjacent uses:

NORTH - cemetary and mixed agriculture and forestry.
EAST - forestry.
SOUTH - forestry.
WEST - agriculture.

(b)public facilities and services:

FIRE - Seaside Rural Fire Protection District.
WATER- City of Seaside.
ROADS- Beerman Creek County Road and State Highway 101.

(c)parcel size and ownership patterns:

This area includes 29 parcels totaling 121.61 acres. The overall average lot size is 4.19 acres. There are 4 parcels larger than ten acres, totaling 48.35 acres or about 40% of the total exception area.

(d)neighborhood and regional characteristics:

This exception area is developed to an average overall density of about 1 d.u. per 7 acres.

CONCLUSION

This area is built and irrevocably committed to residential development for the following reasons:

- The continued cost-effective delivery of existing public facilities depends in part on continued residential development in this area.
- Agriculture and forestry are precluded by a pattern of small parcel sizes in this area.
- Many farm and forest management practices are not compatible with either the number or density of residences in this area.

6-10-33

1402	6.43
1603, 1602	3.53
1600	.79
1601	2.47
200, 202	17.40
203	.16

6.10.34

500a	10.16
500b	10.16
700	10.63
703	1.15
708	1.00
709	1.36
711, 712	1.72
701	3.04
705	3.03
706, 710	3.73
206	7.70
209, 201	6.34
207	1.04
[illegible]	[illegible]

6.10.34

208	.59
216	2.40
212, 302, 213	3.90
202, 300	5.13
301	2.92
203, 204	4.83
205	3.75
200	2.60
704	2.10

all parcels: n = 29
avg. = 4.19 acre
total = 121.61 acre

ten acres & larger n = 4
avg. = 12.09
total = 48.35

Planning Area: CLATSOP PLAINS
Goal 3 - - soils: II.
Goal 4 - - site class: FD.

Map: 6-10-28

FINDINGS

(a)adjacent uses:
NORTH and SOUTH - commercial within the Seaside Urban Growth Boundary.
WEST - golf course.
EAST - wetlands.

(b)public facilities:
FIRE - Seaside Rural Fire District.
WATER- City of Seaside.
ROADS- State Highway 101.

(c)parcel size and ownership patterns:
This area consists of one 1.4 acre parcel. The parcel to the north is within the Seaside UGB and is about 5 acres. To the south is a 2 acre parcel, also within the Seaside UGB.

(d)neighborhood and regional characteristics:
This parcel is in the middle of a developed commercial strip along Highway 101.

(f)other relevant factors:
This parcel was not included in the Seaside UGB despite being surrounded on three sides by UGB lands.

CONCLUSION

This parcel is irrevocably committed to residential development for the following reasons:

- Existing public facilities and services on this site are the same as on adjacent UGB property.
- The parcel is not large enough to pursue either farm or forest management, and is not adjacent to other farm or forest lands.
- Many farm and forest management practices are not compatible with the number or the density of commercial uses along Highway 101 in this area.

Planning Area: CLATSOP PLAINS
Goal 3 - - soils: II and III.
Goal 4 - - site class: FB and FC.

Maps: 5-10-3CC
5-10-4A
5-10-4D
6-10-33

FINDINGS

(a)adjacent uses:
NORTH - City of Seaside.
SOUTH - residential.
EAST - forestry.
WEST - forestry.

(b)public facilities and services:
WATER - City of Seaside.
FIRE - Seaside Rural Fire Protection District.
ROADS - State Highway 101 and 26.

(c)parcel size and ownership patterns.
This area includes 47 parcels totaling 134.12 acres. The overall average parcel size is 2.85 acres. There are 2 parcels larger than ten acres, totaling 29.30 acres or about 22% of the total area.

(d)neighborhood and regional characteristics:
There are 36 commercial and residential structures in this area at an avergae overall density of 1 per 1.31 acres.

(e)natural boundaries:
An abandoned railroad right-of-way forms a natural boundary along much of the western side of this exception area.

CONCLUSION

This area is built and irrevocably committed to residential and commercial development for the following reasons:

- Continued cost-effective delivery of existing public facilities and services depends in part on continued development in this area.
- Agriculture and forestry are precluded by a pattern of small parcel sizes in this area.
- Many farm and forest management practices are not compatible with either the number or density of residential and commercial uses in this area.
- A natural boundary separates much of this exception area from forest lands to the west.

5-10-3CC	100	▫	1.81
	300	▫	1.88
	400	▫	.11
5-10-4A	2300	▫	4.10
	2600		1.24
	2500		3.80
	2100	▫	5.76
	1900	▫	.71
	2000		6.30
	1800	▫	.36
	1700	▫	.53
	1601	▫	1.30
	1602	▫	.85
	1600	▫	.65
	1500	▫	1.80
	1100	▫	16.86
	500		.11
	400	▫	.56
	600	▫	1.97
	300	▫	1.20
5-10-4D	2100, 2001	▫	7.65
	2000, 1800	▫	2.33
	1900, 2213	▫	5.57
	[illegible]	▫	[illegible]

5-10-4D	1500		1.52
	1700	▫	.60
	1400	▫	5.17
	2401		2.57
	1300	▫	2.50
	1100	▫	4.94
	2403	▫	7.01
	1000	▫	4.12
	2204		.19
	500	▫	.23
	600	▫	1.13
	700	▫	1.28
	2404, 800	▫	2.80
	400	▫	2.00
	300		9.15
	100		12.44
	101	▫	2.06
	201	▫	.68
	200	▫	.45
6-10-33	1800	▫	.13
	1400	▫	2.11
	1701		.29

	n =	avg =	total =
all pineals -	47	2.85	134.12
[illegible]	2	14.15	29

Planning Area: CLATSOP PLAINS
Goal 3 - - soils: IVw, some VI.
Goal 4 - - site class: FB, FC and FD.

Maps: 7-10-10, 7-10-15, 7-10-22, 7-10-22B, 7-10-22C, 7-10-22CB, 7-10-22D, 7-10-22DC, 7-10-27, 7-10-34

FINDINGS

(a)adjacent uses:

EAST - forestry, agriculture, park and wetland.
WEST - State Highway 101.

(b)public facilities and services:

FIRE - Gearnart Rural Fire District.
ROADS- State Highway 101, Dellmore Loop County Road.
WATER- City of Warrenton, except souther end south of Del Rey Beach Road, which is served by City of Gearhart water.

(c)parcel size and ownership patterns:

This area includes 143 parcels totaling 374 acres. The overall average lot size is 2.6 acres. There are 4 parcels larger than ten acres, totaling 48.37 acres or about 13% of the total exception area.

(d)neighborhood and regional characteristics:

The area is built up to an average overall density of 1 d.u. per 4.02 acres.

CONCLUSION

This area is built and irrevocably committed to residential development for the following reasons:

- Continued cost-effective delivery of existing public facilities and services depends in part on continued residential development in this area.
- Agriculture and forestry are precluded by a pattern of small parcel sizes in this area.
- Many farm and forest management practices are not compatible with either the number or the density of residences in this area.

7-10-10	1800	▫	.52
	1900	▫	1.24
	2000	▫	.40
	2100	▫	.66
7-10-15	1319		4.32
	1321		1.29
	1320	▫	2.80
	1311		12.90
	1308		5.44
	1303		5.37
	2200		1.65
	2300		1.00
	2400		3.00
	2500	▫	2.81
	2600		1.54
7-10-22	400, 601	▫	7.63
	700	▫	3.37
	900		2.82
	801	▫	.38
	805		.38
	804	▫	.38
	802, 803		.55
10-22 B	1900, [illegible]	▫	.18

7.10.22B	2000	▫	2.85
	2100	▫	1.00
	2250	▫	1.63
	2300, 2400	▫	1.90
	2500	▫	5.60
	2600	▫	1.71
	2700, 2800	▫	4.62
	2900	▫	.52
	1800	▫	.74
	1700	▫	.55
	1701		1.75
	1400		.92
	1501	▫	1.64
	1503, 1300	▫	9.55
7-10-22C	500, 400	▫	8.50
	700		.22
	1701, 1600		3.71
	1500	▫	2.67
	1400	▫	2.10
	1300		2.1[illegible]
	[illegible]	▫	[illegible]
	[illegible]		[illegible]

7-10-22C	1100		5.58
	100	□	1.50
	200	□	2.90
	300	□	4.58
	800		.20
	1000		.10
7-10-22CB	100	□	4.53
	200	□	.50
	300	□	3.22
	400	□	2.38
	500	□	.62
	600, 700	□	6.33
7-10-22D	200, 300	□	1.24
	100		.80
	400		.56
	500		1.44
	700	□	2.69
	801, 901	□	1.30
	903		.34
	904	□	.97
	900	□	1.17
	1100		1.15
	1300		1.09
	1400		.22
	1500		1.59
	1600		[illegible]

7-10-22D	1702	□	1.39
	1701	□	2.11
	1703	□	1.99
	1200, 1100	□	2.18
	1000	□	4.30
	902		.97
7-10-22DC	100	□	.84
	200	□	.81
	300	□	.81
	400	□	.86
	500	□	.87
	600		.80
	700		.80
	800	□	.87
	900, 1000		1.59
7-10-27	101		1.57
	100	□	1.58
	1302, 1303	□	5.21
	1300	□	9.90
	1301		4.67
	1400		.62
	1500		1.13
	1501	□	3.38
	1600		5.[illegible]
	[illegible]		
	[illegible]		

7-10-27	1901, 1902	□	5.97
	1908, 1907, 1906, 1900	□	3.77
	1904	□	1.46
	1905	□	3.13
	2000, 2001		7.33
	2100		1.13
	2200	□	11.04
	2300, 2401	□	3.56
	2700	□	.99
	3000	□	2.70
	3101		4.79
	3102	□	3.11
	3108	□	1.88
	3110	□	11.13
	3109	□	1.94
	3100	□	1.00
	3105	□	2.15
	3106	□	1.95
	3107		1.68
	3103		.80
	2901	□	1.84
	[illegible]	□	1.85
	[illegible]		.52

7-10-27	2700	□	1.60
	2600	□	2.50
7-10-34	100	□	7.74
	1100	□	1.22
	109	□	1.14
	112		1.13
	103		13.30
	105	□	1.66
	110		1.66
	108	□	1.66
	106	□	1.73
	400	□	4.04
	310	□	.19
	311	□	1.54
	314	□	1.10
	313		5.28
	316	□	1.00
	300	□	1.41
	315	□	1.57
	303		2.51
	305		1.32
	306		.63
	304		2.41

	n	avg	tot. tax
all parcels :	143	2.61 acres	373.8
larger than 10 acres :	4	12.09 acres	48
Homes :	93		

Planning Area: CLATSOP PLAINS
Goal 3 - - soils: VIe.
Goal 4 - - site class: None.

Maps: 7-10-3
7-10-4
7-10-10
7-10-10B

FINDINGS

(a)adjacent uses:
EAST - agriculture and forestry.
WEST - State Highway 101.

(b)public facilities and services:
FIRE - Warrenton Rural Fire District.
WATER- City of Warrenton.
ROADS- State Highway 101.

(c)parcels size and ownership patterns:
There are 25 parcels in this area totaling 120.14 acres. The overall average lot size is 4.81 acres. There are 5 parcels larger than ten acres, totaling 52.47 acres or about 44% ofthe total exception area.

(d)neichborhood and regional characteristics:
There are a total of 47 residences in this are at an average overall density of 1 d.u. per 2.79 acres. Most of these residences are mobile homes in the Glenwood Village Mobile Home Park (7-10-10B 100). The average density outside the mobile home park is about 1 d.u. per 9.7 acres.

(e)natural boundaries:
The Burlington Northern Railroad tracks seperate most of the eastern side of this parcel from adjacent farm land.

CONCLUSION

This are is built and irrevocably committed to residential development for the following reasons:

- Continued cost-effective delivery of existing public facilities and services depends in part on continued residential development in this area.
- Agriculture and forestry are precluded by a pattern of small parcel sizes in this area.
- Many farm and forest management practices are not compatible with either the number or the density of residences in this area.
- A natural boundary separates this exception area from adjacent farm lands.

7-10-10B	100	(33 □)	22.91
	2100		10.95
	2200	□	15.22
	1900, 1901		11.59
	2000		11.80
	200	□	1.00
	300	□	.72
	500		.61
	600	□	2.12
	800	□	1.00
	700		1.22
	900		5.61
	1000	□	2.46
	1100		1.67
	1200	□	2.97
	1300	□	1.50
	1400		1.15
-10-10	103		5.03
-10-4	4500	□	2.48
	4400, 4300	□	6.36
	4100		1.60
	4200		1.00
	3000		2.08
10-3	301		.69
	[illegible]		[illegible]

all parcels - n = 25
avg = 4.81 acres
total = 120.14 acres

10 acres and larger - n = 5
avg = 10.49 acres
total = 52.47 acres

houses n = 43

Planning Area: CLATSOP PLAINS
Goal 3 - - soils: IVw and VIe.
Goal 4 - - site class: FC and FD.

Maps: 6-10-3A
6-10-3D
6-10-10
6-10-10D
7-10-34

FINDINGS

(a)adjacent uses:

WEST - residential (City of Gearhart and Gearhart UGB).
NORTH }
SOUTH } wetland, pasture and forestry.
EAST }

(b)public facilities and services:

FIRE - Gearhart Rural Fire Protection District.
WATER- City of Gearhart.
ROADS- McCormack Garden County Road, Hibla County Road, and Salminen County Road.

(c)parcel size and ownership patterns:

There are 37 parcels in this area totaling 205.27 acres. The overall average lot size is 5.55 acres. There are 5 lots larger than ten acres, totaling 75.13 acres or about 37% of the total exception area.

(d)neighborhood and regional characteristics:

The overall average density in this area is about 1 d.u. per 9.33 acres.

CONCLUSION

This area is built and irrevocably committed to residential development for the following reasons:

- Continued cost-effective delivery of existing public facilities and services depends in part on continued residential development in this area.
- Agriculture and forestry are precluded by a pattern of small parcel sizes in this area.
- Many forest and farm management practices are not compatible with either the number or the density of residences in this area.

6-10-10	100		15.42
6-10-3D	1000		
6-10·10	300	▫	7.68
	500		10.95
6-10·10D	400		
6-10·3D	900		7.47
	800		7.11
	700	▫	7.82
	500		.21
	600	▫	.95
	501		6.90
	400		9.62
	300	▫	10.12
	200		4.05
	100	▫	16.08
	1200	▫	7.46
	1100		1.80
	1103	▫	1.00
	1102	▫	1.63
	1101	▫	1.00
6-10-3A	100		2.28
	200	▫	22.56
	300	▫	3.99
	500	▫	5.01
	400	▫	4.67
	401	▫	.34

6.10.3A	1400	▫	2.32
	1500, 1600	▫	3.48
	1700	▫	2.90
	1300		2.22
	1200, 1201	▫	3.18
	1100	▫	3.10
	800, 700, 600	▫	4.00
	900	▫	2.00
	1001		5.67
	1102	▫	6.01
7.10.34	814		1.92
	815		6.01
	800		6.94

<u>all parcels</u>: n = 37
avg = 5.55 acres
total = 205.27 acres

<u>ten acres & larger</u> n = 5
avg = 15.03 acres
total = 75.13 acres

Coal 2

Map #	Size	Parcels	Area
1	79.93	66	SW
2	231	413	SW
3	79.19	131	SW
4	212.67	39	SR
5	184.19	31	SR
6	262.82	43	SR
7	531.01	109	SR
8	377.13	117	SR
9	116.78	59	SR
10	25.30	3	SR
11	91.75	2	SR
12	73.85	8	EJ
13	58.67	10	EJ
14	102.48	20	EJ
15	264.11	51	EJ
16	349.77	203	EJ
17	166.97	112	EJ
18	13.33	17	EJ
19	77.88	18	EJ
20	133.09	109	EJ
21	144.91	16	EJ
22	126.36	26	EJ
23	107.38	14	EJ
24	73.26	222	EJ
25	61.86	16	LC
26	52.84	8	LC
27	64.18	6	LC
28	60.32	13	LC
29	12.13	26	LC
30	293.48	247	LC
31	457.07	212	LC
32	426	56	LC
33	338.5	91	LC
34	296.07	115	LC
35	257	65	LC
36	25.84	24	LC
37	176.70	34	LC
38	70.38	11	LC
39	200.70	42	LC
40	63.96	17	LC
41	191.40	39	LC
42	127.19	20	LC
43	896.43	256	NE
44	109.84	106	NE
45	726.13	4	NE
46	65.63	12	NE
47	394.58	74	NE
48	4031.72	835	NE
49	96.95	51	NE
50	[illegible]	[illegible]	[illegible]
51	[illegible]	144	[illegible]
52	108.12	83	NE

Map #	Size	Parcels	Area
53	168.59	73	CP
54	50.66	19	CP
55	228.29	52	CP
56	41.32	129	CP
57	121.61	29	CP
58	1.4	1	CP
59	134.12	47	CP
60	374	143	CP
61	120.14	25	CP
62	205.27	37	CP
Total	15,250.18	5,000	

GOAL 2 LAND USE PLANNING

Designation of Rural Lands

Generally parcels less than 15 acres and that are "built upon or irrevocably committed" to a non/resource use are to be placed in a residential, industrial or commercial zone.

RESIDENTIAL

Residential densities are generally designated through the following additional criteria:

a. Where subdivisions or partitioning or both have occurred in a one-acre pattern of development the area will be placed in one of the one-acre zones;
b. In areas with a development pattern of two to five acre parcels (some smaller and some larger), the areas will be placed in a two-acre zone;
c. In areas adjacent to resource (forest, agriculture, wetlands, estuary areas), lands, or Camp Rilea, the areas will be placed in a five-acre zone;
d. In areas where large parcels (15 acres or greater) of non-resource land are located, the areas will be placed in a five-acre zone;
e. In addition to criteria a through d, minimum lot sizes increase with increasing distance from the following areas:

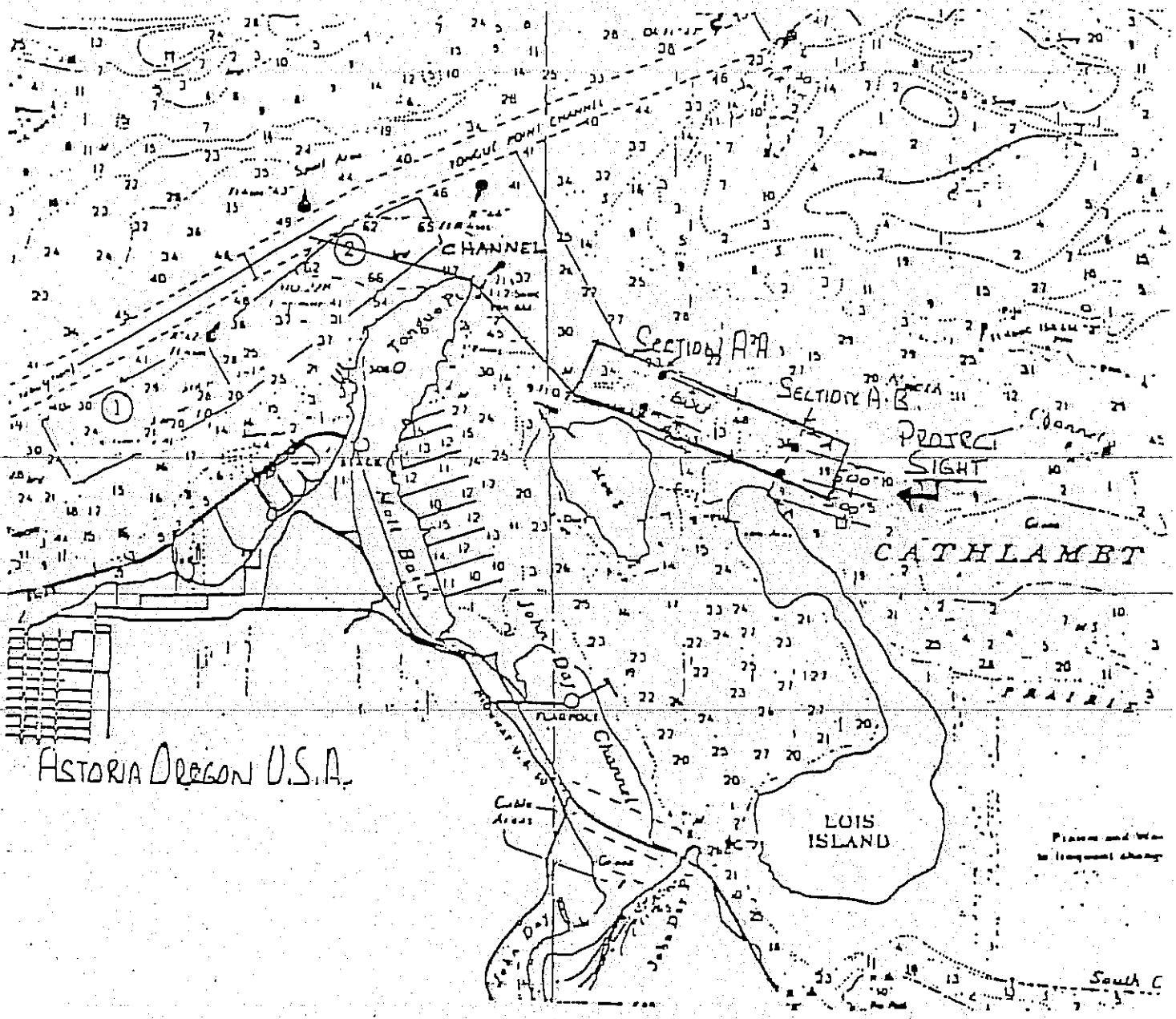
   1. all urban growth boundaries
   2. Svensen center
   3. Knappa center

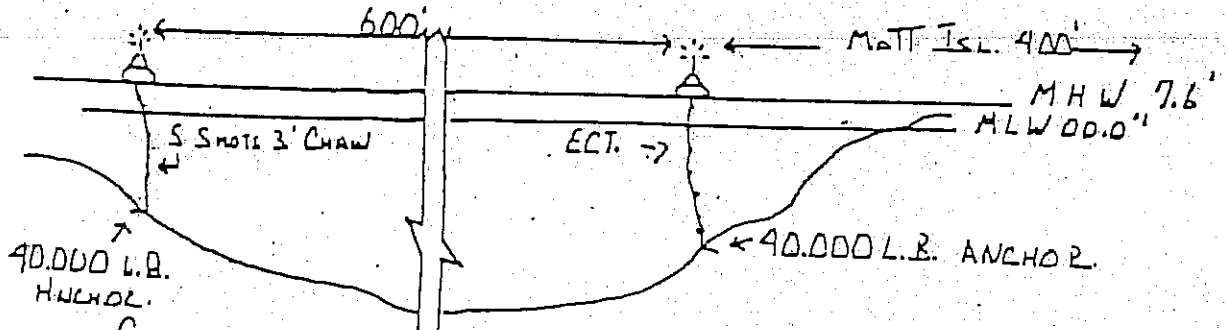
(2) Add to Goal 2 Land Use Planning the following language and map.

1. A need for "mid-water transfer of bulk commodities facility" within the columbia River near Lois and Mott Islands has been proposed. Clatsop County concurs with the expressed need, however, additional information on dredging requirements and whether or not an Exception to Goal 16 Estuarine Resources will be required, impacts on the natural environment, economic impacts etc. are needed. When more detailed information on the project (see attached map) is presented it would be appropriate to consider amending the Plan and Land and Water Development and Use Ordinance.

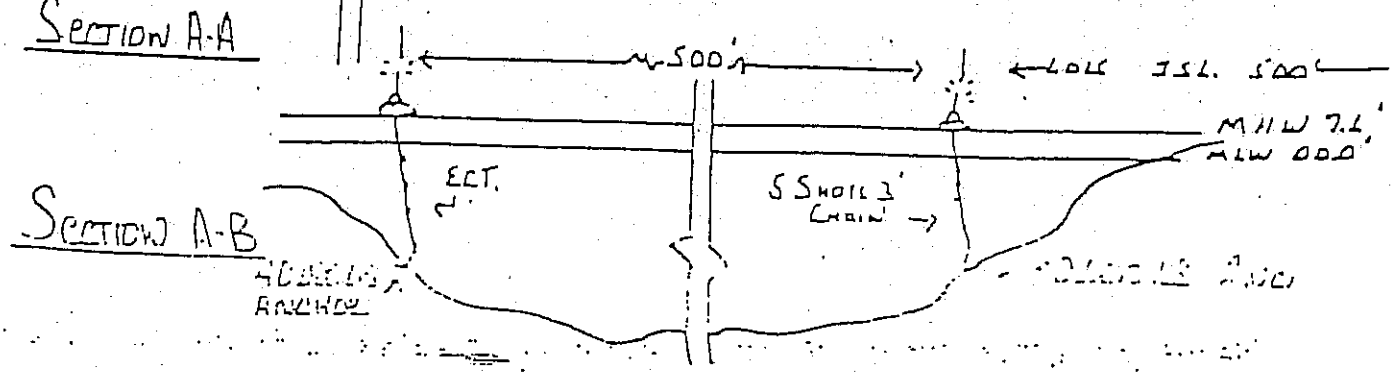
2. Interest has been expressed to locate a 400 to 600 acre Destination Resort in the area north of Gearhart. Specific information on boundaries are not available at this time. Clatsop County believes that the area north of Gearhart is a good location for a Destination Resort. Clatsop County designates the area from the north Gearhart UGB line north to the southern entrance road to Surf Pines and from U.S. Hwy 101 on the east to the easterly Active Dune Overlay District line on the west as the boundaries within which the Destination Resort is to be contained. Clatsop County also recognized that part of the proposed Destination Resort will likely occur within the northern portion of the Gearhart UGB. When more detailed plans are submitted it may be appropriate to amend the Gearhart UGB Plan, the Clatsop County Plan or both. Clatsop County has adopted information on Destination Resorts in its Economy Element and a Destination Resort Overlay District as background information and land use regulations for a Destination Resort.

PACIFIC RIM TOURNAMENT CLUB





NOTE: USCG MARKED



Goal 2

Part II Other Exceptions

Goal 16 & 17

1. Columbia River Estuary: Tidegate Maintenance
2. Columbia River Estuary: Dike Maintenance
3. Columbia River Estuary: Floating Residence Community on John Day River
4. Columbia River Estuary: Aquatic Development Designation at Bradwood
5. Ecola Creek Estuary: To Permit Wetlands/Marsh Treatment

Goal 18 Beaches and Dunes (Goal 18)

- Beachfront protection structures (Goal 18) for developed area (Arch Cape)
- Built and committed Exception in Active Dune (Goal 18) area (Surf Pines)
- Beachfront protection structure (Goal 18) developed area (Cove Beach)

Tidegate Maintenance

Description of the proposed exception

Seventeen diking and drainage districts are chartered within Clatsop County exercising taxation powers over 15,156 acres of agricultural land and urban developed areas. Approximately 63.4 miles of dikes are the means of protecting nearly all of the farmland in the estuary area (80 percent of crop and pasture land in Clatsop County is diked), and make possible urban development in Warrenton (3,800 acres, including the Port of Astoria Airport), Jeffers Gardens and Miles Crossing. For the most part, flood control structures in Clatsop County were constructed prior to 1940, some diking districts were formed in the early 1900s, with all dikes, tidegates and tidegate drainage channels requiring periodic maintenance. Maintenance of tidegate drainage channels generally entails removal of sediments which have accumulated in adjacent slough channel and drainage ways waterward of the tidegate structure. Because of the remote nature of the dikes in Clatsop County and limited access to the dikes by land-based heavy equipment, maintenance of tidegate drainage channels has historically been dependent upon dredging of sediments from aquatic areas serving as tidegate drainage routes and spoiling of the dredged materials atop and along the dike structures. Since dredging of estuarine aquatic areas to remove shoal areas waterward of tidegates in order to restore the drainage capacity of these structures is a necessary activity in Clatsop County, an exception to two requirements of Statewide Planning Goal 16, Estuarine Resources, is proposed. First, dredging in estuarine aquatic areas is broadly limited to water-dependent uses by Goal 16. As a result, dredging to restore or maintain the function of tidegates would be prohibited in all estuarine areas of Clatsop County. Secondly, permissible uses identified in the natural and conservation management unit sections of Goal 16 do not permit dredging activities in aquatic areas with such management unit designations. The proposed exception is site specific in scope, in that in specific areas of Clatsop County the most effective and feasible means of accomplishing necessary maintenance of existing tidegate drainage channels and drainage ways is dredging of aquatic area sediments and dike-top disposal of the dredged materials.

Need - Why dredging for tidegate maintenance should be provided for

Along the lower-Columbia River, and within the CREST planning area, an extensive system of diking and drainage districts protect and make possible agricultural and development uses. Most of the dikes located in aquatic margins of Clatsop County are composed of materials excavated from immediately adjacent sediments - soils that are easily eroded. Generally, dikes built along the lower-Columbia River and tributary areas have been sited in estuarine aquatic and swampy lowland areas where soils are comprised of estuarine deposits (Coquille and Clatsop soil associations), river terrace deposits (Knappa, Walluski, Chitwood and Hebo soil associations), and floodplain deposits (Sauvie and peat soil associations). These soils may contain considerable decayed or decaying organic matter. Although in some cases the soils underlying dikes in Clatsop County may be interstratified with un-

consolidated silt and clay, the soils are mostly compressible and not well suited for supporting structures such as dike foundations and tidegates, or for use as filled earth embankments. Thus, the character of soils underlying Clatsop County dikes and used in the construction of dikes contributes to degradation of the dike embankments and shoaling of tidegate drainage channels. In addition, sediments accumulate in tidegate drainage channels due to erosion caused by livestock, wave action (natural and created by man), and other adverse effects of human activities, including sediments eroded from uplands and hills adjoining flood control structures.

Although dredging to restore drainage channels in service as drainage passages waterward of tidegates does not occur on a regular basis in Clatsop County, it is necessary to recognize the potential need for such activity and establish that this particular activity is available as a maintenance option to diking and drainage districts. Following is a discussion of three circumstances leading to the necessity of clearing tidegate drainages in Clatsop County.

(1) In areas where dike networks and tidegates have been efficiently designed and maintained sediments should not accumulate in tidegate drainage channels. Generally, dike systems are planned and constructed such that tidegates may be sited adjacent to natural sloughs in the area. Tidegates are located to take maximum advantage of the existing slough network as it becomes isolated by dike construction. Tidegates are commonly situated at the point near where dike structures cross sloughs, but are set aside the slough channel due to the difficulty of placing fill of stability sufficient to support a tidegate pipe and flapgate on the fine sediments within the slough channel. Thus, tidegates funnel drainage from slough areas behind dikes, discharging water to the remaining portion of the slough channel waterward of the dike structure. When interior drainages (in agricultural and developed areas) are kept clear, flow through tidegates during periods of low tide is sufficiently vigorous to scour slough channels waterward of the dike. In cases where drainage is impeded tidegate discharge is not adequate to flush sediments from the slough channel and shoaling may result, reducing tidegate discharge flow rates. Dredging is necessary in such cases to restore drainage capacity and facilitate self-scouring action.

(2) A second circumstance resulting in the need for dredging of estuarine aquatic areas to restore drainage from tidegates involves erosion at the discharge point of the tidegate. As noted above, tidegates are generally installed adjacent to the location at which existing sloughs are crossed by dike structures. Since it is necessary to site tidegates aside the centerline of sloughs crossed by dikes, short drainage ways connecting tidegates to the slough channel waterward of the dike are necessary. Excavated drainage ways are subject

to erosion due to discharge from tidegates, with plunge pools forming under the tidegate discharge point and shoal areas or blockages forming to separate the drainage way from the existing slough drainage channel. This creates a perched condition at the discharge of tidegates accompanied by reduction in flow volume from diked areas. Dredging of the shoal area (and riprap of the discharge point) is necessary in such cases to restore discharge capacity.

(3) Shoaling of tidegate drainage channels due to erosion and increased sedimentation caused by human activities is a third circumstance necessitating dredging of estuarine aquatic areas to maintain the function of tidegates. Erosion of dikes and banklines by boat wakes results in deposition of sediments in tidegate drainages. Further, sediments released by dredging operations may accumulate in tidegate drainage channels. An example of the latter has occurred to a limited degree in drainage channels servicing tidegates draining pasture area at the base of the east Skipanon peninsula into the Skipanon Waterway. Disposal of dredged materials within diked areas on the east Skipanon peninsula has occurred on three occasions in the last twenty years and in each instance discharge from disposal areas has been routed through interior drainages to tidegates emptying into the Skipanon Waterway. Drainage of sediment laden water through tidegates leads to accumulation of materials in tidegate drainage channels, thus requiring dredging as a remedial action.

o Frequency of tidegate drainage channel and drainage way maintenance

As sediment traps, tidegate drainage channels require periodic dredging to remove obstructing accumulations of sediments. Attachment 1 indicates 137 tidegates are in service in Clatsop County, providing for drainage in twelve active diking and drainage districts. Responsibility for maintenance of dikes and tidegates in Clatsop County generally lies with individual diking districts. In several cases, however, maintenance of flood control structures is the responsibility of entities other than chartered diking districts. For example, the City of Warrenton is responsible for maintenance of structures comprising the Warrenton Diking District (formerly Warrenton Diking Districts No. 1, 2, and 3). In addition, many areas (Svenson Island, the Walluski River, and portions of the Lewis and Clark River and the Youngs River) are maintained by the efforts of individual property owners, since particular diking districts have become defunct and because some areas were never included in diking or drainage districts. In any case, it is difficult to ascertain the frequency of tidegate drainage maintenance events, due to the absence of adequate record keeping. Each diking and drainage district is directed by elected officers, without continuity of documentation of maintenance activities. Individual property owners often maintain dike and drainage facilities under

their control in a piecemeal fashion and records, if such information is kept for periods exceeding two to three years, are generally unavailable. The Corps of Engineers began documentation of dredge and fill activities in aquatic areas pursuant to federal regulatory requirements in 1968, however, in many instances federal permits allowing dredging activities may be issued while the permitted dredging is never performed, or is carried out in reduced scope. Thus, the record of federal permit actions certifying dredging activities does not relate directly to the periodicity of dredging for maintenance of dike facilities. Attachment 2, recording expenditures by individual diking districts during the period 1970 - 1981, is submitted as an account of dike maintenance activities in Clatsop County. Each chartered diking district is authorized to raise, through taxation of property owners within the district, funds necessary for maintenance of flood control structures. Tax funds are collected by the Clatsop County Treasurer and held for payment to contractors engaged by individual diking districts. County Treasurer records of payments to contractors are not itemized, however, and it is not always possible to distinguish between outlays of diking district funds for maintenance activities such as mowing of dikes, refitting of tidegate drain pipes, etc., and expenses for dredging activities. Information presented in Attachment 2, together with verification of the entries with the Clatsop County Office of the Soil Conservation Service and local diking and drainage district superintendents, indicates that dredging of sediments from tidegate drainage channels and drainage ways has not been frequent in Clatsop County. It is not possible to say with certainty if dredging of tidegate drainages has occurred in the last ten years. Such activity is not indicated in recent diking and drainage district records as illustrated in Attachment 2.

In the event of shoal material accumulating in drainage channels leeding from tidegates it is emphasized that dredging necessary to clear sediments is limited to the minimum necessary to restore the discharge capacity of tidegates. Since nearly all tidegates in Clatsop County are located near the channel of existing sloughs, maintenance dredging entails removing materials that have accumulated in natural slough channels or clearing of short drainage ways connecting tidegate discharge points with slough channels. Thus, dredging needs are limited to existing slough channels and connecting drainage ways, and dredging for maintenance of tidegate drainage channels is not for the purpose of establishing new ditches or channels in estuarine aquatic areas. Tidegate maintenance dredging does not include enlarging or extending the dimensions of, or changing the bottom elevations of, the affected tidegate drainage channel or drainage way as it existed prior to the accumulation of sediments or formation of a sediment blockage and subsequent constriction of tidegate discharge flow capacity.

to ensure adequate protection of estuarine resources (e.g., fish runs, spawning activity, benthic productivity, wildlife habitat, etc.).

Socio-Economic Consequences

Maintenance of tidegate drainage channels will protect existing investments in agriculture and urban development in areas served by dike structures and tidegates in Clatsop County. Flood control will be more consistently attained, with agriculture and urban areas subjected less frequently to interruption of activities and damage due to high water. Positive benefits are expected as a result of the proposed exception.

Energy Consequences

The net impact of the proposed exception on economic and efficient utilization of all forms of energy is expected to be positive. Maintenance of existing tidegate drainage channels and drainage ways will enhance the productive use of agricultural and urban development areas of Clatsop County. Protection from flooding events will reduce the need to expend energy resources to control flooding behind dikes and eliminate commitment of non-renewable resources to reconstruct and rehabilitate flood damaged areas. It is anticipated that these savings will exceed the energy resources consumed by dredging of sediments from tidegate drainage channels and drainage ways.

Compatibility

The limited and specific dredging activities proposed by this exception narrative are intended to be compatible to the maximum extent feasible with the preservation and protection of fish and wildlife habitat and essential properties of the estuarine resource (e.g., dynamic geological processes, continued biological productivity, unique or endemic communities of organisms, species diversity). Minor and temporary estuarine perturbation due to tidegate maintenance dredging proposed by this exception is consistent with preservation and protection of natural resource values and the long-term use and conservation of renewable estuarine resources. Further, maintenance dredging of existing tidegate drainage channels and drainage ways is essential to the protection of adjacent agricultural and urban developed areas protected by dikes. The low frequency, periodic aspect of the activity proposed by this exception does not introduce the potential for cumulative adverse effects on fish and wildlife habitat and essential properties of the estuarine resource. Dredging necessary for maintenance of the discharge capacity of tidegate drainage channels and drainage ways is not expected to

Alternative means of maintaining tidegate drainage channels

Reestablishing drainage capacity in tidegate channels that have become blocked is possible only by physically removing accumulated sediments. Dredging is the most common method of removing sediment obstructions in aquatic areas and appears to be the only feasible means available to diking and drainage districts for maintenance of tidegate channels. It has been suggested that water pumped through a nozzle apparatus would be capable of cleansing or forcing sediments from drainage channels, but such equipment is not generally available and sediments flushed from the site may exacerbate shoal conditions elsewhere. Alternatively, timely and appropriate management of agricultural lands and maintenance of structures protecting and draining agricultural areas would reduce the need for remedial dredging of tidegate drainage channels. (Reference: CREST Regional Policies, Agriculture 23.23.)

Enrivonmental Consequences

The Goal 16 exception proposed by this narrative is limited in scope and applies only to dredging necessary to restore the functional operation of tidegates through excavation of accumulated sediments. No dredging of naturally occurring vegetation or other estuarine aquatic area resources is proposed or intended. Excavation will in all cases be limited to restoring the flow capacity of existing drainage channels and drainage ways. As a result, no net loss of functional characteristics and processes important to estuarine aquatic areas is expected. Areas of sediment accumulation may provide habitat for estuarine invertebrates and fish and wildlife species. However, the habitat value of sediment blockages or bars affected by the proposed exception probably differs little from the habitat value of unaffected portions or existing slough channels and drainage ways. Thus, no significant impact is expected due to removal of sediment blockages and restoration of the depth and flow capacity of natural slough channels and existing drainage ways. In instances of perched tidegate discharges, excavation and restoration of drainage ways will reduce the likelihood of fish stranding. In all cases dredging will involve fine sediments, but increases in oxygen demand and turbidity are expected to be limited in scale and duration, and confined only to existing drainage channels and drainage ways. Moreover, the frequency of tidegate drainage channel dredging maintenance is very low. All dredged sediments will be deposited along dike tops within reach, as nourishment of dike structures with special provisions taken to prevent return of dredged sediments to estuarine aquatic areas, thus preventing adverse estuarine impacts. In all instances, dredging necessary for maintenance of tidegate drainage channels and drainage ways will be coordinated with state and federal resource agencies, local governments and private interests

adversely impact estuarine aquatic resources in areas adjacent to dredging operations. Notwithstanding this proposed exception, dredging for maintenance of tidegate drainage channels and drainage ways must meet the other dredging requirements of Goal 16: (1) demonstration of public need, and (2) minimization of adverse estuarine impacts. The foregoing discussion of need, alternatives and environmental consequences is intended as a general expression of the appropriateness of the dredging activity proposed by this exception with respect to these Goal 16 requirements. Dredging activities necessary for maintenance of tidegate drainage channels and drainage ways will in all cases be coordinated with state and federal resource agencies, local governments and private interests to ensure adequate protection of estuarine resources.

CLATSOP COUNTY DIKING DISTRICTS

ATTACHMENT 1

	Acres Protected	Linear Feet of Dike	Miles of Dike	Tidegates
Drainage District No. 1 (Brownsmead)	1391	35400	6.7	7
Diking District No. 2 (Miles Crossing)	248	6120	1.1	3
Diking District No. 3 (Cook and Nolan Slough)	485	3280	0.62	4
Diking District No. 4 (Blind Slough)	90	Gnat Creek Wetlands		
Diking District No. 5 (Jeffers Gardens)	535	6320	1.2	8
Diking District No. 6 (Tenasillahe Island)	1709	34350	6.5	3
Diking District No. 7 (Blind Slough)	928	3900	0.73	3
Diking District No. 8 (Lewis and Clark River)	1133	36780	7.0	14
Diking District No. 9 (Youngs River)	2528	79050	14.9	30
Diking District No. 10 (Karlson Island)	370	17600	3.3	3
Diking District No. 11 (Lewis and Clark River)	373	7620	1.4	5
Diking District No. 12 (Knappa)	69	1200	0.22	2
Diking District No. 13 (Walluski River)	610	39850	7.5	19
Diking District No. 14 (John Day River)	246	18210	3.5	16
Diking District No. 15 (Westport)	259	9840	1.9	1 (3 wiers)
Svenson Island Improvement District	326	25200(?)	4.8(?)	6(?)
Warrenton Diking District (formerly Warrenton 1,2&3)	3856	36100	6.8	19

Note: 1. Defunct diking districts include: Diking District No.4 (Blind Slough), Diking District No.6 (Tenasillahe Island), Diking District No.8 (Lewis and Clark River), Diking District No.10 (Karlson Island), and Diking District No.13 (Walluski River).

2. Svenson Island is privately maintained and details relating to dikes surrounding the island are imprecise.

3. Westport Diking District No.15 is entirely included in Crown Zellerbach ownership and is undergoing extensive renovation at present.

ATTACHMENT 2

	71-72	72-73	73-74	74-75	75-76	5 yr. Total	76-77	77-78	78-79	79-80	80-81	5 yr. Total	10 yr. Total
Drainage Dist. No.1 (Brownsmead)			d 1452	d 1347	d 1446	4245					e 3898	3898	8143
Diking Dist. No.2 (Miles Crossing)	334	482	226	800	191	2033	180	b 2228			195	2603	4636
Diking Dist. No.3 (Cook and Nolan Slough)				101		101				b 2400		2400	2501
Diking Dist. No.5 (Jeffers Gardens)	714	487	112	a 3096	c 1646	6055	b 1415			346		1761	7816
Diking Dist. No.7 (Blind Slough)	330			1009		1339		a 2234	b 1924		d 1083	5241	6580
Diking Dist. No.9 (Young River)	b 1785	933	D 7109	b 3626	b 1485	14938	b 2683		D 5100	c 3300	c&D 13703	24786	39724
Diking Dist. No.11 (Lewis and Clark River)	422	a 2043	a&d 1026	351	c 1012	4854	730	354	200	240		1524	6378
Diking Dist. No.14 (John Day River)	D 1437		c 1592	252	436	3717		320	371	D 1540	a 2345	4576	8293

D - Indicates Dredging
a - Source of Fill
b - Material for Dike
c - Maintenance

a tidegate installation and/or replacement of existing tidegate
b rip-rap of existing tidegate and/or maintenance of tidegate flaps and walls
c rip-rap of dike slope
d landside dike maintenance (fill excavated from landward drainages, mowing and spraying of dikes
e pump installation

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2. Svenson Island is privately maintained and information detailing activities of the Svenson Island Improvement District are lacking.

3. Westport Diking District No.15 is entirely included in Crown Zellerbach ownership, dike maintenance information is not available.

4. Knappa Diking District No.12 does not assess a diking district maintenance tax.

Dike Maintenance

Description of the Proposed Exception

Clatsop County contains sixteen chartered diking and drainage districts, exercising taxation powers over nearly 15,200 acres of agricultural land and urbanized areas. Approximately 63.4 miles of flood containment structures are the means of protecting nearly all of the farmland in the estuary area (80 percent of crop and pasture land in Clatsop County is diked), and make possible urban development in Warrenton (3800 acres, including the Clatsop County Airport) and the Jeffers Gardens area. For the most part, food control structures in Clatsop County were constructed prior to 1940. Some diking districts were formed in the early 1900s. All dikes and dike structures require periodic maintenance, which generally entails placing fill material atop and behind the dikes, augmenting the elevation of the dikes and adding to their structural integrity. Because of the remote nature of the the dikes in Clatsop County (i.e., distance from fill material sources of suitable quality, distance from other water-dependent dredging operations that may produce fill material useful for dike maintenance, and limited access to the dikes by land-based heavy equipment), maintenance of flood control structures has historically been dependent upon dredging of fine clay and silty sediments from subtidal aquatic areas adjacent to dikes and spoiling of the dredged materials atop and along the dike structures. Since dredging of subtidal aquatic areas to obtain materials for dike maintenance is needed in certain situations or areas of Clatsop County where alternative sources of maintenance materials are not available or are not economically feasible, an exception to two requirements of Statewide Planning Goal 16, Estuarine Resources, is proposed to allow for this alternative dike maintenance activity. First, dredging in estuarine aquatic areas is broadly limited to water-dependent uses by Goal 16. As a result, dredging to obtain fill materials for dike maintenance would be prohibited in all estuarine areas of Clatsop County. Secondly, permissible uses identified in the natural and conservation management unit sections of Goal 16 do not permit dredging activities in aquatic areas with such designations. The proposed exception is situational in scope, in that in certain cases and circumstances in Clatsop County the most effective and feasible means of accomplishing necessary maintenance of flood control structures is dredging of aquatic area sediments and dike-top disposal of the dredged materials.

Need - why dredging for dike maintenance materials should be provided for

Along the lower-Columbia River, and within the CREST planning area, an extensive system of diking and drainage districts protect and make possible agricultural and development uses. Most of the dikes located in the aquatic margins of Clatsop County are composed of materials excavated from immediately adjacent sediments - soils that are easily eroded. Generally, dikes built along the lower-Columbia River and tributary areas have been sited in estuarine aquatic and swampy lowland areas where soils are comprised of estuarine deposits (Coquille and Clatsop soil associations), river terrrace deposits (Knappa, Walluski, Chitwood and Hebo soil associations), and floodplain deposits (Sauvie, Nehalem and peat soil associations). These soils may contain considerable decayed or decaying organic matter. Although in some cases the soils underlying dikes in Clatsop County may be interstratified with unconsolidated silt and clay, the soils are mostly compressible and not well suited for supporting structures such as dike foundations or for use as filled earth embankments. In addition to the character of soil materials underlying Clatsop County dikes and used in the dike embankments contributing to dike subsidence and degradation of the dike slopes, these flood control structures are subject to erosion caused by river current and tidal

action, wave action (wind generated and vessel wakes), livestock, damage from floating debris, and other negative effects of human activities. The structural integrity of the dikes is also jeopardized by holes created by burrowing animals and voids resulting from decaying organic materials within the dikes. Further, the dikes are aged, narrow (and therefore have less capacity to withstand subsidence and erosion), and increasingly difficult to maintain.

o Frequency of dike maintenance

Responsiblity for maintenance of dikes in Clatsop County generally lies with individual diking districts. In several cases, however, maintenance of flood control structures is the responsibility of entities other than chartered diking districts. The City of Warrenton is responsible for maintenance of levees comprising the Warrenton Diking District (formerly Warrenton Diking Districts No. 1, 2, and 3). In addition, several areas (Svenson Island, the Walluski River, and portions of the Lewis and Clark River and the Youngs River) are maintained by the efforts of individual property owners, since particular diking districts have become defunct and because some areas were never included in diking districts (Attachment 1). In any case, it is difficult to ascertain the frequency of dike maintenance events and the volume of materials handled during each maintenance activity due to the absence of record keeping. Each diking district is directed by elected officers and documentation of maintenance is incomplete due to frequent changes in diking district leadership. Individual property owners often maintain dikes under their control in a piecemeal fashion and records, if such information is kept for periods exceeding two to three years, are generally unavailable. The Corps of Engineers began documentation of dredge and fill activities pursuant to federal regulatory requirements in 1968, but, in many instances federal permits authorizing dredging activities are issued while the permitted dredging is never performed, or is carried out in reduced scope. Thus, the record of federal permit actions certifying dredging activities does not relate directly to the periodicity of dredging for dike maintenance and it is difficult to ascertain the frequency of dike maintenance events from diking district and private sources due to the absence of adequate records and documentation.

Attachment 2, recording expenditures by individual diking districts during the period 1970-1981, is submitted as an account of dike maintenance activities in Clatsop County. Each chartered diking district is authorized to raise, through taxation of property owners within the district, funds necessary for maintenance of flood control structures. Tax funds are collected by the Clatsop County Treasurer and held for payment to contractors engaged by individual diking districts. County treasurer records of payments to contractors are not itemized, however, and it is not possible to distinguish between outlays of diking district funds for maintenance activities such as mowing of dikes, refitting of tidegates, etc., and actual dredging expenses. Attachment 2 expenditure entries have been checked with local diking and drainage district superintendents, the Clatsop County office of the Soil Conservation Service, and Corps of Engineers permit records in order to identify specific maintenance events. After verification of maintenance records, it is evident that major expenditures to accomplish dredging for dike maintenance have not been frequent in Clatsop County. Diking districts have undertaken dredging of aquatic areas to obtain fill materials for use in the maintenance of dikes on five occasions in the past ten years. Information obtained from landowners maintaining private flood control structures - these dredging activities are not recorded in Attachment [illegible]

has taken place three times in the past ten years (two instances near River Mile 3.5-5.5 on the Lewis and Clark River and a single dredging for dike maintenance event near River Mile 2 on the Walluski River).

Therefore, dredging to obtain fill materials for dike maintenance has occurred at least eight times in Clatsop County in the period 1970 through 1981. Dredging has taken place in four areas - the John Day, Youngs, Walluski, and Lewis and Clark Rivers. The frequency of dredging and dike maintenance activities represented in Attachment 2 agrees with the experience of local diking district officials and representatives of the Soil conservation Service, in that dike maintenance may be expected in areas of dike subject to erosion at intervals of eight to ten years, while dikes susceptible to subsidence may require special rehabilitation efforts followed by maintenance at similar intervals. Diking District No. 14 is indicative of the former, while maintenance on Youngs River (Diking District No. 9) dikes and at private dikes along the Lewis and Clark River have required reconstruction, which must then be followed by normal maintenance efforts.

o Locational factors, dike structure and dredging of subtidal aquatic areas to obtain fill for dike maintenance

As indicated by Attachments 1 and 2, and information gathered from individual dike owners dredging as source of fill for dike maintenance during the period 1970-1981 has been limited to areas where dikes do not have road access. More specifically, approximately 62 percent of the dike footage in Clatsop County (protecting 32 percent of the total amount of diked farmland) does not have dike top road access (Attachment 1). The premise of this exception narrative is that dredging of subtidal aquatic areas for maintenance fill of dikes located in remote areas (i.e., distant from suitable fill sources) and without dike top road access may be justified due to the absence of alternative, feasible dike maintenance methods. Analysis of alternative dike maintenance opportunities is included in the following section. In instances where dike location and structure require dredging to obtain fill material, aquatic area sediments are excavated from the river bottom by means of barge-mounted clamshell equipment and deposited on the dike top. Generally, a dredging contractor is hired to fill a prescribed length of dike, with dredging costs computed based on the equipment used, the number of operators at the site, and the length of time required to complete the activity. Dredging equipment commonly used in clatsop County includes a clamshell of 1.5 to 4 cubic yards capacity manipulated by a barge-mounted crane, with a boom reach of 100-120 feet to each side of the barge. Based on compiled permit information, fill requirements for dike maintenance average 0.75 to 1.5 cubic yards of dredged material for each foot of dike, depending on the increase in height and width of dike required. The environmental consequences of dredging to obtain fill for dike maintenance in relation to the frequency of dredging events noted above will be described in the Environmental Consequences section below.

Alternative means of maintaining dikes

Dike maintenance is required on a periodic basis because of degradation of the dike structures due to subsidence and erosion. Maintenance of earthern flood control structures is generally accomplished by depositing fill on the top and slopes of dikes. Since the dikes in Clatsop County are constructed of estuarine, river terrace, and floodplain materials, fill rehabilitation of the

dikes is performed rather than installation of impervious wood, metal, or concrete additions or structures. Fill material necessary to rehabilitate dike structures may be obtained from two principal sources. The most commonly used source of fill material is sediments dredged from the adjacent river bottom. Alternatively, fill material may be transported from off-site locations. Off-site material is generally obtained from upland quarry sources or consists of aquatic area sediments which have been dredged from other locations and either transported directly to the dike maintenance site or stockpiled at upland dredged material disposal areas. The following describes and contrasts the utility and cost of these alternate sources of dike maintenance fill material.

(1) Use of adjacent aquatic area sediments as a source of fill material. Historically, dredging of adjacent sediments, located in estuarine aquatic areas and swampy lowlands, has been the means of obtaining materials for construction and maintenance of dikes in Clatsop County. Maintenance dredging is carried out by dredging contractors engaged by particular diking districts or individual dike owners. Dredging equipment consists of a barge-mounted crane, fitted with a clamshell bucket, and a small tender vessel (the barge is generally towed to the work area by a larger vessel or tug, while the barge is manuvered at the dredging site by the tender or using crane and barge winches). The dredging operation commonly requires two men - crane operator and oiler/tender operator. Under normal working conditions dredging equipment of this sort can excavate and deposit 700-1000 cubic yards of aquatic area sediments atop dikes in an eight hour work period. Materials may be excavated up to 150 feet from the dike crest. Average dredging costs are $1.25 - 1.75 per cubic yard of material handled. Costs vary with the total amount of time required for maintenance activities, including time required for mobilization and transport of equipment to the site, on-site manuvering, total amount of fill required, tidal and river conditions and sediment characteristics.

(2) Transport of fill materials from off-site locations. Areas requiring dike rehabilitation and maintenance may receive fill materials hauled to the work area by truck. Such an operation requires several types of landbased equipment. First, material must be excavated and loaded onto trucks at the fill material or quarry site. Fill material transported to the dike maintenance site must then be unloaded, distributed and placed along the dikes. At a minimum, one quarry loader, two transport trucks and a loader or dozer at the dike site would be required, necessitating four equipment operators. Under normal operating conditions, land-based equipment may transfer 500-700 cubic yards of material per eight hour shift. Average dike maintenance costs using such land-based equipment are $4.00-5.50 per cubic yard of material handled. As with dredging equipment, the time required to complete the fill affects the project cost, determining the cost per cubic yard of fill material placed at the dike. Project cost is dependent on the price of fill material excavated at the quarry or fill supply source, the haul distance between the quarry and fill sites, total amount of fill required, and the effort required to receive and distribute the material at the dike location.

Fill projects accomplished by upland means are three to three and one-half times more costly to undertake than water-based operations. Much of the difference in project opportunity cost results from the greater productivity of dredging equipment. However, three additional dike maintenance considerations favor the use of dredging equipment over land-based operations. First, deposition of

dredged aquatic area sediments as fill material is a more effective means of dike maintenance. Dredging equipment delivers sediments and interstitial water to the fill area, with saturated material dropped from heights of four to ten feet to the dike fill areas. The impact of water-laden fine sediments on the dike serves to penetrate the dike surface, filling crevices and animal burrows. Maintenance fill may be performed in stages, with layers of fill deposited over previously placed and dewatered sediments, adding to the height and structural integrity of the dike. In contrast, fill arriving at the dike maintenance site by truck is relatively dry and, once dumped at the fill site, must be distributed over the dike top. This consumes valuable machine and labor time and does not fill and patch the dike surface as uniformly or effectively as dredged fill material. Second, Clatsop County dikes are aged and in most cases were not constructed of sufficient width or bearing capacity to allow modern heavy vehicle access along the dike tops. Barge-mounted dredging equipment is capable of approaching nearly all reaches of dikes for thorough maintenance, excepting areas fronted by broad fringing marsh and intertidal areas. Land-based equipment is generally too heavy and wide to transit dike tops and is often denied access to dikes through pasture areas since the load bearing capacity of diked lowland soils is insufficient to support the equipment. Also drainage channel systems within the diked areas limit heavy equipment access and may require bridging. Third, the timing of dike fill activities is facilitated by the use of dredging equipment. Material may be deposited on dikes in most weather conditions, however large projects require dewatering of sediments for repeated spoiling and would be limited to non-winter months. Conversely, heavy earth moving equipment can not operate in pasture areas during rainy conditions and would be prevented from overland dike access for extended periods of time.

The Goal 16 exception proposed by this narrative is situational in scope and applies to dredging necessary to obtain fill materials for maintenance of dikes as the most practical and effective means of accomplishing dike maintenance. Dredged dike fill material is the most feasible dike maintenance alternative available to diking districts and private dike owners in remote areas of Clatsop County, especially in cases where the dike structures are narrow and without dike top access roads. This includes many of the districts described in Attachments 1 and 2. Approximately 62 percent of the dike footage in Clatsop County (protecting 36 percent of the total amount of diked farmland) is without direct dike top road access. Diking Districts No. 8 (Lewis and Clark River), No. 9 (Youngs River), No. 11(Lewis and Clark River), No. 13 (Walluski River), and No. 14 (John Day River) are comprised of dikes inaccessible by heavy vehicles. In addition, several miles of privately owned dikes along the Walluski and Lewis and Clark rivers are not accessible by land-based equipment. In these areas dike rehabilitation and fill activities by dredging of aquatic area sediments is, at present, the only feasible means of dike maintenance. The remaining 38 percent of combined dike length in Clatsop County, protecting 61 percent of the County's diked agricultural land, is accessible by road and therefore potentially servicable by land-based equipment. Dikes with road access have, generally, received more continuous maintenance, obviating the necessity of large scale rehabilitation. For small scale dike maintenance efforts along dikes with roads, involving dike top fill volumes of 500-600 cubic yards for example, land-based equipment is often used due to the relatively higher cost of mobilizing barge-mounted equipment for handling of small volumes of materials. As indicated in Attachment 2, the roadless dikes are the principal areas where dredging activities have taken place within the last ten years.

Environmental Consequences

In certain areas of Clatsop County the remote location and structure (i.e., dike material composition and narrow cross section) of dikes combine to make dredging of adjacent subtidal aquatic areas to obtain fill materials the most effective and feasible means of accomplishing needed dike maintenance. Discussion above, outlining the frequency of dike maintenance dredging activities in Clatsop County during the period 1970 to 1981, identifying the location of these dredging events, and analyzing alternative methods of dike maintenance, describes the situational aspect of this activity in Clatsop County.

Dredging of subtidal aquatic areas proposed by this exception applies only to dredging necessary to fill areas of dike requiring maintenance where alternative methods of dike maintenance have been demonstrated as infeasible. Dredging in all cases will be limited to that necessary to maintain the structural integrity of dikes and no dredging of emergent vegetation, intertidal flats, or other intertidal estuarine resources is proposed by this exception. Estuarine resources affected by the proposed exception will be limited to subtidal aquatic areas near the centerline of tributary rivers, and subtidal areas greater than 80 feet distant from the foot of dikes in reaches of the estuary exceeding 200 feet in width. Dredging to obtain dike fill material is restricted to these conditions since: (1) excavation near the base of dikes encourages sloughing along the outer slope of the dike and a maximum amount of shallow water and berm should be maintained adjacent to dikes providing protection from erosion, and (2) excavation of dike fill material from the deepest subtidal aquatic area within reach of dredging equipment will reduce disturbance of valuable intertidal and shallow subtidal (i.e., the portion of the water column subject to effective light penetration) aquatic area resources.

o Physical consequences of dike maintenance dredging

Dredging as a source of fill material for dike maintenance, therefore, will occur only in subtidal aquatic areas near the centerline of narrow waterways or in the deepest subtidal area available to float-mounted dredging equipment, areas at least 80 feet from MLLW at the dike foot, in cases where dredging takes place in waterways greater than 200 feet in width (measured from bank to bank at MLLW). Dredging would, in all cases, be limited to subtidal areas deeper than the level of effective light penetration (greater than 6 to 14 feet MLLW, depending on the location of the dredging activity in the estuary). As discussed above, dike maintenance may require dredging of 0.75 to 1.5 cubic yards of sediment for each foot of dike maintained. Aquatic area impacts due to excavation of sediments for dike maintenance must be considered in relation to the linear aspect of dike maintenance dredging. Dredging of aquatic areas adjacent to particular lengths of dike results in a linear dispersion of excavation impacts. Float-mounted dredging equipment commonly used in Clatsop County has an effective working radius of up to 100 to 120 feet. Therefore, it is possible to spoil dredged sediments along approximately 200 feet of dike top before moving dredging equipment to the next adjacent area of dike maintenance. While moored at a single station, up to 300 cubic yards of sediment would be excavated for maintenance of 200 feet of dike. Sediments would not be excavated from a confined area of the river bottom since efficient operation of dredging equipment necessitates minimization of dredging cycle time (i.e., the time elapsed between

sucessive dredge bucket excavations). As a result, the distance between the dike top spoil location and the excavation area is minimized during dredging operations. Therefore, an area approximately 100 feet in length near the waterway centerline or in subtidal area 80 feet from the dike foot would be excavated. Each dike maintenance station would receive spoils excavated from a longitudinally oriented aquatic dredging site, avoiding dredging of deep holes or significantly upsetting the existing contour of the river bottom. Further, areas of sediment excavation would be dispersed among dredging stations situated along the length of dike requiring maintenance. These physical dredging impacts would be temporally separated by periods of eight to ten years (refer to discussion of frequency of dike maintenance in needs section above and Attachment 2).

o Biological consequences of dike maintenance dredging

In general, dredging as a source of fill for dike maintenance has occurred in waterways tributary to the estuary, areas minimally affected by salinity intrusion (e.g., the John Day, Youngs, Walluski, and Lewis and Clark rivers). Dredging limited to subtidal aquatic area, in water depths exceeding the level of effective light penetration, would affect epibenthic and benthic organisms, including insect larva, amphipods, sand shrimp, polychaetes, epibenthic zooplankton, and bivalves, and resident and migratory fish species. The biological effects of dredging for dike maintenance fill include removal of epibenthic and benthic organisms in the excavated sediments and suspension of sand, silt, clay, and organic sediment constituents. Impacts expected from removal of lifeforms from limited areas of subtidal substrate will be negligible since excavated areas may be quickly repopulated from adjacent undisturbed areas. Suspension of fine sediments will be localized and temporary, and impacts due to reduction of light penetration, physiological damage to filter feeders, reduction of oxygen levels, and sediments settling on adjacent bottom dwelling communities are expected to be minimal. Excavation will be lineally dispersed and suspended materials will be removed from the area by tidal exchange and river discharge. Biological impacts will be limited in extent by the small amount of dredged sediments required (approximately 300 cubic yards of sediment for maintenance of 200 feet of dike) and dispersed along the entire length of dike receiving sediments. Adverse effects due to suspended sediments will be limited to short time periods by tidal exchange and river discharge. Maintenance events are generally limited to eight to ten year intervals, preventing potential chronic biological disturbance.

In all instances, dredging operations necessary as a source of fill for dike maintenance will be coordinated with state and federal resource agencies, local governments, and private interests to determine project timing and dredging conditions ensuring protection of estuarine resources (e.g., fish runs, spawning activity, benthic productivity, wildlife habitat, etc.).

Socio-Economic Consequences

Thorough maintenance of exiting dikes and flood control structures will protect investments in agriculture and urban development areas in Clatsop County. Flood control will be more consistently attained, with agriculture and urban areas subjected less frequently to interruption of activities and damage due to high water. Positive economic benefits are expected as a result of the proposed exception.

Energy Consequences

The net impact of the proposed exception on economic and efficient utilization of all forms of energy is expected to be positive. Maintenance of existing dikes and flood control structures will enhance the productive use of agricultural and urban development areas of Clatsop County. Protection from flooding events will reduce the need to expend energy resources to control flooding behind dikes and eliminate commitment of non-renewable resources to reconstruct and rehabilitat flood damaged areas. It is anticipated that these savings will exceed the energy resources consumed by dredging of aquatic area sediments to obtain fill needed for maintenance of dikes.

Compatibility

The situational and limited dredging activities proposed by this exception narrative are intended to be compatible to the maximum extent feasible with the preservation and protection of fish and wildlife habitat and essential properties of the estuarine resource (e.g., dynamic geological process, continued biological productivity, unique or endemic communities of organisms, species diversity) in areas designated as aquatic natural and aquatic conservation management units. Limited and temporary estuarine perturbation due to dredging as a source of fill for dike maintenance proposed by this exception is consistent with preservation and protection of natural resource values and the long-term use and conservation of renewable estuarine resources. Further, dredging to obtain fill material for maintenance of particular areas of existing dikes is essential to the protection of adjacent agricultural and urban developed areas protected by dikes. The low frequency, periodic aspect of the activity proposed by this exception does not introduce the potential for cumulative adverse effects on fish and wildlife habitat and essential properties of the estuarine resource. Dredging necessary to obtain fill for maintenance of particular areas of existing dikes is not expected to adversely impact estuarine aquatic resources in management units adjacent to dredging operations. Notwithstanding this proposed exception, dredging as a source of fill material for dike maintenance must meet the other dredging requirements of Goal 16: (1) demonstration of public need, and (2) minimization of adverse estuarine impacts. The foregoing discussion of need, alternatives and environmental consequences is intended as a general expression of the appropriateness of the dredging activity proposed by this exception with respect to these Goal 16 requirements. Dredging activities necessary as a source of fill material for dike maintenance will in all cases be coordinated with state and federal resource agencies, local governments, and private interests to ensure adequate protection of estuarine resources.

	Acres Protected	Linear Feet of Dike	Miles of Dike	Number of Tidegates	Dike-Top Road Access
ainage District No. 1 Brownsmead)	1391	35400	6.7	8	Yes
Diking District No. 2 (Miles Crossing)	248	6120	1.1	2	Yes
Diking District No. 3 (Cook and Nolan Slough)	485	3280	0.6	2	Yes
Diking District No. 4 (Blind Slough) 1	90	Gnat Creek Wetlands			
Diking District No. 5 (Jeffers Gardens)	535	6320	1.2	7	Yes
Diking District No. 6 (Tenasillahe Island) 1	1709	34350	6.5	9	None
Diking District No. 7 (Blind Slough)	928	3900	0.7	8	Yes
Diking District No. 8 (Lewis and Clark River) 1	1133	36780	7.0	18	None
Diking District No. 9 (Youngs River)	2528	79050	14.9	31	None
Diking District No. 10 (Karlson Island) 1	370	17600	3.3	3	None
ing District No. 11 Lewis and Clark River)	373	7620	1.4	5	None
Diking District No. 12 (Knappa)	69	1200	0.2	2	None
Diking District No. 13 (Walluski River) 1	610	39850	7.5	23	None
Diking District No. 14 (John Day River)	246	18210	3.5	16	None
Diking District No. 15 (Westport) 3	259	9840	1.9	2 (3 wiers)	Yes
Svenson Island Improvement District 2	326	25200	4.8	4	Yes
Warrenton Diking District (formerly Warrenton 1,2&3)	3856	36100	6.8	21	Yes

Note: 1. Defunct diking districts include: Diking District No. 4 (Blind Slough), Diking District No. 6 (Tenasillahe Island), Diking District No. 8 (Lewis and Clark River), Diking District No. 10 (Karlson Island), and Diking District No. 13 (Walluski River).

2. Svenson Island is privately maintained and details relating to dikes surrounding the island are imprecise.

3. Westport Diking District No.15 is entirely included in Crown Zellerbach ownership and is undergoing extensive renovation at present.

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Diking Dist. No.11 (Lewis and Clark River)	422	a 2043	a&d 1026	351	c 1012	4854	730	354	200	240		1524	6378
Diking Dist. No.14 (John Day River)	D 1437		c 1592	252	436	3717		320	371	D 1540	a 2345	4576	8293

D - Indicates Dredging as a Source of Fill Material for Dike Maintenance

a tidegate installation and/or replacement of existing tidegate
b rip-rap of existing tidegate and/or maintenance of tidegate flaps and walls
c rip-rap of dike slope
d landside dike maintenance (fill excavated from landward drainages, mowing and spraying of dikes)
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2. Svenson Island is privately maintained and information detailing activities of the Svenson Island Improvement District are lacking.

3. Westport Diking District No.15 is entirely included in Crown Zellerbach ownership, dike maintenance information is not available.

4. Knappa Diking District No.12 does not assess a diking district maintenance tax.

Exception to Goal 16 to Allow Infilling of a Built and Committed Floating Residence Community on the John Day River in Conservation Aquatic Area.

The John Day River has historically and is presently used for floating residences. The specific area of the exception is shown on the attached map. This area is built and committed to residential use considering the criteria in OAR 660-04-025.

John Day River

(a) Adjacent uses - the upland areas are zoned either RA-5 or GC and are committed to nonresource use.

(b) Public Facilities available - John Day Water District serves the existing floating residences and can serve new ones in the same manner as they serve any other new residences in the area. The John Day Fire District boundary goes only to the water's edge. Any floating residence may contract for fire services from the John Day Fire District.

Existing floating residences discharge sewage directly into the river. The County encourages owners of those residences to develop upland septic systems, either individually or as a community system. Any new floating residence, reconstruction of a floating residence or reorientation of an existing floating residence requires an approved, individual sewage disposal system.

Sufficient upland parking must also be provided for any new floating residences.

The question of leases from the Division of State Lands (DSL) has come up concerning floating residences. There are no currently valid leases for floating residences in the area. DSL has the authority to require such leases, but has never pursued it. A condition of any new floating residence is obtaining a lease from DSL. The Division of State Lands should also require leases on the existing floating residences, even if this requires upgrading of parking and sewage disposal facilities for the existing units.

(c) Parcel size and ownership patterns - Upland parcel sizes range from less than 1/2 acre along John Day Road to a 7+ acre parcel north of the river. The built and committed boundary is drawn to include only a small portion of the waterfront of the 7 acre parcel. Nine floating residences currently exist in this area.

The exception area is approximately 1300' on the south bank of the river and 500' on the north bank of the river. With 25' required between new floats and an average 50' float, a maximum of 23 to 24 floating residences could be located in this exception area at complete infill. It is highly unlikely that this number could ever be reached due to upland limitations for parking and sewage

disposal, location of the County road adjacent to a portion of the exception area and location of existing floating residences. It would be more reasonable to expect that a complete infilling would result in a total of 15 to 18 floating residences including the nine existing.

(d) Neighborhood and regional characteristics - This area on the John Day has been used for floating residences for many years. In fact, the residences once extended much further upriver and downriver than this exception area. Floating residences have been used in this area since at least the 1920's.

(e) Natural boundaries - None. There are no natural boundaries which would prevent floating residences from locating either upriver or downriver of this exception area.

(f) Other - Because existing floating residences are scattered through the exception area, there is little public recreational value here. Public access to the river is provided downstream and most recreational use occurs from that point down to, and into, the Columbia. This area is not needed for public recreational use.

JY:ta

The Aquatic Conservation Two Zone (AC-2) should be changed as follows to allow houseboats within the exception area:

Add to Section 3.704 Development Uses and Activities Permitted:

9. New floating residences within the John Day exception area as described in the Comprehensive Plan and subject to standards in S4.217.

10. Reorientation of existing floating residences within the John Day exception area as described in the Comprehensive Plan and subject to standards in S4.217.

Revise the Standards Document on Residential Uses in Shoreland and Aquatic areas as follows:

S4.217 Residential Uses. Development of land and water and structures for human occupancy as living quarters. This category includes single and multi-family dwellings, floating residences, subdivisions, mobile homes and mobile home parks, and planned unit developments.

(A) Residential uses in shoreland zones which permit housing shall comply with the following standards:

(1) The basic shoreline setback for residential structures and associated parking shall be 35 feet as measured from the aquatic-shoreland boundary. If the applicant can demonstrate that existing structures on adjoining lots infringe on the 35 foot setback, the setback may be determined by the building line common to the adjacent existing structures.

(2) Riparian vegetation shall be protected and maintained within shoreline setbacks set forth in Section S4.237, Riparian Vegetation Protection Standards, except where direct water access is required for a water-dependent or water-related use. Temporary removal of riparian vegetation due to construction practices or landscaping may be permitted subject to a revegetation plan approved by the County specifying:

a. Temporary stabilization measures;

b. Methods and timing for restoration of riparian vegetation. Vegetation used for restoration shall be consistent with the criteria presented in Riparian Vegetation Protection Standards S4.237 and section S4.230, Shoreline stabilization Standards.

(3) Unless it can be demonstrated that adequate public access exists in the area, subdivisions, mobile home parks and planned unit developments shall provide for public pedestrian access to the shoreline within the development.

(4) Aquatic areas adjacent to the shoreland area being developed will not be used to compute the lot area or density of the residential development.

(5) Pile dikes shall be sited and constructed in accordance with the standards for pile and dolphin installation, section S4.236.

(6) Fills shall be placed in accordance with the standards applying to fill activities, section S4.235.

(B) Floating residences within the John Day exception area as set out in the Comprehensive Plan must meet the following standards prior to issuance of a building permit:

(1) Any new floating residence must have a DEQ approved sewage disposal system.

(2) New floating residences must show an upland parking area off any public road right-of-way.

(3) New or reoriented floating residences must have an approved lease from the Division of State Lands to occupy the water surface.

(4) Alignment of floating residences shall be such that navigability on the river is hindered as little as possible.

(5) Maximum building height shall be equivalent to that in the adjacent upland zone.

(6) Any reorientation of an existing floating residence is subject to the four standards above (S4.217(B)(1)-(4)).

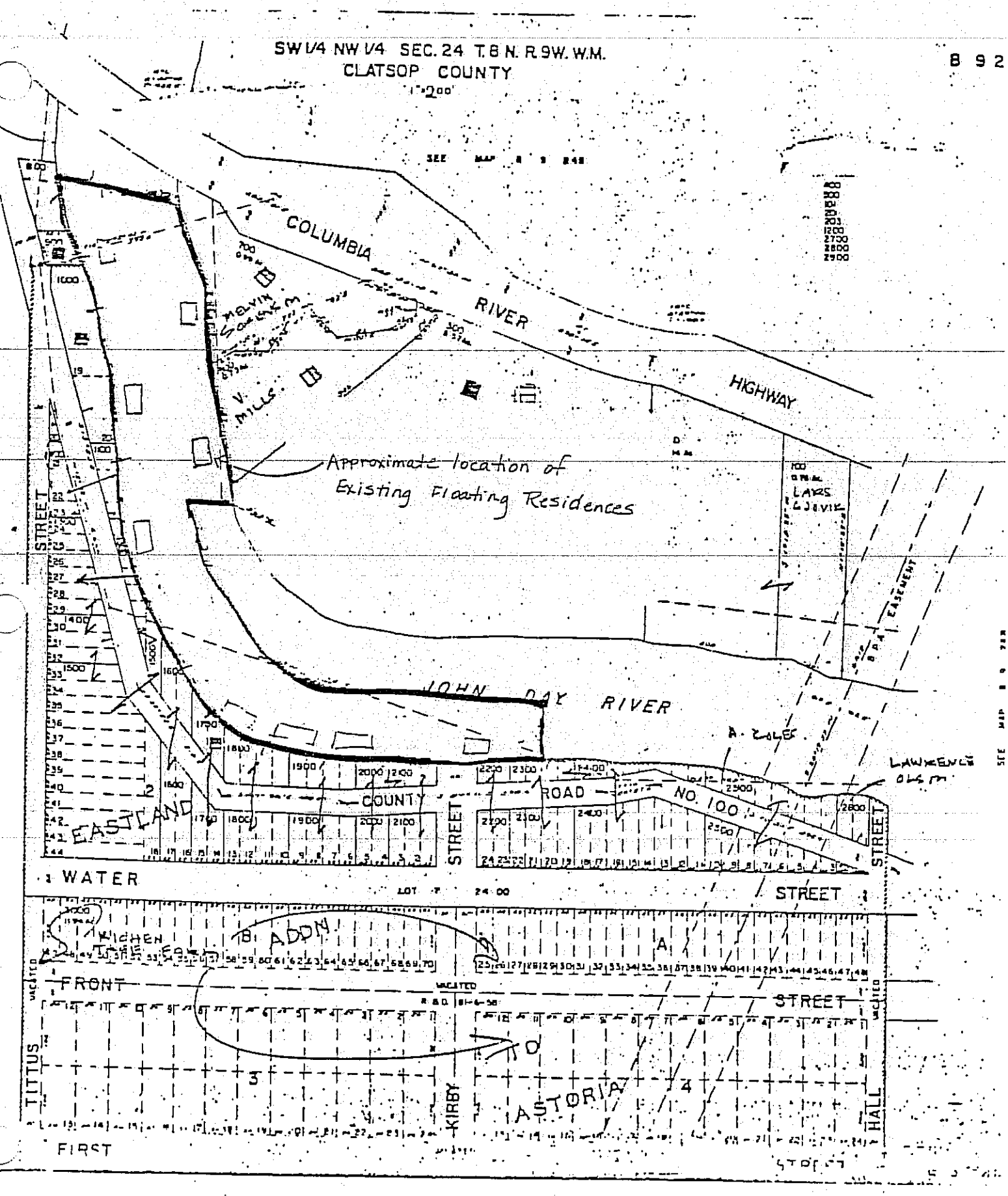
(7) A distance of 25' is reouired between any portion of the floats of a new or reoriented floating residence and any existing floating residence.

(8) Any new or reoriented floating residence shall be sited so that the longer dimension runs parallel with the shoreline.

Section 1.030 of the Land and Water Development and Use Ordinance should be amended to add the following definition:

FLOATING RESIDENCE: A dwelling unit which floats on a water body and is designed such that it does not come into contact with land except by a ramp. Floating residences may also be referred to as floating homes or houseboats. A floating residence is not equivalent to a duck shack or other similar recreational structure designed for temporary use. It is also not equivalent to a boathouse, designed for storage of boats.

JOHN DAY RIVER EXCEPTION AREA FOR FLOATING RESIDENCES



AN EXCEPTION TO GOAL 16 PLACING AN AQUATIC AREA ADJOINING THE MARINE INDUSTRIAL SHORELANDS AT BRADWOOD INTO THE AQUATIC DEVELOPMENT DESIGNATION

BACKGROUND

This exception to Goal 16 places an aquatic area near Bradwood in the County's Aquatic Development Zone. The exception is to the Goal 16 management unit requirements for conservation management units and to the Goal 16 aquatic area designation criteria. The exception will allow for water-dependent industrial development of the Bradwood Marine Industrial tract. This industrial tract includes 40 to 50 acres of developable shorelands with 3,000 feet of Columbia River Estuary frontage. The eastern portion of this river frontage has relatively deep water near to shore and is in close proximity to the Columbia River navigational channel. Currently, there is an existing dock structure along the Columbia River shoreline and a mill pond which cuts into the interior of the industrial tract; the southern portion of the mill pond has been designated for Aquatic Development use in the past. This exception would place the remainder of the mill pond, including its entrance and an aquatic band adjoining the MI shorelands, into the Aquatic Development designation; this band will extend 400 feet out from the shoreline or to the -40 foot depth contour if that contour is closer than 400 feet from shore. The Aquatic Development band would stretch from the mill pond entrance to the upriver boundary of the MI Zone. These Aquatic Development expansions would provide for a more complete utilization of this water-dependent industrial tract by allowing for the following range of uses or activities: (1) filling of the old mill pond (2) lateral expansion of the existing dock or the construction of new docks along the Columbia River shoreline; (3) dredging to provide navigational access along the face of the existing dock and future new docks within the AD Zone.

This exception will not directly permit any new dock construction or new dredging projects in aquatic areas. Uses involving the construction of new dock facilities or dredging for new facilities will be reviewed on an individual basis by Clatsop County and affected state and federal agencies.

Factors that must be addressed for the exception are described in Oregon Administrative Rules, Chapter 660, Division 4, Sections 020 and 022. The specific exception criteria are listed in the following paragraphs, followed by appropriate findings.

FINDINGS

A. *"Reasons justify why the state policy embodied in the applicable goals should not apply" [OAR 660-04-020(2a)].*

New dredging and filling for water-dependent uses are permitted in development management units, but not in conservation management units. This policy protects estuarine resources in Conservation management units from adverse impacts associated with major estuarine alterations. It should not apply in this situation because the potential dredging activities will not result in major alterations to the estuary or create substantial adverse impacts. Additionally, the project site lacks many of the characteristics protected by the Conservation management unit.

The old mill pond area has silted in during recent years and its entrance has been partially blocked to navigation by an accidental sand spill that occurred during a pipeline dredging project on the main navigational channel. The Columbia River shoreline that adjoins the Aquatic Development area is a sandy shoreline that was created over 20 years ago as a channel dredging spoils disposal site. There is no established band of riparian vegetation along this shoreline.

The adoption of the Aquatic Development designation will not result in major estuarine alterations. The potential filling of the existing mill pond is the single largest identifiable alteration that may occur. If the mill pond were filled, a surface area of about 3 ½ acres (including the pond and entrance) would be impacted. About 2 ½ acres of this area is subtidal, ¼ acre is upland, and ¾ acre is intertidal wetland. The upland and intertidal areas are the result of the past dredged material sand spill at the entrance to the pond.

The mill pond cannot currently be utilized because of limited water depth and the dredge spoil spill blockage at the entrance to the pond.

The mill pond in its existing configuration effectively splits Bradwood into two separate developable parcels; (1) the existing dock and backup land upriver from the pond, and (2) the old Corps river sand disposal area downriver from the pond. Both parcels are about 20 acres in size. The pond both separates these potential development tracts and severely limits access between the two parcels. A narrow access road on the west side of the pond connects the two parcels. This access limitation would create problems for potential developments on the downstream parcel which needed to utilize the existing deep-draft dock.

The mill pond and its entrance remove valuable potential backup land from the center of the Bradwood Marine Industrial tract. The pond occupies about 200 feet in the center of the available 600 feet of backup land between the Columbia River shoreline and the railroad tracks to the west. This leaves narrow strips of land to the east and west that are difficult to efficiently utilize. The presence of the 3 ½ acre pond in the center of the site effectively removes 10 to 11 acres from use as backup land. The pond location also severely limits road and railroad access options to the downriver portion of the site.

Filling of the mill pond will significantly enhance the overall development potential of the Bradwood Marine Industrial tract. With the existing pond, Bradwood offers two small (20+ acres) separated development parcels with severe access limitations between the two sites. Filling of the 3.5 acre mill pond will allow adjoining narrow strips on both sides of the pond to be more efficiently utilized resulting in the addition of 10 - 11 acres of backup land. The pond fill will result in the creation of a 50 acre contiguous development tract and eliminate existing internal access restrictions.

Projected dock improvements to support a single (or multiple) water-dependent industrial use(s) could include any of the following combination of structures:

1. Reconstruction of the existing shoreside dock which has an approximate surface area of 150' x 500'; and

2. Construction of a secondary deep draft vessel dock of the same basic configuration downstream of the existing dock; and

3. Construction of a graving dock with an approximate size of 200' x 400' immediately downstream from the existing dock and perpendicular to the shoreline.

Reconstruction of the existing dock is permitted in the AD Zone. Basically this activity would involve placing a new deck atop the existing piling foundation. Dredging needs along the face of this dock would be minimal to existing self-scouring water depths relatively close to shore. This maintenance dredging would impact a subtidal area of about 1 ½ acres and involve an estimated 15,000 cubic yards of dredged material.

The construction of a secondary deep draft vessel dock would involve the placement of new support piling, construction of a dock deck and dredging along the face of the dock for navigational moorage. The piling would impact an area or about 1 ¾ acres (150' x 500'). Dredging would also impact an area of about 1 ¾ acres (150' x 500') and create an estimated 15,000 cubic yards of material.

Construction of a perpendicular graving dock would impact an intertidal area of about ¼ of an acre (200' x 50') and a subtidal area of about 1 acre (200' x 200') to provide navigational access into the dock. The gracing area would largely utilize excavated uplands. Combined intertidal and subtidal dredging volumes are estimated at 40,000 cubic yards.

In relative terms all of the projected dredging volumes are comparatively small. During the summer of 1990, approximately 250,000 cubic yards of material was removed from a short section of the navigational channel to the immediate north of Bradwood.

Goal 16 describes areas appropriate for the Conservation management unit as:

> "... areas needed for maintenance and enhancement of biological productivity, recreational and aesthetic uses, and aquaculture. They shall include tracts of significant habitat smaller or of less biological importance than those in (Natural management units) ..."

The Columbia River bankline along the band of the Aquatic Development is a sandy unvegetated shoreline that is partially riprapped. There is no established riparian vegetation along this river shoreline. The Aquatic Development area adjoins a medium sized water-dependent industrial development tract.

The involved area has not been the subject of any detailed biological studies and does not possess any known unique biological resources. It is not known to have any recreational significance. There are no aquaculture facilities in the area, nor are there any site characteristics that suggest its special suitability for aquaculture. Site characteristics suggest that it may have only limited habitat value. The existing mill pond may represent a fish habitat hazard by creating a tidal containment area that could trap fish during periods of extreme low tide.

Taking into account both the resources present at the project site and the types of areas appropriate for the Conservation management unit, it appears that the site may not be suited for inclusion in the Conservation management unit. The development designation will allow for filling of the mill pond which has a historic record of industrial use but which cannot now be utilized due to inadequate water depths and a blockage at its entrance. Filling of the mill pond will create a more useable contiguous tract of industrial land. The development designation will also allow for the continued use and (lateral extension if needed) of the existing riverside dock at Bradwood.

For these reasons, Clatsop County concludes that the Goal 16 policy prohibiting dredging in Conservation management units should not apply in this case.

B. *"Areas which do not require a new exception cannot reasonably accommodate the proposed use" [OAR 660-01-020(2b)].*

The Bradwood Marine Industrial tract has a combination of features which make the site unique to Clatsop County. There are no other comparable water-dependent industrial development sites within the County. The Bradwood Marine Industrial tract can be characterized by the following list of features:

(1) Located at River Mile 39.
(2) Within 1,000 feet of Columbia River channel.
(3) Self-scouring water depths of 30 to 40 feet close to shore.
(4) Direct railroad access.
(5) 40 to 50 acres of developable backup lands.
(6) Single ownership.
(7) Dredged material disposal and mitigation areas on-site.
(8) Relatively isolated location.
(9) Existing dock structure.
(10) Rock source on-site for site development needs that also has commercial development potential.

There are no alternative water-dependent industrial development sites in Clatsop County which possess the same combination of physical features. Of particular significance, there are no other sites in the County with developable backup land and both deep water access and rail access.

Other potential water-dependent industrial development sites within Clatsop County include three Marine Industrial sites in the unincorporated portion of the County; the Port of Astoria docks, north Tongue Point, and south Tongue Point within the Astoria Urban Growth Boundary; and the East Bank Skipanon, West Bank Skipanon, and Tansy Point sites within the Warrenton Urban Growth Boundary. The three MI sites in the unincorporated portion of the County are all located on either the Lewis and Clark River or Youngs River. Each of these sites are relatively small, have only shallow depth water access and nonrail access. The Port of Astoria docks and backup lands are committed to existing industrial uses. North Tongue Point is committed to an auto import facility and has water access that is limited by a 25 foot channel depth. South Tongue Point has the same channel depth access limitations as North Tongue Point and will require an exception for future dock access and turning basin dredging. All of the sites within the Warrenton Urban Growth Boundary lack rail access. Both the East Skipanon and the West Skipanon sites have limited developable areas due to wetland constraints and will require an exception to provide deep water access to the industrial shorelands. Tansy Point is committed to an existing water-dependent industrial use.

There are no available Marine Industrial sites within Clatsop County which could accommodate a general purpose deep draft dock and associated shoreland support facilities. Areas which do not require an exception cannot reasonably accommodate the proposed water-dependent industrial uses.

C. *"The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site ... are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a goal exception ..." [OAR 660-04-020(2c)].*

The consequences of three general activities need to be considered in applying this standard. These activities are pond filling, dock front dredging and new dock construction.

(1) Environmental Consequences

The filling of the mill pond would impact about 2 ½ acres of subtidal area and ¾ of an acre of intertidal area. The subtidal area is the silted floor of the old mill site log pond. The intertidal area was created by the accidental sand spill from a Corps of Engineer's channel dredging project. Emergent wetland vegetation has established itself on this intertidal sand spill. On-site mitigation will be required in the form of wetland habitat creation to compensate for the loss of these intertidal areas. The mill pond has low habitat values and may currently create a tidal containment area that could trap fish during periods of extreme low tide. The pond has no in-flowing streams and is only flushed by tidal action.

Dredging along the face of the existing dock would impact up to 1 ½ acres of subtidal area. Dredging along the face of a lateral extension of the existing dock or a new dock would impact a similar subtidal area. Graving dock dredging would impact a ¼ acre intertidal area and a 1 acre subtidal area. The major identifiable environmental consequences of the proposed dredging are temporary, localized disruption of fauna in the water column and temporary localized turbidity. The water column impacts will only be temporary and these organisms are expected to reestablish themselves after the dredging work is completed. Turbidity will increase during the periods of dredging activity. Dredge volumes along the dock areas would be minimal due to existing deep water and the close proximity of the navigational channel. The self-scouring river characteristics will also reduce the frequency and volume of future maintenance dredging at this site.

Additional dock construction along the Columbia River shoreline at Bradwood would have limited environmental consequences because of two site characteristics - the dock would front upon a sandy dredge spoils shoreline without impacting any established riparian vegetation and the size of the overall dock would be minimized due to the close proximity of deep water to the shorelands.

In relative terms, the environmental consequences resulting from the proposed activities at Bradwood are not substantially different from those that might be expected at other sites requiring an exception. Because the involved dock dredging areas front on relatively deep water, the anticipated dredging volumes would be somewhat less than those typically expected at other sites.

(2) <u>Economic Consequences</u>

Filling costs, dredging costs, dock construction costs and mitigation costs are the four economic consequences that have been identified in association with the proposed activities.

Dredge spoils on an old dredged material disposal site to the immediate west of the mill pond are available for the filling of the pond. The existing of this favorable borrow source will promote the cost-effective filling of the pond. Dredging costs are a function of the volume of material to be removed, the method of removal and the method of disposal.

The costs of dredging along the face of the existing and expanded shoreside docks would be comparatively low because of the limited volumes involved and the availability of adjoining upland disposal areas.

Dock construction costs would be comparatively low because of relatively deep self-scouring water depths close to shore. This will minimize the area of dock required to bridge the distance from the shoreline to easily maintainable deep water. The exception will also provide for dredging along the face of the existing dock structure; this will allow for a fuller utilization of an existing facility which is more cost effective than constructing new docks at other locations.

Mitigation costs will be relatively low because on-site mitigation lands are available under the same property ownership.

Comparatively low filling and dredging costs, limited dock area needs, and available on-site mitigation areas all reduce the expected economic impact at this site.

Economic consequences arising from the use of this site are not significantly different from the concedes expected from the use of other sites requiring an exception.

(3) Social Consequences

The social consequences of the proposed activities are difficult to identify and quantify. The exception will provide for the development of certain facilities in aquatic areas which would be utilized in conjunction with shoreland industrial activities. The overall industrial use would be conducted on lands that have been designated for industrial use. This site was the location of a large and active sawmill and shipping dock for a number of years. The site is relatively isolated with the closest residences being down river more than one mile at Clifton and across the river at a distance of about ½ mile on Puget Island. The site is visible from Puget Island but not Clifton. A commercial rock quarry has been approved on lands adjoining the west boundary of the MI Zone. Noise and air quality concerns associated with the overall land use will be handled through the County and State permit process. Visual impacts will be minimized by County screening requirements.

Because of Bradwood's relative isolation, the social consequences resulting from the uses associated with the proposed activities area not substantially different from those that might be expected at other sites requiring an exception. The residents of Puget Island on the north side of the river channel will view development of the Bradwood site. These view impacts will be mitigated through County screening requirements. These residents will have to accept certain social impacts that are associated with the eventual utilization of designated water-dependent industrial site which is an economic asset of Clatsop County.

(4) Energy Consequences

Dredging activities are the only form of energy-related consequence that has been identified in conjunction with the proposed activity. Comparatively low dredge volumes and the availability of on-site disposal areas have been noted above. These two factors will reduce the energy consumption associated with dredging as compared to other sites. The energy consequences resulting from the proposed activities are not significantly different form those that might be expected at other sites requiring an exception.

The long-term environmental, economic, social and energy consequences resulting from the proposed activities as proposed are not significantly more adverse at the proposed site than they would be at other possible project locations requiring an exception.

D. *"The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts" [OAR 660-04-020 (2d)].*

The owner of the Bradwood industrial tract owns all adjacent shorelands. A commercial rock quarry is located on his ownership adjoining the south boundary of the Marine Industrial tract. Rock from this quarry will be transported by barge from the site. Accordingly, the purposed activities and the existing quarry are compatible uses. The Columbia River adjoins to the northeast. The proposed activities will provide for navigational access and shipping uses that are similar to uses that occurred at the site for more than a century. The navigational channel is located about 1,000 feet from the shorelands at Bradwood and the proposed activities would in no way hinder navigation within the established channel. The proposed activities are compatible with existing adjacent land uses.

Ord 81-7, 30 Dec 1981

AN EXCEPTION TO PERMIT A WETLANDS/MARSH WASTEWATER TREATMENT

SYSTEM IN AND ADJACENT TO THE ECOLA CREEK ESTUARY

Description of the proposed action

The construction of a wetland/marsh wastewater treatment system within and adjacent to the Ecola Creek estuary, directly east of Highway 101 and the existing Cannon Beach sewage treatment lagoons (see attached drawing). The marsh, consisting of about 15 acres, would provide tertiary sewage treatment capacity during the summer months.

An exception is being taken to that portion of the estuarine resources goal which state that,"dredge, fill or other reduction or degradation of these natural values by man shall be allowed only:

1) if required for navigation or other water dependent uses that require an estuarine location,..."

The major elements of the project that involve alteration of the estuary are:

1. The construction of a portion of a perimeter dike across a a drainage channel that connects with Ecola Creek.
2. Facing of the water-ward perimeter of the dike with rip-rap.
3. The construction of a discharge point allowing effluent treated in the wetland/marsh treatment system to enter the drainage channel east of highway 101.

An exception is also being taken to that portion of the coastal shorelands goal which state that "major marshes, significant wildlife habitat, coastal headlands, exceptional aesthetic resources, and histo archaelogical sites shall be protected". The site provides significant wintering habitat for a herd of 18 to 20 Roosevelt elk.

The major elements of the project that involve possible impact on this significant habitat are:

1. construction of a perimeter dike, to an elevation of 11' to 11½' M.S.L. of the northeast and south sides of the proposed treatment area; and
2. Pumping prechlorinated effluent from the City's stabilization ponds into the wetland/marsh area in the southern portion through a number of inlets; and
3. Construction of internal baffles for controlling flows of introduced effluent.

Need

Sewage treatment in Cannon Beach is presently provided by a three-celled stabilization pond system. During the winter months the plant operates well below design capacity and discharges chlorinated effluen into Ecola Creek in conformance with both present and anticipated future winter effluent limitations established by the Department of Environmental Quality. During the summer, however, the plant operates near or in excess of design capacity and effluent quality exceeds the more stringent summer discharge limitations. Because the present sewer system cannot meet the summer effluent discharge standards, the Department of Environmental Quality is requiring that the City upgrade its wastewater treatment facility.

Alternatives

1. Alternative Treatment Systems.

Three studies were conducted to evaluate alternative wastewater treatment systems: CH2M Hill Inc. "Wastewater Facilities Plan-City of Cannon Beach," 1976, and CH2M-Hill Inc. "Supplement to Wastewater Facilities Plan-City of Cannon Beach," 1977; KCM "Development and Evaluation of Alternative Wastewater Treatment Schemes-City of Cannon Beach Facilities Plan Addendum," 1978; and KCM "Development and Evaluation of Wetlands/Marsh Wastewater Treatment System, Facilities Plan Addendum No. 1", 1981.

The 1976 study evaluated numerous alternatives. Their advantages and disadvantages are summarized in Table 1. Three main alternatives were focused on: chemical treatment, isolation ponds and ocean out-fall. Their advantages and disadvantages are summarized in Table 2. Ocean disposal was rejected primarily because of high cost and question about technical feasibility. The main resons for rejecting the chemical treatment alternatives were cost, the difficulty of operating sophisticated equipment by a small town, and the disposal of sludge. Phase isolation ponds' major disadvantages were found to be its requirement for an extensive land area and its experimental nature. A similar system later proved unsuccessful in Ontario, Oregon.

Subsequently an evaluation of a biological treatment plant (activated sludge) was made. This system was found to have major problems involving high cost, disposal of sludge and the aesthetic implications of converting existing settling ponds to sludge holding ponds. These were felt to outweigh the advantage of the known reliability of this most conventional of sewage treatment methods.

Based on the City's dissatisfaction with the presented alternatives, a third study examining systems that required low amounts of energy that were non-mechanical in nature was made. This is consistent with the 1977 Federal Clean Water Act amendements which encourage innovative systems. Three systems were investigated; a marsh system, a marsh/aquaculture system, and an intermittent sand filtration system. The selected alternative was the marsh system.

The major advantages of this system were found to be: the lowest cost of all systems reviewed, little consumption of energy, and no sludge to be disposed of. The major disadvantages were short-term environmental disturbances resulting from conversion of the present wetland to an artificial marsh, the potential loss of elk wintering habitat, and introduction of new plant species.

Because of State and Federal resource management agency's concerns about the possible impact of the artificial marsh system on the elk wintering habitat and the effects of introducing non-native plants, a fourth study was prepared. This study further reviewed alternatives that would use a natural filtration system and would meet expressed resource management agency concerns. Three alternatives were examined. A natural wetlands system utilizing 100% natural overland flow through the existing wetlands. This alternative would require 40 acres. Second, development of a semi-natural wetland/marsh system which would rely on 50% natural over land flow 50% controlled flow. This alternati would require 25 acres. The third alternative was development of a wetlands/marsh system utilizing an internal baffle system through the entire treatment area to maintain controlled flows and treatment. This alternative would require 15 acres.

The third alternative was selected because the highest degree of treatment could be achieved through the most completely controlled wetlands/marsh system and because the overall wetlands impact would be minimized through the use of the least amount of wetland area.

2. Alternative sites

In addition to the proposed site, other marsh treatment site alternatives have been investigated. An alternative "wetland" site located between the present sewage lagoons and Spruce Street was

evaluated. This site has the advantage of being in closer proximity to the existing sewage treatment facility. Its disadvantages were insufficient land area, the possible loss of the area's important flood retention capability with regard to the town center, and its use as an elk wintering area. The disadvantages were found to substantially outweigh the advantages. Higher upland sites were not considered desirable because of the accepted engineering practice of locating sewage treatment facilities at as low an elevation as possible.

3. Design alternatives within the selected site

The proposed wetlands/marsh treatment system uses Highway 101 as the dike on the west side of the treatment system. A design alternative considered was to build a dike parallel to Highway 101 just enough to the east that the northern dike would not have to cross the drainage channel entering Ecola Creek. This alternative was not selected for two reasons.

First, a primary concern of federal resource management agencies was that the development of the system minimally disrupt the fresh water wetland that functions as elk wintering habitat. The construction of a second dike, parallel to Highway 101, would disrupt substantially more habitat then would the alternative using Highway 101 as the wester dike. Second, it is estimated that the construction of a parallel dike would raise overall system construction cost by $100,000.-$125,000

Environmental Consequences

The area enclosed by the dike would be altered by felling of trees in the dike/baffle areas and changes in hydraulics resulting from construction of the dikes. Trees would be cut within those areas occupied by the alder/spruce community and the western portion of the spruce/elderberry community.

Felling trees, especially the older and larger spruce, alder, and maple, where dikes and baffles are constructed, would reduce cover for a variety of wildlife, roughly in proportion to the acreage disrupted. Flycatchers, warblers, kinglets, wrens, both chickarees and grey squirrels, racoons and many other birds and mammals utilize this habitat. The construction of perimeter dikes enclosing the wetlands area would result in some vegetation and wildlife habitat being destroyed or disrupted.

The increase in water levels in the wetlands/marsh area would result in:

a) Changes in the wildlife community with more aquatically oriented species increasing in population at the expense of other coastal forest and brush inhabitating species.

b) The twinberry and other vegetation, including alder and spruce, will likely die off, sedges and emergent species would increase in populations.

c) The developed wetlands/marsh area would likely have less diversity in plant and animal communities than the existing wetlands

Less mobile animals, such as small rodents, frogs, and salamanders, could be killed during construction of the Cannon Beach system. During the operational phase, these aquatic organisms, along with herons and waterfowl, should quickly repopulate the marsh.

The wildlife community would change with more aquatically oriented species such as ducks, rails, and herons, muskrat and marsh shrews increasing in population at the expense of other coastal forest and brush inhabiting species including flycatchers, warblers, kinglets, song sparrows, bobcats and coyote. Because elk feed on slough sed

[illegible] area. Most of the length of dike would not be high enough to prevent significant elk [illegible]. No endangered or threatened wildlife or plants are known to exist on the project site.

The construction of perimeter dikes and baffles may result in temporary degradation of water quality due to increases in turbidity from erosion and siltation processes.

Ecola Creek water quality would be improved during the summer months with the discharge of a higher quality effluent. Probably greater phosphorus and nitrogen removals would be achieved by the wetlands/marsh system than by conventioanl treatment.

Depending on Ecola Creek flow and DO levels, the organic content and consequent BOD_5 of the effluent from the marsh system (10 mg/l) could cause a localized area of relatively low DO levels near the outfall structure during summer months. It is anticipated that quick mixing with the creek water would minimize any effects from low DO levels. Recommended level for salmonid populations is above 5 ppm. Tidal actions affecting Ecola Creek in this area would also act to dissipate effluent twice daily.

Changes in hydraulics would result from the dike diverting runoff, mainly from south of the site during the summer, and the introduction of secondary wastewater effluent. Winter runoff from south of the site would continue through the site through a flood structure located on the south. A channel would route this runoff around the dike to Ecola Creek during the summer. The three flood structures, situated along the eastern dike, would allow winter flood water to flow through the site if desireable for flushing. High flood waters of over 12-13 feet MSL in elevation would spill over the dike into the marsh pond and out the outlet structure. The flooding would be unlikely to disturb the slough sedge, a rhizomatous perennial, which is well rooted and adapted to flooding (and is indeed, subjected to periodic flooding now).

The creek's fish resources should be positively affected through and improvement in water quality.

This method of treatment does not create sludge that must be disposed of.

The project will be designed to minimize any adverse impacts, this will be ensured through the State/Federal Permit process.

The project includes the filling of between 1,000-1,500 square feet of estuarine surface area. This loss of estuarine surface area is judged to be of minimal significance. First, because of the small portion of the total estuarine surface area that is being filled Secondly, because the area to be filled does not consist of habitat that contribute significantly to the productivity of the estuary. The area does not include major tracts of salt marsh, tideflats and seagrass/algae beds (the criteria for natural estuarine management units) nor does it include smaller tracts of salt marsh tideflats, seagrass and algae beds and oyster and clam beds (the criteria for conservation estuerine management units). The project includes a small alteration of estuarine area and thus may require mitigation as defined by O.R.S. 541-6:05-541.665. Whether mitagation will be required will be determined by the Division of State Lands in the permitting process.

Economic, Social and Energy Consequence

The wetlands/marsh system is the least expensive of all alternat[illegible]

[illegible] of the [illegible] will [illegible] knowledge about this type of innovative wastewater treatment [illegible] in.

An archaeological survey established the existence of a previously undocumented archaeological site approximately 25 meters south of Ecola Creek, approximately 100 meters east of Ecola Creek bridge on Highway 101. The proposed design avoids any construction activity in this area. If construction is planned on or near the locality, archaeologi testing will be undertaken to determine the significance of the site.

Compatability

The immediately adjacent areas are presently vacant. The existing City wastewater treatment plant is located west of the site, across Highway 101. The Cannon Beach Comprehensive Plan and the Cannon Beach Zoning Ordinance designate the area to the South as Residential-Alternative Mobile Homes. This is a residential zone which permits conventional built housing and mobile homes. No conflicts between the artificial marsh and residences are foreseen. The area to the southeast is designated by both the Clatsop County and Cannon Beach Comprehensive Plans and Zoning Ordinances as Residential Very Low Density. This is a holding zone inside the City's urban growth boundary permitting single family residences on 1 acre lots. When sufficient City services become available such areas may annex into the City and request higher density residential zoning. No conflicts between the artificial marsh and either low density or higher density residences are foreseen.

The Ecola Creek estuary has been classified by both Cannon Beach and Clatsop County as a conservation estuary. Furthermore, because Ecola Creek is small it functions more as a tidal stream then an estuary. There are no areas within Ecola Creek that meet the Goal #16 criteria for natural management units(i.e. major tracts of salt marsh, tideflats and seagrass/algae beds) therefore, there are no natural management units within Ecola Creek. The purpose of a conservation estuary and estuary management units is to provide for long-term uses of available resources that do not require major alteration of the estuary. The wetlands/marsh is compatible with this intent. The wetlands marsh system represents a long term use of available resource. With the wetlands, both estuaine and fresh-water, being the available resource. The diking of approximately 1,500 square feet of the esturary is a minimal alteration of the estuary. The project will not preempt any other anticipated or foreseeable water-dependent use.

The design of the treatment area's periphery is such that it will minimize the impact on the continued use of the area as elk-wintering habitat.

Conclusions

There is a need for the City of Cannon Beach to upgrade its wastewater treatment plant. The proposed wetlands/marsh treatment system and its location is the alternative selected after more than four years of study and the evaluation of numerous alternatives. The design alternatives selected is the one with the minimal impact of elk wintering habitat and has the least cost. The environmental, social, economic and energy consequences of the project are acceptable. The project will [illegible] Ecola Cr[illegible] the existing elk wintering habitat and the [illegible] of the surrounding area.

TABLE 1

ALGAE REMOVAL TREATMENT PROCESS ALTERNATIVES

Treatment Method (References*)	Advantages	Disadvantages
Chemical Coagulation with Settling (1,2,3,11,14,15)	1. Consistent effluent quality 2. Simple mechanical operation 3. Flexible process control 4. Considerable test data	1. Requires attention to chemical addition for process control 2. Possible natural flotation of algae 3. Need to add filtration to assure 10/10 effluent quality 4. Dilute sludge produced
Chemical Coagulation with Flotation (1,4,6,18)	1. Consistent effluent quality 2. Flexible process control 3. Concentrated sludge produced 4. Considerable test data	1. More complex mechanical operation 2. Requires attention to chemical addition and flotation variables for process control 3. Need to add filtration to assure 10/10 effluent quality
Mixed-Media Filtration (6,15)	1. Consistent effluent quality	1. Need to precede by chemical coagulation and settling (or flotation) to prevent rapid headloss buildup in filter 2. More complex mechanical operation
Sand Filtration (7,8)	1. Simple mechanical operation 2. Consistent effluent quality 3. Considerable test data	1. Tested process only for low algae concentrations 2. Labor-intensive operation to clean and replace sand 3. Wet climate may require covered filter area
Rock Filtration (9,10)	1. Simple mechanical operation 2. Considerable test data	1. Inconsistent effluent quali 2. Untested process for high algae concentrations
In-Pond Chemical Coagulation and Settling (5,15)	1. Simple mechanical operation (motorboat application of chemicals)	1. Inconsistent effluent quali 2. Not possible to control process once chemicals are added 3. Only tested once
Isolated Algae Removal Pond (Phase Isolation) (16)	1. Simple mechanical operation 2. Full scale system in operation	1. Relies upon natural algal precipitation; process control not possible 2. Additional large pond area required for adequate detention
Microscreening (1,2)	1. Simple mechanical operation	1. Inflexible process control 2. Unreliable process on single-cell algae 3. May need to precede by chemical coagulation

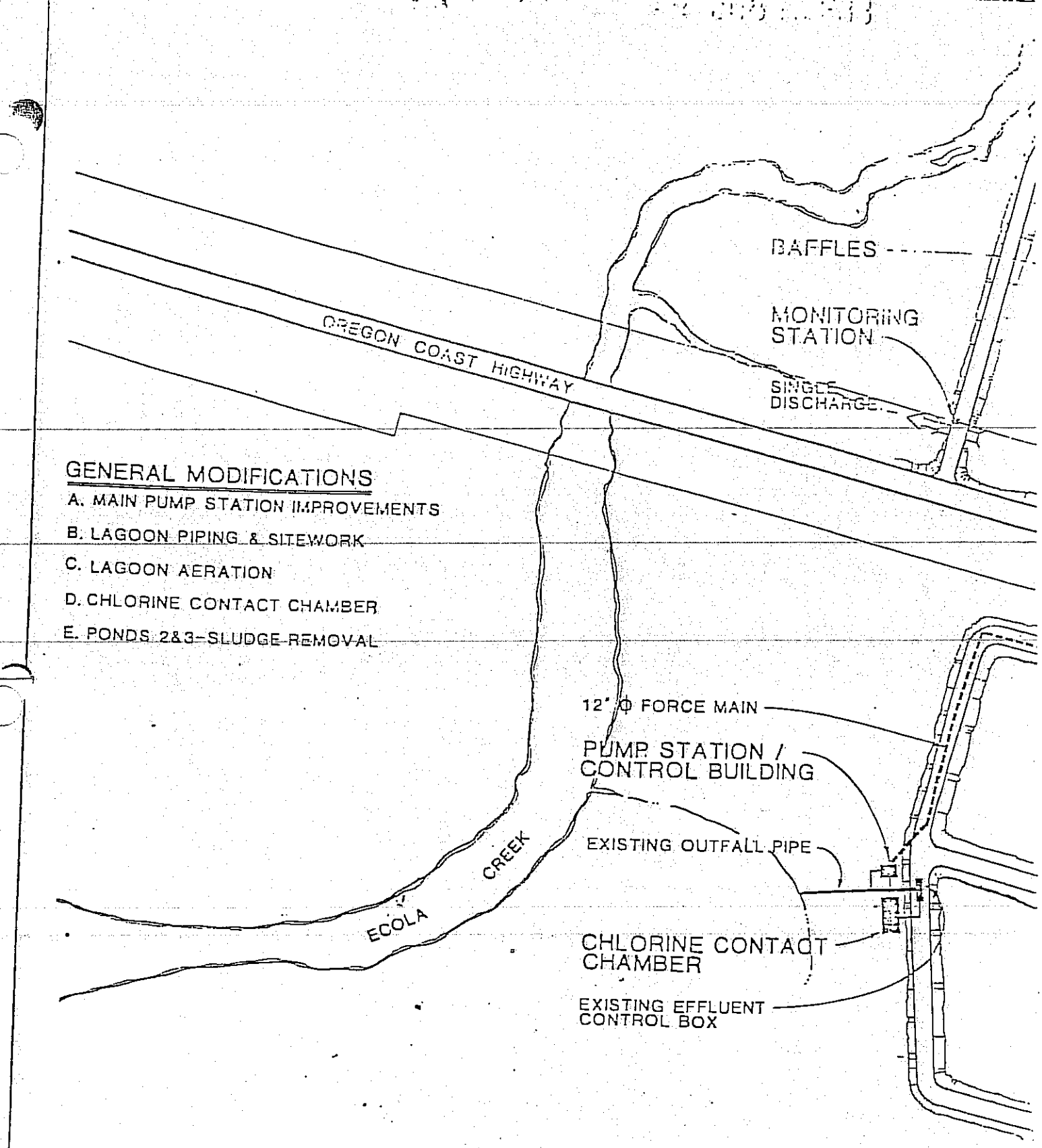
*References are listed in Appendix C.

BOOK 503 PAGE 010

TABLE 2

SUMMARY OF ALTERNATIVE EVALUATION

Alternative	Major Advantage	Major Disadvantage
	ENGINEERING EVALUATION	
1A and 1B (Chemical Treatment)	Well demonstrated treatment system for algae removal.	Pilot testing required to determine best sludge dewatering method.
2 (Isolated Ponds and Future Chemical Treatment)	Requires least attention to additional treatment process.	Pilot testing required to determine isolated pond performance.
3 (Ocean Outfall)	No additional treatment process to control.	Permanence of outfall pipe installation is uncertain.
	ENVIRONMENTAL EVALUATION	
1A and 1B (Chemical Treatment)	Retains maximum buffer zone around plant site.	Uses considerable amounts of chemicals and requires sludge disposal.
2 (Isolated Ponds and Future Chemical Treatment)	May delay requirement for chemical treatment.	Uses large land area and leaves minimal buffer zone around plant site.
3 (Ocean Outfall)	Uses least amount of natural resources and energy.	More disruption of community during construction.
	ECONOMIC EVALUATION	
1A and 1B (Chemical Treatment)	Process combinations could reduce capital costs.	Highest O&M costs.
2 (Isolated Ponds and Future Chemical Treatment)	Lowest overall present worth, and amenable to staging.	Capital costs will increase if must be purchased.
3 (Ocean Outfall)	Lowest O&M costs.	Highest overall present worth.



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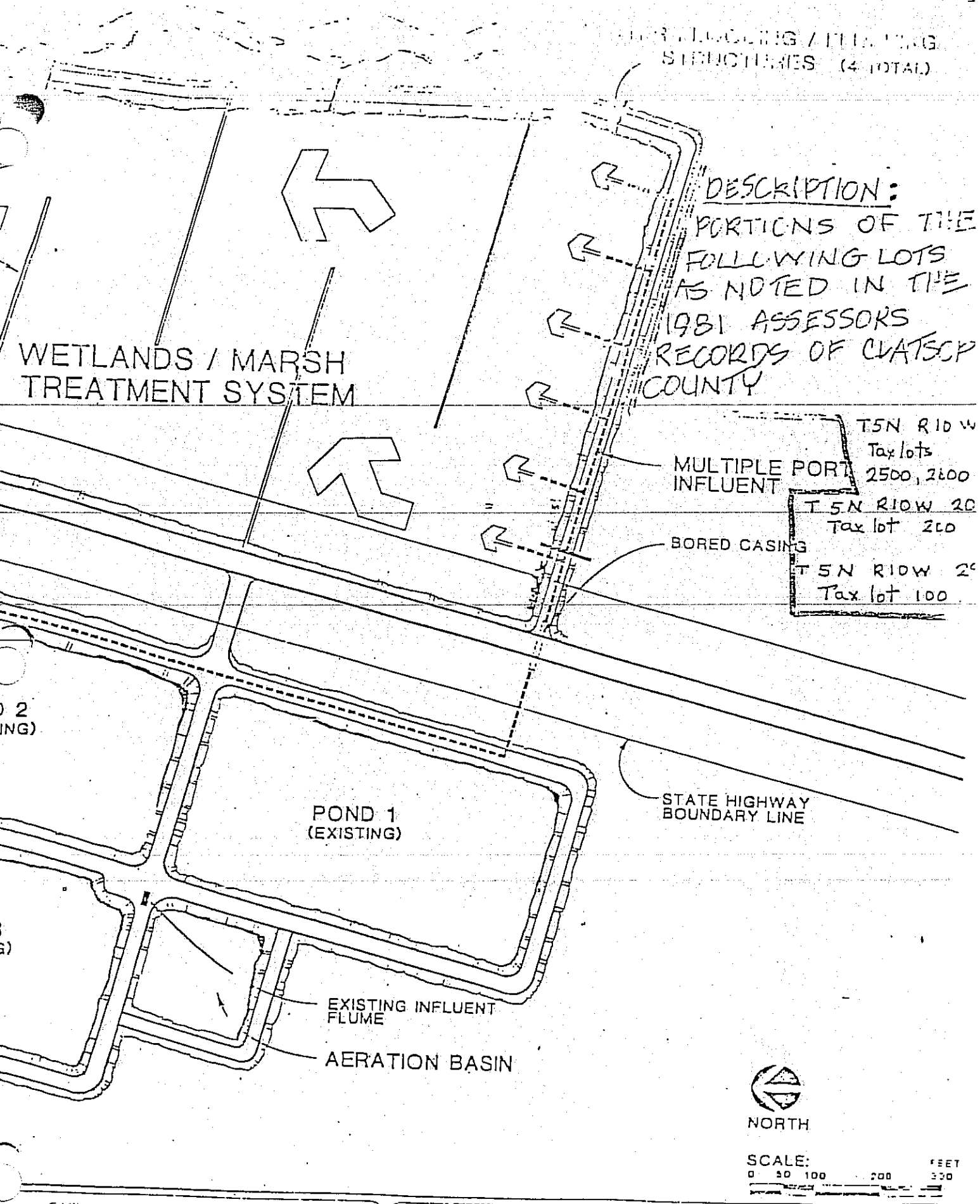
Scale

Drawn By

Checked By

Approved By



CITY OF CANNON BEACH

CILITIES PLAN ADDENDUM NO.2

WETLANDS / MARSH TREATMENT SYSTEM

Goal 2

Exceptions

Goal 18 Beaches and Dunes

Provision - Permits for beach front protection structures shall be issued under ORS 390.605-390.770, only where development existed on January 1, 1977.

a.) Why these other uses should be provided for;

The County wishes to allow continued development in the Arch Cape area (see map). Also see committed and built exception and coastal shoreland exception. There currently exist 24 beach front protective structures out of approximately 107 ocean front lots in the area. The existing beach front protective structures are interspersed with existing development consisting of about 66 dwellings. This area has been platted since the early 1920's. Approximately one-third of the existing structures are over 30 years old. The properties within this exception area are served by sewer through the Arch Cape Sewer District and water through the Arch Cape Water District. Both private and public roads provide access to the ocean front lots. The exception is needed to protect public and private investment. By permitting additional beach front protective structures for structures built after 1977 or in the future it will enable property owners to utilize their property similar to their neighbors.

b.) What alternative locations within the area could be used for the proposed uses;

Public services already exist in the area, i.e. sewer, water and roads. Clatsop County prefers to protect the public and private investments made and does not wish to encourage beach front protective structures and public facilities in other areas.

c.) What are the long term environmental, economic, social and energy consequences to the locality, the region or the state from not applying the goal or permitting the alternative use;

Environmental - If additional beach front protective structures are permitted a small loss of flora and fauna will occur. This area has not been identified as a significant wildlife habitat area. Therefore, no significant wildlife will be lost. Through use of the State of Oregon criteria for approving (or denying) permit requests, it will be assured that permits issued will result in a minimal amount of environmental effects.

Economic, Social and Energy - If the exception is not taken, erosion over time may weaken the existing beach front protective structures, erode adjacent unprotected property and jeopardize the roads, sewers, water lines and structures in the area. Not permitting additional beach front protective structures may result in accelerated erosion in areas not permitted protection. Through the exception the County is encouraging continued development of an area where facilities already exist, and protecting property with and without structures from being damaged.

There are no known archaeological or historical sites in the exception area.

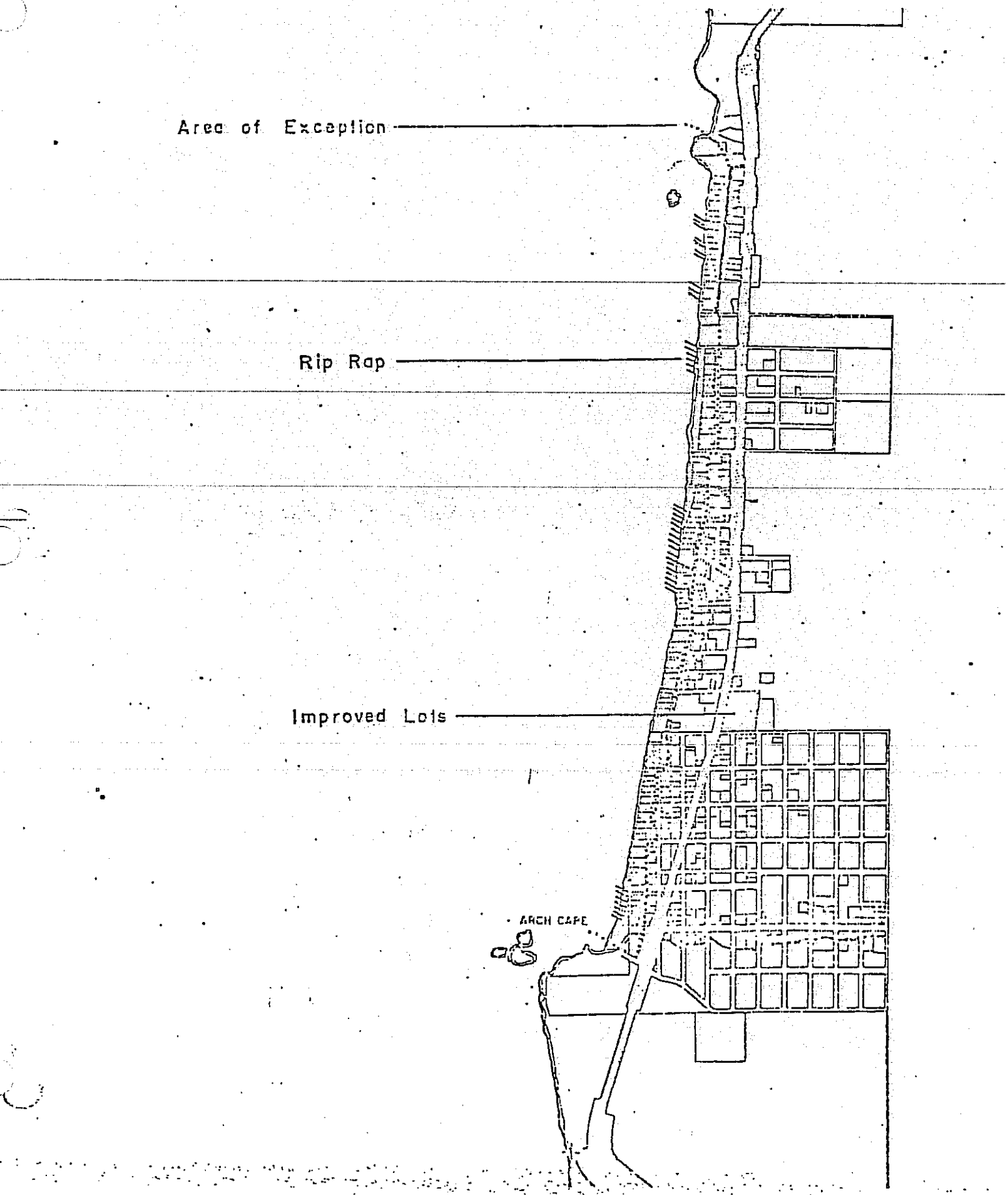
d.) A finding that the proposed uses will be compatible with other adjacent uses.

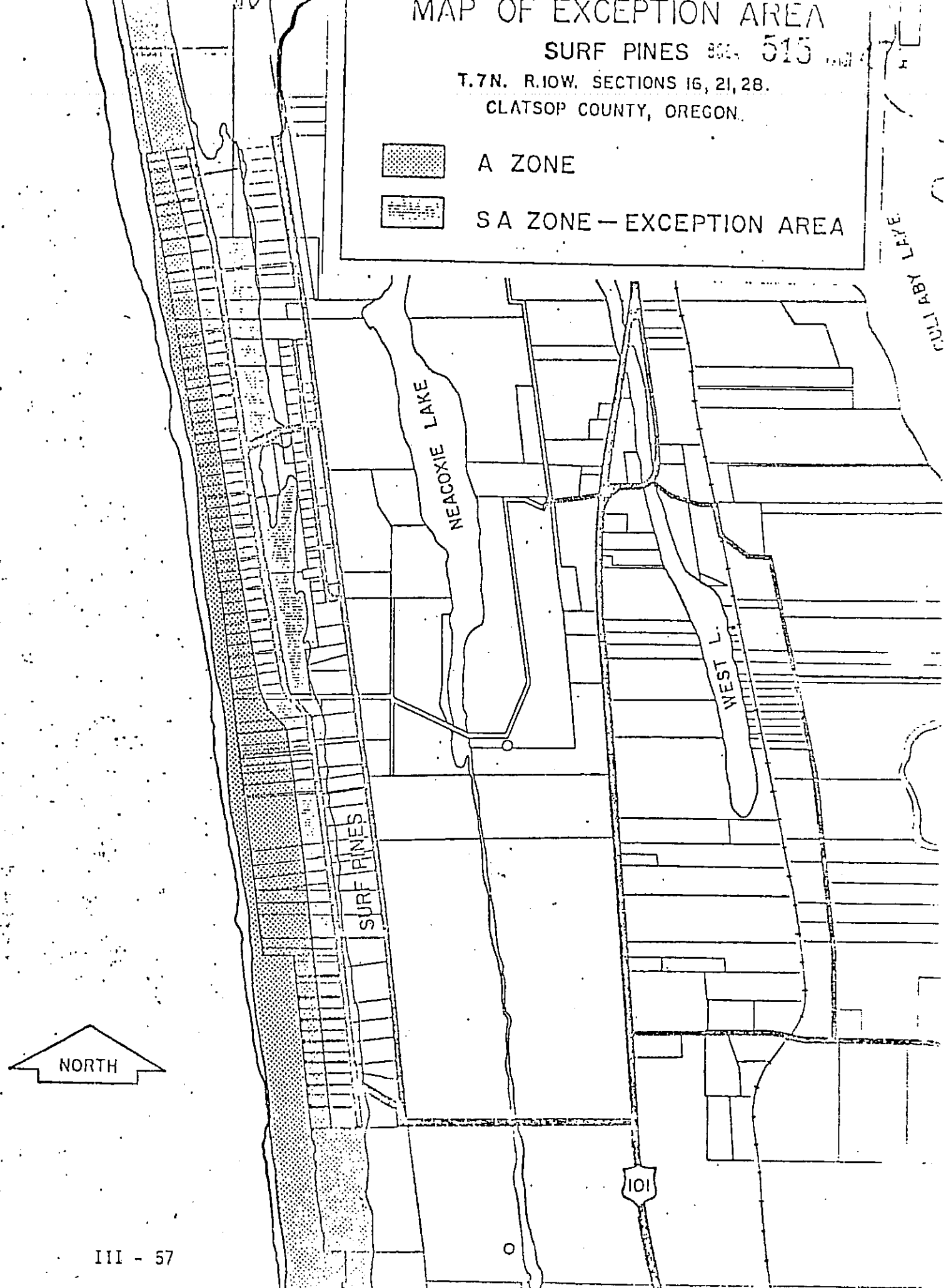
The upland adjacent areas are presently platted and in numerous ownerships. The Clatsop County Comprehensive Plan designates the area as a Development (Rural Service Area) area. The Clatsop County Land and Water Development and Use Ordinance Map designates the area as Rural Service Area - Single Family Residential (RSA-SFR). This is a residential zone which permits conventional built housing. No conflicts between the beach front protective structures and the residences is foreseen.

Conclusion: There is a need for Clatsop County to permit additional beach front protective structures on existing parcels and future parcels. The exception will protect existing property, structures and public utilities and facilities. Permitting additional beach front structures will reduce the need for beach front protective structures in other areas. The environmental, social, economic and energy consequences of the project are acceptable. Additional beach front protective structures will be compatible with the existing and proposed development of the area.

FIGURE 8

EXCEPTION TO BEACHES & DUNES GOAL NO. 18




MAP OF EXCEPTION AREA
SURF PINES
T.7N. R.10W. SECTIONS 16, 21, 28.
CLATSOP COUNTY, OREGON.
A ZONE
SA ZONE — EXCEPTION AREA
NEACOXIE LAKE
WEST L.
SURF PINES
101
NORTH

Exception to Goals 3 and 4 for Agricultural Land Within the Miles Crossing - Jeffers Gardens Rural Community

03 December 2002
Amended August 2003 Ordinance 03-10

1. Summary

This document contains findings justifying an exception to Statewide Planning Goals 3 and 4. An exception is needed to include agricultural land within the proposed boundaries of the Miles Crossing - Jeffers Gardens rural community; and to allow non-agricultural uses and densities in the exception area. Miles Crossing – Jeffers Gardens rural community covers about 860 acres. Most of this land was subject to an exception adopted by Clatsop County in 1982. Also included within the proposed rural community boundary are 33 tax lots covering about 250 acres in Clatsop County's Exclusive Farm Use (EFU) zone. Additionally, about eight acres of undeveloped public street right-of-way in the EFU zone is included within the proposed rural community boundary. A total of about 258 acres of land in the EFU zone are included in this exception.

Oregon Administrative Rules (OAR) chapter 660, division 22, contains rules and requirements governing the establishment of rural communities. Including farm or forest land within rural community boundaries is prohibited except under relatively narrow circumstances (OAR 660-022-0020 (3) and (4)). Clatsop County is taking this exception to the agricultural lands goal (statewide planning goal 3) and the forest lands goal (statewide planning goal 4) for about 258 acres of EFU-zoned land within the proposed rural community boundary. These lands will then meet the criteria in OAR 660-22-20(3)(a), allowing exception areas to be included in rural communities.

Exceptions to the statewide planning goals are governed by ORS 197.732; OAR 660-04; and statewide planning goal 2. This document includes findings as required under these statutes and administrative rules.

2. Exception Requirements

2.1 Statewide Planning Goals

This exception is taken to statewide planning goals 3 and 4.

Statewide planning goal 3 addresses agricultural lands. The goal is "To preserve and maintain agricultural lands." Land included in this exception has been designated in Clatsop County's acknowledged comprehensive plan as agricultural land, and placed in the County's EFU zone. This proposed exception is to statewide planning goal 3. Exceptions to goal 3 are authorized under OAR 660-04-10(1)(a).

Statewide planning goal 4 addresses forest lands. The goal is:

To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.

The subject property is not designated as forest land in the County's comprehensive plan, nor is there any evidence that it qualifies as forest land under statewide planning goal 4. Nonetheless, this goal exception includes an exception to goal 4 to allow uses and densities not allowed on forest lands under statewide planning goal 4. Exceptions to goal 4 are authorized under OAR 660-04-10(1)(b).

The proposed exception area includes resources and features covered by other statewide planning goals, such as wetlands (goals 5 or 17); riparian corridors (goal 5); fish and wildlife habitat (goal 5); floodplains (goal 7); transportation facilities (goal 12); public facilities and services (goal 11); housing (goal 10); and estuarine shoreland areas (goal 17). This goal exception does not exempt the subject property from the requirements of these other statewide planning goals.

2.2 Exception Criteria

An exception is a decision to exclude certain land from the requirements of one or more applicable statewide goals. Exceptions to the statewide planning goals are authorized under ORS 197.732, OAR 660-04, and statewide planning goal 2. Exception requirements are described below.

Oregon Revised Statutes (ORS) 197.732(1) establishes three different types of exceptions:

- a "physically developed" exception (ORS 197.732(1)(a));
- an "irrevocably committed" exception (ORS 197.732(1)(b)); and
- a "reasons" exception (ORS 197.732(1)(c)).

This proposed exception is a reasons exception. ORS 197.732(1)(c) contains requirements for a reasons exception:

(1) A local government may adopt an exception to a goal if:

(c) The following standards are met:

(A) Reasons justify why the state policy embodied in the applicable goals should not apply;

(B) Areas which do not require a new exception cannot reasonably accommodate the use;

(C) The long term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and

(D) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.

Statewide Planning Goal 2 establishes requirements for exceptions. Part II(c) is applicable to this proposed reasons exception, and is identical to ORS 197.732(1)(c), cited above.

Oregon Administrative Rules (OAR) chapter 660, division 4, establishes rules for exceptions. OAR 660-04-000(2) and OAR 660-04-05(1) provide general definitions of an exception:

An exception is a decision to exclude certain land from the requirements of one or more applicable statewide goals in accordance with the process specified in Goal 2, Part II, Exceptions. The documentation for an exception must be set forth in a local government's

comprehensive plan. Such documentation must support a conclusion that the standards for an exception have been met. The conclusion shall be based on findings of fact supported by substantial evidence in the record of the local proceeding and by a statement of reasons which explain why the proposed use not allowed by the applicable goal should be provided for. The exceptions process is not to be used to indicate that a jurisdiction disagrees with a goal. (OAR 660-04-000(2))

An "Exception" is a comprehensive plan provision, including an amendment to an acknowledged comprehensive plan, that:

(a) Is applicable to specific properties or situations and does not establish a planning or zoning policy of general applicability;

(b) Does not comply with some or all goal requirements applicable to the subject properties or situations; and

(c) Complies with the provisions of this Division. (OAR 660-04-05(1))

OAR 660-04-20(2) establishes detailed requirements for a reasons exception:

(1) If a jurisdiction determines there are reasons consistent with OAR 660-004-0022 to use resource lands for uses not allowed by the applicable Goal, the justification shall be set forth in the comprehensive plan as an exception.

(2) The four factors in Goal 2 Part II(c) required to be addressed when taking an exception to a Goal are:

(a) "Reasons justify why the state policy embodied in the applicable goals should not apply": The exception shall set forth the facts and assumptions used as the basis for determining that a state policy embodied in a goal should not apply to specific properties or situations including the amount of land for the use being planned and why the use requires a location on resource land;

(b) "Areas which do not require a new exception cannot reasonably accommodate the use":

(A) The exception shall indicate on a map or otherwise describe the location of possible alternative areas considered for the use, which do not require a new exception. The area for which the exception is taken shall be identified;

(B) To show why the particular site is justified, it is necessary to discuss why other areas which do not require a new exception cannot reasonably accommodate the proposed use. Economic factors can be considered along with other relevant factors in determining that the use cannot reasonably be accommodated in other areas. Under the alternative factor the following questions shall be addressed:

(i) Can the proposed use be reasonably accommodated on nonresource land that would not require an exception, including increasing the density of uses on nonresource land? If not, why not?

(ii) Can the proposed use be reasonably accommodated on resource land that is already irrevocably committed to nonresource uses, not allowed by the applicable Goal, including resource land in existing rural centers, or by increasing the density of uses on committed lands? If not, why not?

(iii) Can the proposed use be reasonably accommodated inside an urban growth boundary? If not, why not?

(C) This alternative areas standard can be met by a broad review of similar types of areas rather than a review of specific alternative sites. Initially, a local government adopting an exception need assess only whether those similar types of areas in the vicinity could not reasonably accommodate the proposed use. Site specific comparisons are not required of a local government taking an exception, unless another party to the local proceeding can describe why there are specific sites that can more reasonably accommodate the proposed use. A detailed evaluation of specific alternative sites is thus

not required unless such sites are specifically described with facts to support the assertion that the sites are more reasonable by another party during the local exceptions proceeding.

(c) The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception. The exception shall describe the characteristics of each alternative areas considered by the jurisdiction for which an exception might be taken, the typical advantages and disadvantages of using the area for a use not allowed by the Goal, and the typical positive and negative consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts. A detailed evaluation of specific alternative sites is not required unless such sites are specifically described with facts to support the assertion that the sites have significantly fewer adverse impacts during the local exceptions proceeding. The exception shall include the reasons why the consequences of the use at the chosen site are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site. Such reasons shall include but are not limited to, the facts used to determine which resource land is least productive; the ability to sustain resource uses near the proposed use; and the long-term economic impact on the general area caused by irreversible removal of the land from the resource base. Other possible impacts include the effects of the proposed use on the water table, on the costs of improving roads and on the costs to special service districts;

(d) "The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts." The exception shall describe how the proposed use will be rendered compatible with adjacent land uses. The exception shall demonstrate that the proposed use is situated in such a manner as to be compatible with surrounding natural resources and resource management or production practices. "Compatible" is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses.

(3) If the exception involves more than one area for which the reasons and circumstances are the same, the areas may be considered as a group. Each of the areas shall be identified on a map, or their location otherwise described, and keyed to the appropriate findings.

OAR 660-04-22 lists reasons needed to justify an exceptions under goal 2, part II(c). Those pertaining to this exception include:

An exception Under Goal 2, Part II(c) can be taken for any use not allowed by the applicable goal(s). The types of reasons that may or may not be used to justify certain types of uses not allowed on resource lands are set forth in the following sections of this rule:

(1) For uses not specifically provided for in subsequent sections of this rule or OAR 660, division 014, the reasons shall justify why the state policy embodied in the applicable goals should not apply. Such reasons include but are not limited to the following:

(a) There is a demonstrated need for the proposed use or activity, based on one or more of the requirements of Statewide Goals 3 to 19; and either

(b) A resource upon which the proposed use or activity is dependent can be reasonably obtained only at the proposed exception site and the use or activity requires a location near the resource. An exception based on this subsection must include an analysis of the market area to be served by the proposed use or activity. That analysis must demonstrate that the proposed exception site is the only one within that market area at which the resource depended upon can reasonably be obtained; or

(c) The proposed use or activity has special features or qualities that necessitate its location on or near the proposed exception site.

(2) Rural Residential Development: For rural residential development the reasons cannot be based on market demand for housing, except as provided for in this section of this rule, assumed continuation of past urban and rural population distributions, or housing types and cost characteristics. A county must show why, based on the economic analysis in the plan, there are reasons for the type and density of housing planned which require this particular location on resource lands. A jurisdiction could justify an exception to allow residential development on resource land outside an urban growth boundary by determining that the rural location of the proposed residential development is necessary to satisfy the market demand for housing generated by existing or planned rural industrial, commercial, or other economic activity in the area.

(3) Rural Industrial Development: For the siting of industrial development on resource land outside an urban growth boundary, appropriate reasons and facts include, but are not limited to, the following:

(a) The use is significantly dependent upon a unique resource located on agricultural or forest land. Examples of such resources and resource sites include geothermal wells, mineral or aggregate deposits, water reservoirs, natural features, or river or ocean ports; or

(b) The use cannot be located inside an urban growth boundary due to impacts that are hazardous or incompatible in densely populated areas; or

(c) The use would have a significant comparative advantage due to its location (e.g., near existing industrial activity, an energy facility, or products available from other rural activities), which would benefit the county economy and cause only minimal loss of productive resource lands. Reasons for such a decision should include a discussion of the lost resource productivity and values in relation to the county's gain from the industrial use, and the specific transportation and resource advantages which support the decision.

These requirements are addressed in the following sections.

3. Findings

3.1 Reasons justify why the state policy embodied in the applicable goals should not apply (OAR 660-04-20(2)(a))

This section sets forth the facts and assumptions for determining that state policy embodied in goals 3 and 4 should not apply to the exception area. The exception area includes about 258 acres. Specific properties are listed in Appendix A. This section also explains why the proposed uses require a location on resource land.

The state policy embodied in goal 3 is found in ORS 215.243 and 215.700:

Agricultural land use policy. The Legislative Assembly finds and declares that:

(1) Open land used for agricultural use is an efficient means of conserving natural resources that constitute an important physical, social, aesthetic and economic asset to all of the people of this state, whether living in rural, urban or metropolitan areas of the state.

(2) The preservation of a maximum amount of the limited supply of agricultural land is necessary to the conservation of the state's economic resources and the preservation of such land in large blocks is necessary in maintaining the agricultural economy of the state and for the assurance of adequate, healthful and nutritious food for the people of this state and nation.

(3) Expansion of urban development into rural areas is a matter of public concern because of the unnecessary increases in costs of community services, conflicts between farm

and urban activities and the loss of open space and natural beauty around urban centers occurring as the result of such expansion.

(4) Exclusive farm use zoning as provided by law, substantially limits alternatives to the use of rural land and, with the importance of rural lands to the public, justifies incentives and privileges offered to encourage owners of rural lands to hold such lands in exclusive farm use zones. (ORS 215.243)

The state policy embodied in goal 4 is found in the text of statewide planning goal 4:

To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture. (Statewide planning goal 4)

The state policy embodied in these goals should not apply to the proposed exception area for the following reasons:

· Land in the proposed exception area contributes relatively little to the agricultural economy of the County or the state. This is addressed in subsection 3.1.1, starting on page 6. Including the proposed exception area in the Miles Crossing Sanitary Sewer District is more cost-effective with respect to sewer service than excluding the proposed exception area. This is explained in subsection 3.1.2, starting on page 10.

· Including the proposed exception area within the Miles Crossing-Jeffers Gardens rural community will not increase conflicts between farm and non-farm activities because the proposed exception area relies on natural boundaries between farmland and land zoned for non-farm uses. *For areas that are not adjacent to natural boundaries they are adjacent to developed land, pubic roads and have access to a public water system. Some lands include portions of a tract that is built and no longer in farm use.* This is further explained in subsection 3.1.3, beginning on page 10.

· Land in the proposed exception area is not part of the forest land base of either the County or the state, nor does it contribute to the forest products industry. *On parcel in T.8.N., R.9W. Section 30, Tax Lot 1500 is currently zoned A/F, and at one time was in forest production but was cleared, stumpes removed and is currently pasture.* This is explained in subsection 3.1.4, on page 11.

· Forest practices are not presently occurring on lands within the proposed exception area, nor are they likely to occur in the future. This is covered in subsection 3.1.5, page 11

· Recreational opportunities associated with forest land (such as hiking, hunting, camping, and fishing) are not present on the proposed exception lands. This is addressed in subsection 3.1.6, starting on paged 11.

· Unlike forest land, the proposed exception area is not managed for soil, air, water, fish or wildlife resources. This is explained in subsection 3.1.7, on page 11.

3.1.1

Land in the proposed exception area contributes relatively little to the agricultural economy of the County or the state. Clatsop County has a small agricultural sector relative to other counties in Oregon. According to 1997 data from the US National Agricultural Statistics Service:

· Clatsop County has relatively few farms: 229 in 1997, or less than one percent of all farms in Oregon. [2]

· Clatsop County has less farm acreage than any other county in Oregon; 34,030 acres in 1997, less than two-tenths of one percent of Oregon's farm acreage. [2]

· Clatsop County farms produced about $5,325,000 worth of farm products in 1997, less than two-tenths of one percent of the state total, and less than any other County except one

(Lincoln County) [2]. In 2001, Clatsop County was still the next-to-the-last producer, this time with Wheeler County in last place. [1]

The subject property contributes relatively little to the County's agricultural sector. The proposed exception covers about 258 acres of land in the EFU zone. Some of this land is in small parcels, and is unlikely to be part of the 34,030 acres of Clatsop County farm land identified in the 1997 *Census of Agriculture* [2]. However, even if all of the exception area were "farm land" under the 1997 *Census of Agriculture*, it would represent less than one percent of the County's farmland.

The exception area currently yields seasonal pasture for beef cattle and dairy cows, and silage [4] [5] [6]. These are low-value farm activities, especially compared to some of the other agricultural products grown in Clatsop County, such as dairy products and cranberries. Land owners in the exception area have identified several reasons why these higher-value products cannot be grown on land in the exception area:

· Pasture in the exception area is saturated for about six months out of every year. Fewer animals can be pastured during the wet months to avoid damage to the pasture, and to keep grazing animals healthy. Areas of the state receiving less rain can pasture more animals for longer periods of time. Pasture land in Clatsop County that is better drained can accommodate more animals for more of the year. [6]

· Milk production in Oregon is changing from a system involving many small dairies to one with a few large dairies. The Tillamook Creamery Association has contracted with a single large dairy near Boardman, Oregon, for a large quantity of its milk. Although small milk producers in Clatsop County continue to sell their milk to the Tillamook Creamery, economies of scale associated with the Boardman dairy's size and location are making smaller dairies non-competitive. A large Boardman-scale dairy cannot be developed or efficiently operated in the exception area because: (1) feed (alfalfa) comes from the east side of the Cascades; (2) too many neighboring non-farm residences exist around the exception area; and (3) animal waste management and runoff control in Clatsop County's rainy environment is more expensive than in the dry environment east of the Cascades. [4] [8]

· Cranberries are grown in Clatsop County in peat bogs south of Cullaby Lake and north of Gearhart. They are also grown on the Long Beach (Washington) peninsula, and near Bandon, Oregon. Nearly all cranberries in Oregon and Washington are grown for Oceanspray, a grower's cooperative. Where they are grown successfully, cranberries are grown on low-lying sandy soils overlaying peat bogs. Generally, acidic soil conditions are needed. Soils in the proposed exception area are not sandy: Coquille-Clatsop complex soils are silty-clay. While it might be possible to grow cranberries in the exception area, soil conditions are not ideal, and it is unlikely that cranberry production in the exception area would be economically feasible.

· Grazing beef cattle in the exception area is not currently a profitable agricultural activity, although it is pursued by some exception area landowners. Two land owners in the exception area have stated that beef cattle are not profitable [5] [6]. Small-scale grazing is pursued as a hobby in the exception area; larger-scale grazing is pursued in the hope that beef prices will rise in the future enough to offset other trends: rising production costs; price competition from imported beef; declining per-capita beef consumption; consolidation in the beef purchasing market; and regulatory costs that fall disproportionately on small producers.

Historically, the exception area produced grass seed and dairy products [4] [6]. Consolidation in the dairy industry, as well as other factors notes above, preclude this historically successful agricultural operation in the exception area. Other historically successful crops are no longer feasible in the exception area for the following reasons:

· Grass seed was successfully produced in the exception area, and elsewhere in Clatsop County, for many years. Much of the seed was colonial bentgrass (*Agrostis tennuis*). Several factors lead to the demise of this crop in the exception area:

1. A nematode infects bentgrass seed grown in the cool, damp coastal climate. Nematodes are microscopic roundworms. The nematode does not infect bentgrass grown in the Willamette Valley. Grass seed needs to be nematode-free to be certified at the highest grade. There is no practical way to remove infected seed from un-infected seed, so bentgrass from the exception area can only be sold as a lower-grade seed, at a price lower than production costs. [4] [6] [7]
2. The loss of rail service in the region in the 1970s increased the cost of moving seed to Willamette Valley markets. Competing seed is grown in the Willamette Valley, where transportation costs are lower. [6]
3. Grass seed yields are higher in the Willamette Valley than in the exception area. Reasons for this include climate and soil fertility. [4]
4. Grass seed production requires relatively expensive, specialized harvesting equipment and storage facilities. A combine for harvesting bentgrass seed costs between $200,000 and $300,000; a cost that can be justified on highly productive farm land growing certified seed, but not on low-productivity land in small tracts growing non-certified seed. [4] [7]
5. Nearly all of the certified seed grown in Oregon is grown in the Willamette Valley or east of the Cascades. Seed certification, authorized under ORS 633.620, relies on a series of field inspections. Inspectors are not located in Clatsop County. They are located in the seed-producing regions of Oregon: Benton, Malheur, Clackamas, Marion, Crook, Morrow, Douglas, Polk, Gilliam, Sherman, Harney, Umatilla, Jackson, Union, Jefferson, Wallowa, Klamath, Wasco, Lane, Washington, Linn, and Yamhill counties. [7]

· Mink pelts have been successfully grown in Clatsop County. At least one viable ranch remains, located outside of the proposed exception area. Mink are not a viable product for farm land within the exception area because:

1. Mink production generates odors that non-farm neighbors are likely to find objectionable. The proposed exception area has many non-farm neighboring residences, and the prospect of more to come.
2. Mink demand has declined with changing fashions and consumer preferences.
3. Fur breeders in other regions have been the victims of acts of vandalism. This threat increases production costs and acts as a dis-incentive to people considering starting or continuing in the fur breading business.
4. High groundwater and abundant rainfall make mink waste management more expensive than in drier locations. The proposed exception area has high groundwater and abundant rainfall.
5. Mink ranching attracts nuisance animals, notably gulls. Non-farm neighbors are likely to find this objectionable.

· Peas were successfully grown in Clatsop County. They are no longer grown commercially here because production has shifted to areas with better growing climates; because there are no processing or storage facilities in the County; and because plant diseases associated with our cool, moist climate result in lower yields. Peas are not a feasible crop choice for the exception area for these reasons. [4] [6]

· Flower bulbs were grown commercially in Clatsop County. They are a poor crop choice for the exception area because of the distance to markets; distance to the I-5 transportation corridor; cost competition from foreign producers; and poorly-drained soil conditions in the exception area. [4] [6]

The small size of the County's agricultural sector is linked to the lack of agricultural support services in the County. The lack of developed markets, storage facilities, processing plants, farm equipment and chemical suppliers, and transportation infrastructure in Clatsop County raises production costs relative to competing farms with these services close at hand.

The *Soil Survey of Clatsop County, Oregon* [3] classifies soils in the exception area as "Coquille-Clatsop Complex". The Soil Survey assigns this soil type a Land Capability Class of IVw. The Land Capability Classification System shows, in a general way, the suitability of soils for most kinds of field crops. Class I soils have few limitations that restrict their use. Class VI soils have severe limitations that make them generally unsuitable for cultivation. The Soil Survey describes Class IV soils, including Coquille-Clatsop complex soils, as follows:

Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both. The Soil Survey adds a "w" modifier to its classification of Coquille-Clatsop Soils. This means that too much water is the limiting factor. Farm land in the exception area is diked former tideland. A system of dikes protects this area from tidal inundation. Ditches and tidegates carry runoff out of the proposed exception area. Land in the exception area has a relatively high water table, and (as noted above) soils in the exception area are poorly drained. These factors combine to make many agricultural practices difficult, or prohibitively expensive:

- It is difficult or impossible to move farm equipment onto fields within the exception area for nearly half of the year because soils are saturated at the surface.
- Animal waste products are more difficult to manage because of the potential for causing ground-water or surface water pollution.

Most parcels in the exception area are too small to contribute to the County's or to the state's agricultural sector. A total of 16 families own land in the 246-acre proposed exception area. The average tract size is about 15 acres. This is too small to effectively manage for production of farm products. Only one of the tracts in the proposed exception area is large enough to meet the 80-acre minimum lot size standard in the County's EFU zone.

Small tracts are not effectively manageable for farm use. This is recognized in statewide planning goal 3 and its administrative rules. ORS 215.780(1)(a) establishes a minimum lot size of 80 acres for creation of new parcels in the EFU zone. ORS 215.262(1) addresses the lot size issue:

The Legislative Assembly declares that the creation of small parcels for nonfarm dwellings in exclusive farm use zones introduces potential conflicts into commercial agricultural areas and allows a limited number of nonfarm dwellings in exclusive farm use zones. To protect the state's land base for commercial agriculture from being divided into multiple parcels for nonfarm dwellings while continuing to allow a limited number of nonfarm dwellings on less productive agricultural land not suitable for farm use, it is necessary to:

(a) Limit the incremental division of lots or parcels larger than the minimum size established under ORS 215.780 into smaller lots or parcels for the purpose of creating new nonfarm dwellings; and

(b) Allow a limited number of lots or parcels equal to or less than the minimum size established under ORS 215.780 to be partitioned into not more than two parcels unsuitable for farm use and eligible for siting nonfarm dwellings under ORS 215.284.

This demonstrates that the state policy of preserving farm land is not aimed at small tracts in fragmented ownership, especially where non-farm dwellings

predominate. Of the twelve existing homes within the proposed exception area, ten are non-farm dwellings, based on the size of the tract they occupy.

Nearby non-farm dwellings make certain kinds of farm practices difficult to conduct, especially those that generate odors. Spreading manure on fields in the proposed exception area has generated complaints [6]. Animal waste storage facilities also result in complaints from neighbors [4]. The proposed rural community ~~and the planned sewage collection system~~ will result in additional non-farm dwellings adjacent to the proposed exception area. Farm activities in the proposed exception area will be subject to more complaints.

Small parcel sizes; large numbers of non-farm residences; the lack of a substantial agricultural sector in Clatsop County; poor soil quality within the exception area; the absence of agricultural infrastructure; and drainage and flooding problems all support a conclusion that land in the proposed exception area contributes relatively little to the agricultural economy of the County or the state.

3.1.2

Including the proposed exception area in the Miles Crossing Sanitary Sewer District is more efficient and cost-effective with respect to sewer service when compared to excluding the proposed exception area. The Miles Crossing Sanitary Sewer District is preparing to install a sewage collection system within district boundaries. All of the proposed exception area is within the sewer district's boundaries. A feasibility study prepared by KCM Inc. demonstrates that without the exception area or some other additional land, projected costs associated with operating and managing the sewage system will be relatively high. Sewer district staff have polled landowners in these other adjoining areas outside of the proposed exception area, and have generally not found a high level of support for the district, or a need for sewage collection and treatment. Consequently, the sewer district supports the inclusion of the proposed exception area within the Miles Crossing – Jeffers Gardens rural community.

The sewer district's lines will need to pass by the proposed exception area whether it is included or not. In particular, the district needs to install a sewage collection line along Business Route 101 (Alternate Highway 105.) Land in the proposed exception area on both sides of Business Route 101 to the north of an industrially-zoned area could be served by this line at little or no additional cost. Without this part of the proposed exception area, the costs of maintaining this line are spread among fewer rate-payers. Similarly, land in the proposed exception area is located north *and south* of the Lewis and Clark School. *Thenorth section is located* at the southeast corner of the Youngs River Road/Lewis & Clark Road intersection, will be adjacent to sewage collection lines the district must install to serve lands that do not require an exception. Without this part of the proposed exception area, the costs of maintaining this line are spread among fewer rate-payers.

3.1.3

Including the proposed exception area within the Miles Crossing-Jeffers Gardens rural community will not increase conflicts between farm and non-farm activities because the proposed exception area relies *generally* on natural boundaries between farmland and non-farm activities. These boundaries include:

- Cook Slough forms the eastern boundary of the proposed exception area. Farm land in the County's EFU zone lies to the east of Cook Slough.
- An un-named slough forms part of the western boundary of the exception area. Farm land in the County's EFU zone lies to the west of this un-named slough.

These sloughs are relatively effective natural boundaries, affording some protection from conflicts between farm and non-farm uses. For example, dogs in non-farm residential areas are

unlikely to cross the slough and chase livestock. Other types of conflicts, involving odors, for example, are not controlled by these natural boundaries.

3.1.4

Land in the proposed exception area is not part of the forest land base of either the County or the state, nor does it contribute to the forest products industry. The proposed exception area is used primarily for non-farm and non-forest uses, including residential and commercial activities. Farm uses include low-intensity seasonal grazing, and production of hay.

3.1.5

Forest practices are not presently occurring on lands within the proposed exception area, nor are they likely to occur in the future. Coquille-Clatsop complex soils are not listed in the *Soil Survey of Clatsop County, Oregon* as being suitable for the production of forest tree species [3]. The reference document *Land Evaluation of Forest Soils; Clatsop County, Oregon* [9] omits Coquille-Clatsop complex soils from its evaluation of soils suitable for timber production. There is no evidence that the proposed exception area could be successfully managed for timber production.

3.1.6

Recreational opportunities associated with forest land (such as hiking, hunting, camping, fishing) are not present on the proposed exception lands. These lands are privately-owned, so public access for recreational opportunities is not available. The exception area is poorly suited for these activities. There is no evidence that land in the proposed exception area could be successfully managed for forest recreational activities. Waterways adjoining the exception area (Cooke Slough, Knowland Slough and their tributaries) provide habitat for certain warm-water game fish species [11]. However, water quality problems associated with untreated human sewage in these sloughs limit recreational fishing opportunities.

3.1.7

Unlike some forest lands, the proposed exception area is not managed for soil, air, water, fish or wildlife resources, except as noted in the following paragraphs.

Soil resources in the exception area are managed to improve drainage, to the extent they are managed at all. Ditching, diking and drain tiles have been installed in the proposed exception area in an attempt to prevent high groundwater from disrupting grazing, hay production, and both farm and non-farm residential uses.

Air resources are not actively managed in the proposed exception area. Vegetated farm land provides a sink for carbon, part of greenhouse gases such as carbon dioxide. Timbered forest lands also retain carbon.

Water resources in and adjacent to the exception area are affected by both farm and non-farm activities. Runoff from farmlands can be contaminated with animal wastes and waste by-products, and with agricultural chemicals. Residential runoff in the Miles Crossing – Jeffers Gardens area is contaminated with human wastes associated with poorly functioning septic systems. Water resources in and adjacent to the exception area are also affected by upstream activities, and by activities higher in the watershed. The proposed exception will alter this situation by resulting in the installation of a ~~sewage treatment and~~ collection system in the proposed Miles Crossing Sanitary Sewer District, and by the eventual phase-out of agricultural practices on most lands in the exception area.

Fish resources in and adjacent to the exception area are affected by both farm and non-farm activities. Fish populations are also affected by activities outside of the proposed exception area.

Runoff from farmlands can be contaminated with animal wastes and and waste by-products, and with agricultural chemicals. This can degrade water quality, and harm fish habitat. Residential runoff in the Miles Crossing – Jeffers Gardens area is contaminated with human wastes associated with poorly functioning septic systems. This also degrades water quality and harms fish habitat. Fish resources in and adjacent to the exception area are also affected by upstream activities, by activities higher in the watershed, and by factors unrelated to the proposed exception. In particular, endangered and threatened salmon species in the estuarine water adjoining the proposed exception area are, for the most part, suffering from the effects of off-site activities (hydroelectric dams, for example). The proposed exception may have a beneficial impact on fish resources due to the installation of a sewage ~~treatment and~~ collection system in the proposed Miles Crossing Sanitary Sewer District, and the eventual phase-out of agricultural practices on most lands in the exception area.

3.2 Areas which do not require a new exception cannot reasonably accommodate the use (OAR 660-04-20(2)(b))

Alternative areas for residential, commercial and industrial uses planned for the Miles Crossing – Jeffers Gardens rural community cannot reasonably accommodate these uses. These alternative areas, and the reasons for this conclusion, are described below.

3.2.1 Urban areas within the Astoria UGB:

Commercial, residential and industrial uses planned for the exception area might be accommodated within the Astoria UGB, located north of the proposed exception area. However, the UGB cannot reasonably accommodate these uses because:

- Astoria has a limited supply of vacant buildable commercial land, and has not approved recent requests to expand its commercial zoning.
- The type of commercial uses in Clatsop County's rural areas are different than commercial uses in the Astoria UGB. Rural commercial uses tend to be more land intensive than urban commercial uses that could be accommodated within Astoria's UGB, and are more sensitive to land costs.
- The Astoria UGB includes limited areas of industrial zoning. A site in northeast Astoria is limited to light industrial uses. Other industrially-zoned parcels within the Astoria UGB are limited to marine industrial uses.
- The type of industrial use typically occurring in Clatsop County's rural communities differs from that occurring within the Astoria UGB. In general, rural industrial uses are more land-intensive than urban industrial uses, and are more sensitive to land costs.
- Astoria contains some vacant buildable residential areas. Tentative populations prepared by CREST [10] indicate that Astoria is likely to grow by slightly less than one percent annually during the 20-year planning horizon ending in 2020. This assumed growth rate, plus growth rates for other cities in the County, and for the County as a whole, means that the unincorporated County will need to absorb more than 500 additional people, or about 250 more additional dwelling units, during the twenty year planning horizon ending in 2020. Some of this can be accommodated in other rural communities, but the proposed Miles Crossing-Jeffers Gardens rural community is well positioned to accommodate a large share of this growth.

3.2.2 Urban areas within the Warrenton Urban Growth Boundary:

Commercial, residential and industrial uses planned for the exception area might be accommodated within the Warrenton UGB, located west of the proposed exception area. However, the Warrenton UGB cannot reasonably accommodate these uses for several reasons:

· The Warrenton UGB contains large tracts of land in commercial zones; however, many commercially-zoned vacant buildable lots in the Warrenton UGB contain wetlands under the jurisdiction of the US Army Corps of Engineers and the Oregon Division of State Lands. Because of the additional regulatory requirements imposed by these agencies, and uncertainties associated with their permit processes, some of this commercially-zoned land within the Warrenton UGB is not available for commercial development.

· Industrially-zoned land at the Airport Industrial Park in Warrenton could accommodate some of the industrial uses likely to locate in the exception area. At the present time, the industrial park cannot meet fire flow requirements for some types of industrial buildings. In addition, the industrial park's owner (the Port of Astoria) will lease but not sell land in the park, limiting the kinds of tenants who can locate there.

· The industrially-zoned North Coast Business Park is in Warrenton. This land cannot reasonably accommodate commercial or industrial development proposed for the exception area because of pending enforcement action by the US Army Corps of Engineers concerning possible wetland permitting problems associated with the access road.

· The Warrenton UGB contains large tracts of vacant land in residential zones; however, many vacant residentially-zoned buildable lots contain wetlands under the jurisdiction of the US Army Corps of Engineers and the Oregon Division of State Lands. Because of additional regulatory requirements imposed by these agencies, and uncertainties associated with their permit processes, some of this vacant, residentially-zoned land within the Warrenton UGB is not available for residential development.

· Warrenton contains some vacant buildable residential lands. Tentative population forecasts prepared by CREST [10] indicate that Warrenton is likely to grow slightly more than one percent annually during the 20-year planning horizon ending in 2020. This assumed growth rate, plus growth rates for other cities in the County, and for the County as a whole, means that the unincorporated County will need to absorb more than 500 additional people, or about 250 more additional dwelling unit, during the twenty year planning horizon ending in 2020. Some of this can be accommodated in other rural communities, but the proposed Miles Crossing-Jeffers Gardens rural community is well positioned to accommodate a large share of this growth.

3.2.3 Urban areas within the Gearhart Urban Growth Boundary:

The Gearhart UGB contains vacant, buildable land in commercial and residential zones. However, these areas cannot reasonably accommodate commercial, industrial or residential development planned for the exception area for the following reasons:

· Gearhart lacks a sewer system, and instead relies on individual subsurface wastewater disposal systems. This practice limits residential, commercial and industrial development opportunities in the Gearhart UGB.

· The northern extent of the Gearhart UGB is located about ten miles south of the exception area. For some uses this distance is not a barrier. Other types of uses are more location-sensitive. The Gearhart UGB cannot reasonably accommodate location-sensitive land uses that require a north-county location.

· The type of commercial uses typically occurring in Clatsop County's rural areas differ somewhat from those occurring within the Gearhart UGB. In general, rural commercial uses

are more land intensive than urban commercial uses that could be accommodated within Gearhart's UGB, and are more sensitive to land costs.

· Gearhart contains some vacant buildable residential lands. Tentative populations prepared by CREST [10] indicate that Gearhart is likely to grow by slightly more than one percent annually during the 20-year planning horizon ending in 2020. This assumed growth rate, plus growth rates for other cities in the County, and for the County as a whole, means that the unincorporated County will need to absorb more than 500 additional people, or about 250 more additional dwelling units, during the twenty year planning horizon ending in 2020. Some of this can be accommodated in other rural communities, but the proposed Miles Crossing-Jeffers Gardens rural community is well positioned to accommodate a large share of this growth.

3.2.4 Areas outside of the proposed Rural Community:

Rural exception areas exist outside of the proposed rural community boundary. These areas contain vacant, buildable land in commercial, industrial and residential zones. However, these areas cannot reasonably accommodate commercial, industrial or residential development planned for the exception area for the following reasons:

· The level of public facilities and services needed for some kinds of commercial and industrial development can only be provided within a rural community boundary, or within a UGB.

· Residential minimum lot sizes in these areas are likely to increase, from a mix of one, two and five acres under present zoning, to a mix of lot sizes ranging from two acres to five acres. This means that fewer homes can be accommodated in existing exception areas.

· The recent public investment in a new school building, and in a new water filtration plant, and the planned investment in sewer collection ~~and treatment facilities,~~ can be most efficiently used if development occurs where the services provided by these investments can be used. The proposed exception area is within the service boundaries for the Astoria School District, the Youngs River-Lewis & Clark Water District, and the Miles Crossing Sanitary Sewer Service District.

3.2.5 Existing exception areas within the proposed rural community boundary:

Existing exception areas within the proposed Miles Crossing-Jeffers Gardens rural community cannot accommodate all of the additional residential, commercial and industrial growth planned for the exception area for several reasons:

· Most of the proposed exception area is undeveloped, and has few if any physical obstacles for new residential, commercial or industrial development. This is in contrast with the already developed parts of the proposed rural community, which have an existing overlay of driveways, buildings and other elements of the built environment to which new development work must conform.

· An existing industrial area within the proposed rural community boundary, located along the east side of Business Highway 101 north of the Youngs River Road and the Lewis & Clark Road intersection, can be expanded to the north, into the proposed exception area, without creating any new residential-industrial conflicts. Other areas with potential for industrial development within the proposed rural community that do not require an exception would adjoin existing residential areas. Using these areas would avoid the need to take an exception, but would increase the likelihood of residential-industrial conflicts.

3.3 Long-term environmental, economic, social and energy consequences (OAR 660-04-20(1)(c))

The County must find that the following criteria are met in order to approve this exception:

The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception. The exception shall describe the characteristics of each alternative areas considered by the jurisdiction for which an exception might be taken, the typical advantages and disadvantages of using the area for a use not allowed by the Goal, and the typical positive and negative consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts. A detailed evaluation of specific alternative sites is not required unless such sites are specifically described with facts to support the assertion that the sites have significantly fewer adverse impacts during the local exceptions proceeding. The exception shall include the reasons why the consequences of the use at the chosen site are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site. Such reasons shall include but are not limited to, the facts used to determine which resource land is least productive; the ability to sustain resource uses near the proposed use; and the long-term economic impact on the general area caused by irreversible removal of the land from the resource base. Other possible impacts include the effects of the proposed use on the water table, on the costs of improving roads and on the costs to special service districts.

These criteria are addressed in the following subsections.

3.3.1 Environmental consequences:

The long-term environmental consequences resulting from the exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception. Facts supporting this conclusion are discussed below.

Water quality: Residential, commercial and industrial development within the proposed exception area is not likely to have significant water quality impacts because:

- All new development will be served by sanitary sewers;
- Existing County regulations controlling soil erosion and establishing riparian setbacks help mitigate some of the water quality impacts of new development;
- Residential, commercial and industrial development in the proposed exception area will displace grazing, which will reduce water quality impacts associated with farm animal waste.

Air quality: Residential, commercial and industrial development within the proposed exceptions area is not likely to have significant air quality impacts because:

- All air emissions associated with new industrial development in the exception area will be required to meet current air quality regulations;
- The exception area, like all other lands in Clatsop County, is not listed as a "non-attainment" area with respect to air quality standards by the Oregon Department of Environmental Quality.
- Air emissions from automobile and truck transportation associated with the exception area are the same as would be expected from other potential exception areas in the County. The proposed exception area is closer to Astoria than some other

possible exception areas, which may help minimize travel distances, and thus minimize transportation-related air emissions.

- Odors associated with farm animal waste are likely to be reduced as a result of the exception as grazing and associated activities are replaced by non-farm activities in the proposed exception area.

Fish and wildlife habitat: Residential, commercial and industrial development within the proposed exception area is not likely to have significant impacts on fish or wildlife habitat because:

- Fish habitat within the exception area is found in Cooks Slough, Knowland Slough and their un-named tributaries. Because of low dissolved oxygen levels and seasonally-elevated water temperature, fish are probably limited to species such as large-mouth bass, brown bullhead, yellow perch, bluegill, warmouth, catfish, and crappie [11]. The County can enforce setbacks from these sloughs to minimize impacts of new development on fish habitat
- Nearby waters of the Columbia River Estuary includes habitat for many fish species [10], including threatened or endangered salmon species. Commercial, residential or industrial development in the exception area could impact estuarine fish habitat by degrading water quality. This impact is unlikely to be any worse in the proposed exception area than it is in any other potential exception area because (1) new development in the exception area will be served by a proposed sanitary sewer; (2) existing County regulations governing riparian setbacks and erosion control will be imposed on new development in the exception area; and (3) development in the exception area will result in a reduction of grazing, which should reduce animal waste runoff entering the estuary.
- Wildlife habitat in the proposed exception area is likely to be impacted by new residential, commercial and industrial development; but this impact is unlikely to be significantly greater than it would be in other potential exception areas because (1) the proposed exception area has not been identified as providing exceptional or significant habitat for any wildlife species; (2) wildlife habitat in the proposed exception area is limited by surrounding non-farm development; and (3) land management practices in the proposed exception area lower its value for wildlife habitat by, for example, removing brush and trapping nuisance animals.

Noise: Residential, commercial or industrial development within the proposed exception area may increase noise levels, but this environmental impact is not likely to be significantly greater in the proposed exception area than it would be in alternative exception areas because:

- Noise from the operation of motorized farm equipment is likely to be substantially replaced by noises associated with non-farm equipment in residential, commercial and industrial developments planned for the proposed exception area.
- Animal noise associated with farm activities in the proposed exception area is likely to be replaced by animal noises from, for example, barking dogs in residential development.

Other environmental consequences: Environmental impacts associated with solid waste disposal, toxic substances, and global warming are not likely to be substantially different in the proposed exception area than in any other alternative exception area.

Based on this information, the County can conclude that the long-term environmental consequences resulting from residential, commercial and industrial development in the proposed exception area are not significantly more adverse than would typically result from the same development being located in other areas requiring an exception.

3.3.2 Economic consequences:

The long-term economic consequences resulting from the exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a goal exception. Findings supporting this conclusion are discussed here. Potential economic consequences of residential development in the proposed exception area include the following:

- Land values are likely to rise because the per-acre value of agricultural land in Clatsop County is less than the value of residential, commercial or industrial land, other factors being equal.
- The total value of all agricultural products sold from Clatsop County may drop slightly as a result of the proposed exception. If agricultural production per acre in the exception area were the same as the County-wide average, based on the 1997 *Census of Agriculture*, the loss could be as high as about $60,000 annually (1997 dollars) [2]. This figure is probably high because farm production within the exception area is probably lower than average farm production county-wide because the exception area does not include any high-value dairy farms. It may be possible to find an alternative exception area with lower production value, and thus a smaller impact on overall County agricultural production, but there is no evidence that alternative exception areas would significantly reduce this potential loss.
- *Total* operating costs faced by rate-payers in the Miles Crossing Sanitary Sewer Service District are likely to be higher as a result of the proposed exception; however, these costs will be spread over more rate-payers and the cost faced by *individual* rate-payers is likely to be lower with the proposed exception. Other alternative exception areas could not participate in the cost-spreading opportunity afforded by the proposed exception area.
- Infrastructure maintenance costs are likely to increase as a result of residential, commercial and industrial development in the proposed exception area. There is no reason to believe that this effect will be substantially different in the proposed exception area as compared to alternative exception areas.

Based on this information, the County can conclude that the exception's long-term economic consequences are not significantly worse than would typically result from the same proposal being located in other areas requiring a Goal exception.

3.3.3 Social consequences:

The long-term social consequences resulting from the exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception. Findings supporting this conclusion are discussed here.

Population growth: New homes are likely to be built in residentially-zoned parts of the exception area. This will result in more families living in the Miles Crossing-Jeffers Gardens area than at present, and may result in changes in the social setting in this rural community. This is unlikely to be significantly worse than in other alternative exception areas because the Miles Crossing-Jeffers Gardens area already accommodates a relatively large rural residential population; the area is well-served by infrastructure and services needed to accommodate residential development; and the area is close to existing residential population centers (Astoria and Warrenton). Additionally, new residential construction is subject to development standards that, to a limited extent, help minimize social disruption. Examples of these standards include yard setbacks and height limits.

Commercial activity: New commercial development is likely to occur in commercially-zoned parts of the proposed exception area. This will result in more commercial activity in the Miles Crossing-Jeffers Gardens area than at present, and may result in changes in the

social setting in this rural community. This is unlikely to be significantly worse than in other alternative exception areas because the Miles Crossing-Jeffers Gardens area already has a relatively large and well-established commercial district; the area is well-served by infrastructure and services needed to accommodate commercial development; and the area is close to existing commercial centers (Astoria and Warrenton). Standards for new commercial development limit store sizes so as to exclude large retail buildings. This development standard will help minimize negative social consequences that might arise from large-scale commercial development.

Industrial development: New industrial development is likely to take place in industrially-zoned parts of the exception area. This will result in more industrial activity in the Miles Crossing-Jeffers Gardens area than at present, and may cause changes in the social setting in this rural community. This is unlikely to be significantly worse than in other alternative exception areas because the Miles Crossing-Jeffers Gardens area has existing industrial uses; the area is well-served by infrastructure and services needed to accommodate industrial development; and the area is relatively close to existing industrial development in Astoria and Warrenton. Standards for new industrial development limit building sizes so as to exclude large industrial buildings. This development standard will help minimize negative social consequences that might arise from large-scale industrial development.

Loss of farm land: The proposed exception will result in the loss of open farm land. The open space afforded by this farm land may provide social benefits to surrounding residents, and for visitors passing through the exception area. There is no evidence that the proposed exception area provides this kind of social benefit to a significantly greater degree than do alternative exception areas. If this social consequence exists, it is likely to be roughly proportional to the number of people who pass the site, plus the number of surrounding property owners who benefit from adjoining farm land. Some alternative exception sites, such as farm land on the east side of Highway 101, south of Warrenton, have substantially more passing traffic than does the proposed exception site. Other alternative exception sites may have less. Overall, there is no evidence that the proposed exception area will result in this kind of negative social consequence to a significantly greater degree than any other alternative exception area.

Based on this information, the County can conclude that the long-term social consequences resulting from the exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception.

3.3.4 Energy consequences:

Long-term energy consequences resulting from the proposed exception are not significantly worse than would typically result from the same proposal being located in other areas requiring a Goal exception. This conclusion is supported by the following findings:

- No known energy resources (such as oil or gas fields, geothermal resources, hydroelectric generating capacity, or coal deposits) are located in the exception area.
- Energy consumption may change as a result of residential, commercial, and industrial development. These uses typically consume more energy per acre than do low-intensity agricultural uses. However, this change is unlikely to be substantially greater than it would be at alternative exception areas.
- Energy distribution requirements are likely to change as a result of development within the proposed exception area. The proposed exception area is relatively near large-capacity electricity transmission lines. Northwest Natural has tentatively indicated that they will install natural gas lines in parts of the exception area as sewer lines are installed. Other

alternative exception areas may have similar advantages with respect to energy transmission. There is no evidence that the proposed exception area is significantly worse with respect to energy transmission than any other potential exception area.

· Waste products resulting from energy production are unlikely to be more difficult to manage as a result of the proposed exception than would be the case if an alternative exception site were chosen.

Based on this, the County can conclude that long-term energy consequences resulting from the proposed exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception.

3.3.5 Conclusion (Long-term environmental, economic, social and energy consequences):

Based on the findings in preceding pages, the County concludes that long-term environmental, economic, social and energy consequences resulting from the uses allowed within the proposed rural community on the proposed exception area are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception.

3.4 Compatibility with adjacent uses (OAR 660-04-05(1)(d))

OAR 660-04-20(2)(d) reads as follows:

> *(d) "The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts." The exception shall describe how the proposed use will be rendered compatible with adjacent land uses. The exception shall demonstrate that the proposed use is situated in such a manner as to be compatible with surrounding natural resources and resource management or production practices. "Compatible" is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses.*

Proposed uses in the exception area include commercial, industrial and residential uses as allowed in a rural community under OAR 660-22-30. The distribution of these uses is shown on the proposed Miles Crossing- Jeffers Gardens rural community zoning map.

Adjacent uses within the Miles Crossing – Jeffers Gardens rural community are generally the same as proposed for the exception area: a mix of residential, commercial and industrial uses. Sanitary sewer service will allow the Miles Crossing – Jeffers Gardens area to develop more densely than it has in the past, so future residential development is likely to be more dense than existing residential development. Several development standards help assure compatibility:

- New commercial buildings are limited to 4,000 square feet.
- New industrial buildings are limited to 10,000 square feet.
- Residential lot sizes can be no smaller than 7,500 square feet.

Clatsop County finds that proposed uses in the exception area are generally compatible with uses on adjacent lands within the proposed rural community boundary.

Adjacent uses outside of the proposed rural community boundary include small-scale farming; small-scale forestry; estuarine waters and wetlands in Youngs Bay; and non-estuarine wetlands and waters. These adjacent uses are addressed in the following paragraphs.

3.4.1 Adjacent farm use:

Land in the EFU zone is located adjacent to parts of the proposed exception area. Farm uses on these lands include grazing, production of hay. Potentially incompatible activities associated with these farm uses include animal waste management, harvesting activities, and application of chemicals.

Conflicts between residential development and some of these farm uses have occurred, and are likely to recur. The proposed exception area is physically separated from some adjoining farm land by Cook Slough, and by other un-named sloughs. This natural buffer can mitigate some conflicts, but not others. Odors associated with manure spreading, for example, are unlikely to be affected by these natural buffers.

It may not be possible to guarantee absolute compatibility between adjoining farm and non-farm residential uses. The applicable administrative rule (OAR 660-04-20(2)(d)) does not require the complete absence of interference or negative impacts. The County should conclude that measures to avoid conflicts between adjoining farm uses have been incorporated into the proposed rural community boundary and ordinances, and that compatibility can be achieved to the extent possible using land use planning measures.

3.4.2 Adjacent forest use:

Land designated as forest land in the County's comprehensive plan is located adjacent to a portion of the exception area (see the attached proposed Miles Crossing – Jeffers Gardens zoning map. Forestry-related activities on these lands are small-scale in nature, and may include timber harvesting, thinning, application of chemicals, and slash disposal.

The County relies on the following measures to ensure compatibility between adjoining forestry uses and residential, commercial and industrial uses within the exception area:

- Relatively little of the proposed exception area adjoins forest lands.
- Oregon Forest Practices Act and its administrative rules include provisions to avoid conflicts between forestry and adjoining non-forest uses.
- Clatsop County's development code includes a 50-foot setback from adjoining resource zones (including land in forest zones) for new structures.

The County should conclude that measures to avoid conflicts between adjoining forest uses have been incorporated into the proposed rural community boundary and ordinances, and that compatibility can be achieved to the extent possible using land use planning measures.

3.4.3 Adjacent estuarine uses:

Portions of the proposed exception area adjoin Youngs Bay, part of the Columbia River Estuary. Compatibility between estuarine resources and proposed uses in the exception area can be achieved with the following measures:

- Relatively little of the proposed exception area adjoins estuarine areas.
- Clatsop County's code includes development standards for estuarine shorelands that minimize conflicts in favor of protecting the estuarine resource.
- Except for uses in the existing Marine Industrial zone, none of the proposed land uses in the exception area are water-dependent or water related. Because of this, a location over the water or in the estuarine shorelands boundary is not permitted.

Based on this, the County finds that compatibility between estuarine resources and proposed uses within the exception area will be achieved to the extent possible using land use planning.

3.4.4 Adjacent non-estuarine wetlands and waters:

Sloughs adjoin parts of the exception area. These sloughs are waters of the United States. Most new development is prohibited in these water. Additional regulations imposed by the US Army Corps of Engineers, Oregon Division of State Lands, and the Oregon Department of Environmental Quality assure that most new land uses in and adjoining these waters are consistent with maintenance of water quality standards. The County imposes setbacks from these waterways that help avoid conflicts between development and these aquatic resources. Clatsop County finds that conflicts between non-estuarine aquatic resources and proposed residential, commercial and industrial development in the exception area are avoided to the extent possible using land use planning measures and related environmental programs.

3.4.5 Conclusion: Compatibility with adjacent uses

Clatsop County finds that proposed residential, commercial and industrial uses planned for the exception area compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.

Exceptions Document Miles Crossing and Jeffers Gardens.

Appendix A - List of Properties in the Exception Area

The following properties have been revised based on Ordinance 3-10 to amend the zoning map for Miles Crossing and Jeffers Gardens in conformance with OAR 660 Division 22 requirements. The changes modify certain lands and limit the exceptions area to portions of tax lots listed below and as shown on the Rural Community Plan and Zoning Map. Portions of tax lots that are listed below represent a modification of Ordinance 02-06. The acreage listed represents a portion of a tax lot and are only approximations. Refer to the zoning map for an accurate boundary description of the portion of the tax lot included within in the Rural Community. The remaining portion of a these tax lots are zoned Exclusive Farm Use. For a more accurate legal description of the boundaries refer to the Miles Crossing Sanitary Sewer District annexation documentation as recorded in the County Clerks records.

8-9-19-DA-200; 5 acres; John/Paula Dean includes approximately five acres of land where the residential use occurs on the northern most portion of the tax lot, refer to zoning map.
8-9-19-DC-300; 3.42 acres; Robert/Nancy Jacobson
8-9-19-DC-380; 6.41 acres; Nestor Leino, James River Timber Company
8-9-19-DD 300; 2.02 acres; Reikkola family plus up to 600 north of tax lot 300's southern boundary line, refer to zoning map.
8-9-19-DD 700; .75 acres; Nestor Leino from edge of Highway 101 right- of -way west 370', refer to zoning map
8-9-19-DD 800; 0.17 acres; Gordon Haglund
8-9-19-DD 900; 5 acres; Nestor Leino a portion east and perpendicular to the west boundary line of tax lot 700, refer to zoning map
8-9-19-DD 901; 1.00 acres; Norman/Judith Shatto
8-9-19-DD 1000; 3.00 acres; Larry/Deanna Helligso from the edge of Highway 101 right-of-way west 370 feet, refer to map.
8-9-20 900; 0.97 acres; John/Carol Folk
8-9-20 1000; 1.2 acres; John/Carol Folk
8-9-20 1100; 0.3 acres; Paul White
8-9-20 1200; 1.00 acres; John/Carol Folk
8-9-20 1300; 2.7 acres; John/Carol Folk
8-9-20 1401; 5.00 acres; Reikkola family
8-9-29 900; 0.61 acres; Jimmie/Sheila Pierce
8-9-29 901; 17.64 acres; Charles/Marion McBride
8-9-29 902; 5.92 acres; Charles/Marion McBride
8-9-29 903; partial - about 3 acres; Neal/Enola Baeten
8-9-29-904; partial – about 12 acres Richard Lee, refer to zoning map
8-9-29 905; 2.28 acres; Michael/Mary Warren
8-9-29 907; .25 acres
8-9-29-908; .37 acres
8-9-29 1000; 3.22 acres; Charles/Marion McBride
8-9-29 1101; 7.9 acres; Richard/Mary Kettlekamp, Darlene/Michael Koskela
8-9-29 1200; partial - about 16 acres; Richard Lee, refer to zoning map
8-9-30 800; 6.95 acres; Robert/Nancy Jacobsen
8-9-30 900; 12.87 acres; Thomas/Suzanne Iverson
8-9-30 1000; partial - about 24.3 acres Richard Lee, refer to zoning map
8-9-19-DD; 3.9 acres of road right-of-way
8-9-20; 4.1 acres of road right-of-way

8-9-30 1700; 12.97 acres Astoria School District
8-9-30 1800; 24.8 acres Astoria School District
8-9-30-1500; 20.19 Warrla

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Exception to Goals 3 and 4 for the Lewis and Clark School, in the Miles Crossing-Jeffers Gardens Rural Community

19 November 2002
Portion of Ordinance 03-10

1. Summary

This document contains findings justifying an exception to Statewide Planning Goals 3 and 4. An exception is needed to include forest land within the proposed boundaries of the Miles Crossing-Jeffers Gardens rural community; and to allow non-forest uses and densities in the exception area.

The proposed Miles Crossing-Jeffers Gardens rural community covers about 860 acres. Most of this land was subject to an exception adopted by the County in 1982. Also included is a tract covering about 37.15 acres occupied by the Lewis and Clark School, and in the County's Agricultural-Forest (AF) zone. It is this land that is the subject of this proposed exception. The tract consists of two tax lots: 8-9-30-1700 (12.97 acres) and 8-9-30-1800 (24.18 acres).

Oregon Administrative Rules (OAR) chapter 660, division 22, contains rules and requirements governing the establishment of rural communities. Including farm or forest land within rural community boundaries is prohibited except under relatively narrow circumstances (OAR 660-022-0020 (3) and (4)). Clatsop County is taking this exception to the forest lands goal (statewide planning goal 4) and the agricultural lands goal (statewide planning goal 3) for about 24.65 acres of AF-zoned land within the proposed rural community boundary. This land will then meet the criteria in OAR 660-22-20(3)(a), allowing exception areas to be included in rural communities.

Exceptions to the statewide planning goals are governed by ORS 197.732; OAR 660-04; and statewide planning goal 2. This document includes findings as required under these statutes and administrative rules.

2. Exception Requirements

2.1 Statewide Planning Goals

This is an exception to statewide planning goals 3 and 4.

Statewide planning goal 4 addresses forest lands. The goal is:

> *To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.*

Statewide planning goal 3 addresses agricultural lands. The goal is "To preserve and maintain agricultural lands." Land included in this exception has been designated in Clatsop

County's acknowledged comprehensive plan as forest land, and placed in the County's AF zone. This proposed exception is to statewide planning goal 4. Exceptions to goal 4 are authorized under OAR 660-04-10(1)(a).

The subject property is not designated as agricultural land in the County's comprehensive plan, nor is there any evidence that it qualifies as farm land under statewide planning goal 3. Nonetheless, this goal exception includes an exception to goal 4 and to goal 3, to allow uses and densities not allowed on agricultural lands under statewide planning goal 3.

The proposed exception area includes resources and features covered by other statewide planning goals, such as wetlands (goal 5); wildlife habitat (goal 5); and public facilities and services (goal 11). This goal exception does not exempt the subject property from the requirements of these other statewide planning goals.

2.2 Exception Criteria

An exception is a decision to exclude certain land from the requirements of one or more applicable statewide goals. Exceptions to the statewide planning goals are authorized under ORS 197.732, OAR 660-04, and statewide planning goal 2. Exception requirements are described below.

Oregon Revised Statutes (ORS) 197.732(1) establishes three different types of exceptions:

- a "physically developed" exception (ORS 197.732(1)(a));
- an "irrevocably committed" exception (ORS 197.732(1)(b)); and
- a "reasons" exception (ORS 197.732(1)(c)).

This proposed exception is a "physically developed" exception. ORS 197.732(1)(a) contains requirements for this kind of goal exception:

(1) A local government may adopt an exception to a goal if:

(a) The land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal.

Statewide Planning Goal 2 establishes requirements for exceptions. Part II(a) is applicable to this proposed exception, and is identical to ORS 197.732(1)(a), cited above.

Oregon Administrative Rules (OAR) chapter 660, division 4, establishes rules for exceptions. OAR 660-04-000(2) and OAR 660-04-05(1) provide general definitions of an exception:

An exception is a decision to exclude certain land from the requirements of one or more applicable statewide goals in accordance with the process specified in Goal 2, Part II, Exceptions. The documentation for an exception must be set forth in a local government's comprehensive plan. Such documentation must support a conclusion that the standards for an exception have been met. The conclusion shall be based on findings of fact supported by substantial evidence in the record of the local proceeding and by a statement of reasons which explain why the proposed use not allowed by the applicable goal should be provided for. The exceptions process is not to be used to indicate that a jurisdiction disagrees with a goal. (OAR 660-04-000(2))

An "Exception" is a comprehensive plan provision, including an amendment to an acknowledged comprehensive plan, that:

(a) Is applicable to specific properties or situations and does not establish a planning or zoning policy of general applicability;

(b) Does not comply with some or all goal requirements applicable to the subject properties or situations; and

(c) Complies with the provisions of this Division. (OAR 660-04-05(1))

OAR 660-004-0025 establishes exception requirements for land physically developed with uses not allowed by the goal:

(1) A local government may adopt an exception to a goal when the land subject to the exception is physically developed to the extent that it is no longer available for uses allowed by the applicable goal.

(2) Whether land has been physically developed with uses not allowed by an applicable Goal, will depend on the situation at the site of the exception. The exact nature and extent of the areas found to be physically developed shall be clearly set forth in the justification for the exception. The specific area(s) must be shown on a map or otherwise described and keyed to the appropriate findings of fact. The findings of fact shall identify the extent and location of the existing physical development on the land and can include information on structures, roads, sewer and water facilities, and utility facilities. Uses allowed by the applicable goal(s) to which an exception is being taken shall not be used to justify a physically developed exception.

These requirements are addressed in the following sections.

3. Findings

Tax lots 1700 and 1800 are physically developed to the extent that they are no longer available for uses allowed by goals 3 or 4. Reasons supporting this conclusion are:

- A school building and associated facilities have occupied this site for more than ninety years.
- The old school was razed in 2002, and a new school building was constructed on the site, opening in the fall of 2002.
- The site is served by water (Youngs River-Lewis & Clark Water District) and fire protection (Lewis & Clark Rural Fire Protection District).
- The site is within the Miles Crossing Sanitary Sewer District, and will soon be connected to the District's wastewater collection system.
- Site owners, the Astoria School District, do not manage the proposed exception area, or any of their lands for forestry or agriculture.
- The site's small size prevents it from being efficiently managed for commercial forestry.
- Existing residential development in the area, and planned residential development densities within the proposed Miles Crossing-Jeffers Gardens rural community, conflict with commercial forestry activities.
- Management of the school site for public education conflicts with some aspects of commercial timber management activities

These conclusions are supported in the following paragraphs.

3.1 A school building and associated facilities have occupied this site for more than ninety years.

A school was built on this site in 1904, and the site has been continuously used for public educational purposes since then. The site has not been used for farm or forest uses since a school was built.

3.2 The old school was razed in 2002, and a new school building was constructed on the site, opening in the fall of 2002.

Voters in the Astoria School District passed a $22 million bond measure in 1999. Complete replacement of the existing Lewis & Clark School was one of several projects financed by the bond. The new school was completed in the fall of 2002. The site could have been abandoned

and returned to forest use by the School District. Instead, the District decided to continue using the site for a school due to its location and the availability of services.

3.3 The site is served by water and fire protection.

Tax lots 1700 and 1800 receive water from the Youngs River-Lewis & Clark Water District. Fire protection at the school site is provided by the Lewis & Clark Rural Fire Protection District.

3.4 The site is within the Miles Crossing Sanitary Sewer Service District

The school site is within the Miles Crossing Sanitary Sewer Service District, and will soon be connected to the District's wastewater collection system. The old school used a conventional subsurface wastewater disposal system to handle wastewater generated at the school. This system performed poorly, but the Oregon Department of Environmental Quality (DEQ) approved a temporary on-site disposal system for the new school with the understanding that the school would be connected to the new Miles Crossing Sanitary Sewer District's collection system as soon as this service becomes available.

3.5 Site owners do not manage their lands for forestry or agriculture.

Astoria School District's mission is to provide public education services for grades kindergarten through 12. The district does not have the staff resources or the legal authority to manage land for farm or forest uses.

3.6 The site's size is too small to be efficiently managed for commercial forestry.

The site covers about 37 acres. Even if the entire site were available for growing trees, it is too small to be efficiently managed for forest uses. Oregon establishes a minimum lot size of 80 acres for creation of new forest parcels (ORS 215.780(1)(c)). Small parcels typically are not actively managed because the return is too small to justify the expense, and because economies of scale work against small tracts.

3.7 Existing and planned residential development in the area conflict with commercial forestry activities.

Existing residential development in the area, and planned residential development densities within the proposed Miles Crossing-Jeffers Gardens rural community, conflict with commercial forestry activities. Residences adjoin the school to the north, south and west. If the school site were managed for commercial timber production, conflicts between these residences and timber production on tax lots 1700 and 1800 would be unavoidable. The proposed Miles Crossing-Jeffers Gardens rural community designation will increase the allowable residential density in the vicinity of the school. Timber-residential conflicts would be exacerbated by increased density on surrounding lands.

3.8 Management of the school site for public education conflicts with commercial timber management activities.

Lewis & Clark School is managed for grade K through 5 education. Children attending the school need a safe environment. Many activities associated with commercial forestry cannot be conducted on a school site without compromising student safety, or without taking relatively costly measures to ensure safety, thus making commercial forestry economically infeasible.

4. Conclusion

Based on this information, the County finds that tax lots 1700 and 1800 are physically developed to the extent that the site is no longer available for uses allowed under statewide planning goals 3 and 4.

Comprehensive Plan
Section 2
Exception to Goal 14 - Urbanization,
CLATSOP PLAINS AREA

Summary:
This exception is taken to statewide planning goal 14, urbanization, to allow residential development at a density of one dwelling unit per acre in certain areas of the Clatsop Plains planning area.

Exception Requirements:

This exception is for land that is physically developed with residences at a density of one (1) dwelling unit per acre in the Coast Beach Residential (CBR), Single Family Residential-1 acre (SFR-1); and for land that is irrevocably committed to residential development at the one (1) acre density. Applicable exception requirements are in ORS 197.732(1)(b), OAR 660-004-0010.1(c) and OAR 660-014-0030.1 – 5. Pertinent parts are excerpted below:

660-014-0030: ...*RURAL LANDS IRREVOCABLY COMMITTED TO URBAN LEVELS OF DEVELOPMENT (1) A conclusion, supported by reasons and facts, that rural land is irrevocably committed to urban levels of development can satisfy the Goal 2 exceptions standard (e.g., that it is not appropriate to apply Goals 14's requirements prohibiting the establishment of urban uses on rural lands). If a conclusion that land is irrevocable committed to urban levels of development is supported, the four factors in Goal 2 and OAR 660-04-0020(2) need not be addressed.*

(2) A decision that land has been built upon at urban densities or irrevocably committed to an urban level of development depends on the situation at the specific site proposed for incorporation. The exact nature and extent of the areas found to be irrevocably committed shall be clearly set forth in the justification for the exception. The area proposed for incorporation must be shown on a map or otherwise described and keyed to the appropriate findings of fact.

(3) A decision that land is committed to urban levels of development shall be based on findings of fact, supported by substantial evidence in the record of the local proceeding, that address the following:

- *(a) Size and extent of commercial and industrial uses;*
- *(b) Location, number and density of residential dwellings;*
- *(c) Location of urban levels of facilities and services; including at leas public water and sewer facilities; and*
- *(d) Parcel sizes an ownership patterns.*

(4) A conclusion that rural land is irrevocable committed to urban development shall be based on all of the factors listed in section (3) of this rule. The conclusion shall be supported by a statement of reasons explaining why the facts found support the conclusion that the land in question is committed to urban uses and urban level development rather than a rural level of development.

(5) Larger parcels or ownerships on the periphery of an area committed to urban densities may only be considered committed to urban development and included in the area proposed for incorporation of findings of fact demonstrate:

(a) Urban levels of facilities are currently provided to the parcel; and
(b) The parcel is irrevocably committed to nonresource use or is not resource land; and
(c) The parcel can reasonable be developed for urban density uses considering topography, natural hazards or other constraints on site development.

These requirements are addressed on the following pages.

The Exception Area:
The proposed exception area is shown on the attached maps, and includes the following areas:

Surf Pines: A residential community in sections 16, 21, and 28 (T.7N., R.10W.) already developed at a one-acre density. Surf Pines is located between the ocean beach on the west; and Neacoxie Creek and Sunset Lake on the east. The Strawberry Hill and Silverspot Meadows subdivisions are part of Surf Pines and form the northern border. Land shown on tax maps 7-10-28AC and 7-10-28DA is included in Surf Pines and forms the southern border. A complete listing of the tax lots in this part of the exception area is attached.

Country Club Estates: A platted residential subdivision located on tax map 7-10-9DD. It contains 39 residential lots. A complete listing of the Country Club Estates tax lots in the exception area is attached.

Teal Court and Beachwood: Two adjoining, platted residential subdivisions located in tax map 7-10-34BB. Beachwood contains 38 lots ranging in size from 0.27 acres to 0.98 acres. Teal Court contains 14 lots ranging in size from 0.57 acres to 1.56 acres. A complete listing of these tax lots is attached.

OAR660-014-0030
These criteria are reproduced above and addressed in this section....existing adjacent uses...:Lands adjacent to the exception area are not developed at one-acre residential densities. These adjacent areas include open space, the ocean beach, golf courses, and large tracts of undeveloped land. ...other relevant factors...:Land in the exception area has been developed at a one-acre density. Exception area subdivisions (Teal Court, Country Club Estates, Beachwood, Silverspot Meadows, Surf Pines Landing, Horizon Estates, Strawberry Hill, Shady Pines, Malarkey Grove) have been platted and developed with one-acre residential lots. Landowners in these areas have investment-backed expectations of developing their property at a one-acre density. Based on this, Clatsop County concludes that the exception area is irrevocably

committed to residential density not allowed under statewide planning goal 14 because existing adjacent uses and other relevant factors make compliant densities impracticable.

Physically Developed Criteria OAR 660-014-030(2):
Criteria for a physically developed exception are on page 1 of this document. This exception is taken to allow one-acre residential lots in the exception area. The exception area is already divided into residential lots that do not conform to Goal 14's residential lot size requirements. The following facts support a physically developed exception: 1. Nearly all lots in the exception area are smaller than two acres. Proposed zoning in the exception area does not allow land divisions creating lots smaller than one acre, so lots smaller than two acres cannot be further divided. Some of the lots are over-sized tax and are unbuildable because they are dedicated open space for subdivisions, and cannot be further divided or developed for additional residences. 2. Many lots in the exception area are already occupied by single family dwellings.

Based on these facts, Clatsop County concludes that the exception area is physically developed to the extent that it is no longer available for development at a density of one dwelling unit per two acres.

Committed Lands Criteria OAR 660-014-030 (3):
Criteria for land irrevocably committed to other uses begin on page 2 of this document. This exception is taken to allow one-acre residential lots in the exception area. The exception area is committed to one-acre residential development by virtue of the following:

Water: The exception area is served by drinking water from the City of Warrenton. Teal Court, Country Club Estates and Beachwood are developed subdivisions with water service provided to each subdivision lot, including vacant lots. Surf Pines is not a subdivision, but includes subdivisions (Silverspot Meadows, Surf Pines Landing, Horizon Estates, Strawberry Hill, Shady Pines, Malarkey Grove) with water service provided to each subdivision lot, including vacant lots. The provision of water service to each subdivision lot constitutes an irrevocable commitment to support residential development at the platted density.

Fire Protection: The exception area is served by the Gearhart Rural Fire Protection District (Surf Pines, Teal Court, Beachwood) and by the Warrenton Rural Fire Protection District (Country Club Estates). These platted subdivisions, and platted subdivision within Surf Pines (Silverspot Meadows, Surf Pines Landing, Horizon Estates, Strawberry Hill, Shady Pines, Malarkey Grove) are provided with fire hydrants located to protect single family residences on one-acre lots. Most of Surf Pines is developed at a one-acre residential density, with fire hydrants placed along Ocean Drive, Manion Drive, Horizon Drive and Lucas Drive. The provision of fire hydrants in the exception area constitutes an irrevocable commitment to support residential development at a one-acre density.

Electrical Service: The exception area is served by Pacific Power, a regulated, investor-owned, public utility. Electrical lines are buried within the platted subdivisions; and along Ocean Drive, Manion Drive, Horizon Drive and Lucas Drive in Surf Pines. Within the subdivisions, electrical

power is provided to each lot. The provision of electrical service to each subdivision lot constitutes an irrevocable commitment to support residential development at a one-acre density.

Natural Gas: Northwest Natural, an investor-owned, regulated public utility, provides natural gas service within the exception area. Natural gas lines are buried within exception area road right-of-ways. Lines are sized and placed to support one-acre residential development. Northwest Natural sized and located these lines in anticipation of eventual residential development at a one-acre density. The provision of natural gas within the exception area constitutes an irrevocable commitment to support residential development at a one-acre density.

Streets: The exception area and surrounding property is served by a network of public and private streets. Internal circulation is over private streets. Within subdivisions in the exception area, streets are designed to meet the needs of the built-out subdivision. These subdivisions include Teal Court, Beachwood, Country Club Estates, Silverspot Meadows, Surf Pines Landing, Strawberry Hill, and Shady Pines. The provision of the street system as designed within these platted subdivisions constitutes and irrevocable commitment in support of residential development at a one-acre density.

Homeowner Association Dues: All property within the exception area is subject to home-owner's association dues, special assessments and maintenance fees. Owners of vacant land within the exception area pay these fees with the reasonable expectation that their property can be divided and developed as currently zoned.

Based on these factors, Clatsop County concludes that the exception area is irrevocably committed to residential development at a density of one dwelling unit per acre.

List of Properties in the Exception Area

The properties listed below are for informational purposes only, and do not accurately describe the parcels as over time the tax map identification numbers may change. Refer to the exceptions map document included in the Comprehensive Plan Section 2 Appendix, for an accurate boundary of the parcels included in the Goal 14 exceptions area.

Property Included in the Clatsop Plains Exception Area:

Tax lot	Acreage	Dwelling
Country Club Estates:		
7-10-9DD-100	.57	
7-10-9DD-200	.64	YES
7-10-9DD-300	.54	
7-10-9DD-400	.33	YES
7-10-9DD-500	.51	YES
7-10-9DD-600	.42	YES
7-10-9DD-700	.51	
7-10-9DD-800	.52	YES
7-10-9DD-900	.54	YES
7-10-9DD-1000	1.09	YES
7-10-9DD-1100	.64	YES
7-10-9DD-1200	.37	YES
7-10-9DD-1300	.35	YES
7-10-9DD-1400	.39	YES
7-10-9DD-1500	.39	YES
7-10-9DD-1600	.42	YES
7-10-9DD-1700	.52	YES
7-10-9DD-1800	.33	YES
7-10-9DD-1900	.37	YES
7-10-9DD-2000	.37	YES
7-10-9DD-2100	4.44	
7-10-9DD-2200	.41	YES
7-10-9DD-2300	.41	YES
7-10-9DD-2400	.39	YES
7-10-9DD-2500	.38	YES
7-10-9DD-2600	.44	YES
7-10-9DD-2700	.59	YES
7-10-9DD-2800	.45	YES
7-10-9DD-2900	.42	YES
7-10-9DD-3000	.49	YES
7-10-9DD-3100	.53	
7-10-9DD-3200	.38	
7-10-9DD-3300	.48	YES
7-10-9DD-3400	.36	YES
7-10-9DD-3500	.28	YES
7-10-9DD-3600	.31	YES
7-10-9DD-3700	.37	YES

Property Included in the Clatsop Plains Exception Area:

Tax lot	Acreage	Dwelling
7-10-9DD-3800	.41	YES
7-10-9DD-3900	1.01	
7-10-9DD-3901	1.00	
7-10-9DD-3903	1.00	
7-10-9DD-3904	1.21	
7-10-9DD-3905	1.36	
7-10-9DD-3906	1.00	
7-10-9DD-3907	1.00	
7-10-9DD-3908	1.01	

Beachwood:

Property Included in the Exception Area:

Tax lot	Acreage	Dwelling
7-10-34BB-100	0.72	YES
7-10-34BB-200	0.86	YES
7-10-34BB-300	0.80	YES
7-10-34BB-400	0.72	YES
7-10-34BB-500	0.74	YES
7-10-34BB-600	0.70	YES
7-10-34BB-700	0.66	YES
7-10-34BB-800	0.96	YES
7-10-34BB-900	0.88	YES
7-10-34BB-1000	0.88	YES
7-10-34BB-1100	0.54	YES
7-10-34BB-1200	0.44	YES
7-10-34BB-1300	0.51	YES
7-10-34BB-1400	0.61	
7-10-34BB-1500	0.54	YES
7-10-34BB-1600	0.49	YES
7-10-34BB-1700	0.54	YES
7-10-34BB-1800	0.48	YES
7-10-34BB-1900	0.41	YES
7-10-34BB-2000	0.39	YES
7-10-34BB-2100	0.45	YES
7-10-34BB-2200	0.43	YES
7-10-34BB-2300	0.44	YES
7-10-34BB-2400	0.43	YES
7-10-34BB-2500	0.32	YES
7-10-34BB-2600	0.27	YES
7-10-34BB-2700	0.40	YES

Beachwood:

Property Included in the Exception Area:

Tax lot	Acreage	Dwelling
7-10-34BB-2800	0.43	YES
7-10-34BB-2900	0.47	YES
7-10-34BB-3000	0.55	YES
7-10-34BB-3100	0.46	YES
7-10-34BB-3200	0.49	YES
7-10-34BB-3300	0.44	
7-10-34BB-3400	0.59	YES
7-10-34BB-3500	0.70	YES
7-10-34BB-3600	0.67	YES

Teal Court:

Property Included in the Exception Area:

Tax lot	Acreage	Dwelling
7-10-34BB-3700	0.60	
7-10-34BB-3800	0.60	
7-10-34BB-3900	0.54	
7-10-34BB-4000	0.57	YES
7-10-34BB-4100	0.57	YES
7-10-34BB-4200	0.61	YES
7-10-34BB-4300	0.54	YES
7-10-34BB-4400	0.60	
7-10-34BB-4500	0.50	YES
7-10-34BB-4600	0.63	YES
7-10-34BB-4700	2.57	YES
7-10-34BB-4800	1.96	YES
7-10-34BB-4900	1.20	YES
7-10-34BB-5000	1.44	YES

Surf Pines:

Tax lot	acreage available but not provided below	dwelling information available but not provided below
7-10-16DB		
7-10-16CA		
7-10-16C		
7-10-16D		
7-10-21A		
7-10-21AB		
7-10-21BA		

7-10-21BD
7-10-21CA
7-10-21AC
7-10-21
7-10-21DB
7-10-21AD
7-10-21DA
7-10-21DC
7-10-21D
7-10-21CD
7-10-22C
7-10-22AB
7-10-28
7-10-28AA
7-10-28AC
7-10-28DA

Comprehensive Plan
Section 2
Exception to Goal 14 - Urbanization,
COVE BEACH AREA

Summary:
This exception is taken to statewide planning goal 14, urbanization, to allow residential development at a density of twenty-thousand square feet (20,000) in the Cove Beach – Falcon Cove area at the southern boundary of Clatsop County, which borders Highway 101 to the west.

Exception Requirements:
This exception is for land that is physically developed with residences at a density of 20,000 square feet in the Coast Residential (CR) zone; and for land that is irrevocably committed to residential development at the 20,000 square feet density. Applicable exception requirements are in ORS 197.732(1)(b), OAR 660-004-0010.1(c) and OAR 660-014-0030.1 – 5. Pertinent parts are excerpted below:

OAR 660-014-0030: *...RURAL LANDS IRREVOCABLY COMMITTED TO URBAN LEVELS OF DEVELOPMENT*

(1) A conclusion, supported by reasons and facts, that rural land is irrevocably committed to urban levels of development can satisfy the Goal 2 exceptions standard (e.g., that it is not appropriate to apply Goals 14's requirements prohibiting the establishment of urban uses on rural lands). If a conclusion that land is irrevocable committed to urban levels of development is supported, the four factors in Goal 2 and OAR 660-04-0020(2) need not be addressed.

(2) A decision that land has been built upon at urban densities or irrevocably committed to an urban level of development depends on the situation at the specific site proposed for incorporation. The exact nature and extent of the areas found to be irrevocably committed shall be clearly set forth in the justification for the exception. The area proposed for incorporation must be shown on a map or otherwise described and keyed to the appropriate findings of fact.

(3) A decision that land is committed to urban levels of development shall be based on findings of fact, supported by substantial evidence in the record of the local proceeding, that address the following:

- *(a) Size and extent of commercial and industrial uses;*
- *(b) Location, number and density of residential dwellings;*
- *(c) Location of urban levels of facilities and services; including at least public water and sewer facilities; and*
- *(d) Parcel sizes an ownership patterns.*

(4) A conclusion that rural land is irrevocable committed to urban development shall be based on all of the factors listed in section (3) of this rule. The conclusion shall be

supported by a statement of reasons explaining why the facts found support the conclusion that the land in question is committed to urban uses and urban level development rather than a rural level of development.

(5) Larger parcels or ownerships on the periphery of an area committed to urban densities may only be considered committed to urban development and included in the area proposed for incorporation of findings of fact demonstrate:

(a) Urban levels of facilities are currently provided to the parcel; and

(b) The parcel is irrevocably committed to nonresource use or is not resource land; and

(c) The parcel can reasonable be developed for urban density uses considering topography, natural hazards or other constraints on site development.

These requirements are addressed as follows:

The Exception Area:

The proposed exception area is shown on the attached maps, and includes the following areas:

The residential area of Cove Beach also known as Falcon Cove, is located in T.4N., R.10W., sections 31BC, 31CB, and 31CC. It includes a recent subdivision, Cove Creek Subdivision a 7-parcel subdivision and one conservation tract. The Cove Beach area has developed over the last 50-plus years through the consolidation of tracts of land to meet the 20,000 square feet minimum lot size, legal lots of record from existing plats and a few subdivisions. The level of development will be restricted by the GHO overlay, and soils adequate for septic system. The area is served by the Falcon Cover Water District. A complete listing of the tax lots in the exception area is attached.

OAR 660-014-030 (2):

These criteria are reproduced above, and addressed in this section. Existing adjacent uses...:Lands adjacent to the exception area are not developed at the 20,000 square feet density. The exceptions area is bordered on the north and east by open space zoned Recreation Management (RM) which is Oswald West State Park, and agricultural-forest (A-F) also borders a portion on the east, and the ocean beach borders the western side. The southern border is Tillamook County, which is further developed like Cove Beach-Falcon Cove with small residential parcels. ...other relevant factors...:Land in the exception area has been developed at 20,000 square feet lots or larger through combining lots of record from old plats. The exception area includes a subdivision (Cove Creek T.4N., R.10W., Section 31B, TL 400, a 15.43 acre parcel/subdivided) which has been platted and developed with most lots slightly above twenty-thousand square feet. Landowners in these areas have investment-backed expectations of developing their property at that density, making allowances for geological overlay and adequate septic systems. Based on this, Clatsop County concludes that the exception area is irrevocably committed to residential density not allowed under statewide planning goal 14 because existing adjacent uses and other relevant factors make compliant densities impracticable.

Physically Developed Criteria OAR 660-014-0030(3)

Criteria for a physically developed exception are on page 1 of this document. This exception is taken to allow 20,000 square feet lots in the exception area. The exception area is already divided into residential lots that do not conform to Goal 14's residential lot size requirements. The following facts support a physically developed exception: 1. Nearly all lots in the exception area are smaller than two acres. Proposed zoning in the exception area does not allow land divisions creating lots smaller than one acre, so lots smaller than two acres cannot be further divided. The exception area contains approximately 140 separate tax lots; none are larger than two acres. Some of the over-sized tax lots (larger then 20,000 square feet) are unbuildable because they are development constraints associated with geological hazards along the coast shoreland and from Highway 101the topography contains steep ravines that form wetland areas from runoff along the hillsides towards the ocean. With steep slopes and an identified GHO area covering most of the exceptions area, some of the areas identified in the exceptions areas will not be further subdivided for residential uses. 2. Many lots in the exception area are already occupied by single family dwellings. A total of 52 single-family dwellings are present in the exception area.

Based on these facts, Clatsop County concludes that the exception area is physically developed to the extent that it is no longer available for development at a density of one dwelling unit per two acres.

Committed Lands Criteria OAR 660-014-030(4)
Criteria for land irrevocably committed to other uses is listed above. This exception is taken to allow 20,000 square feet residential lots in the exception area. The exception area is committed to this density for development by virtue of the following:

Water: The exception area is served by drinking water from the Cove Beach Water District. The provision of water service to each lot constitutes an irrevocable commitment to support residential development at the platted density.

Fire Protection: The exception area is served by the Arch Cape Rural Fire Protection District.

Electrical Service: The exception area is served by Pacific Power, a regulated, investor-owned, public utility. Electrical lines are above ground and throughout the Cove Beach area. The provision of electrical service to each lot constitutes an irrevocable commitment to support residential development at a 20,000 square feet density.

Streets: The exception area is served by a network of public and private streets. Internal circulation is over public streets. The provision of the street system as designed were created from existing plats and constitutes an irrevocable commitment in support of residential development at a 20,000 square feet density.

Based on these factors, Clatsop County concludes that the exception area is irrevocably committed to residential development at a density of one dwelling unit per 20,000 square feet lot.

List of Properties in the Cove Beach Exception Area

The properties listed below are for informational purposes only, and do not accurately describe the parcels as over time the tax map identification numbers may change. Refer to the exceptions map document included in the Comprehensive Plan Section 2 Appendix, for an accurate boundary of the parcels included in the Goal 14 exceptions area.

Property Included in the Cove Beach Exception Area:

Tax lot			Acreage	Building
4-10-31BB, 502			0.11	
4-10-31BB, 503			0.11	
4-10-31BB, 504			0.23	X
4-10-31BB, 505			0.32	
4-10-31BB, 506			0.69	
4-10-31BB, 601			0.11	X
4-10-31BB, 602			0.11	
4-10-31BB, 603			0.11	
4-10-31BB, 604	2.19	Plat 1994-040	2.19	
4-10-31BB, 606	1.11	Plat 1994-040	1.11	
4-10-31BC, 100		1 lot	0.79	X
4-10-31BC, 101		1 lot	0.79	
4-10-31BC, 200		1 lot	0.57	
4-10-31BC, 201		1 lot	0.47	
4-10-31BC, 202		1 lot	0.44	X
4-10-31BC, 203		1 lot	1.31	
4-10-31BC, 300			.76	
4-10-31BC, 301			.15	X
4-10-31BC, 302		1 lot	.34	X
4-10-31BC, 303		1 lot	0.11	
4-10-31BC, 304		1 lot	0.11	
4-10-31BC, 305			0.34	
4-10-31BC, 306			0.35	
4-10-31BC, 307		1 lot	0.11	
4-10-31BC, 311			.69	X
4-10-31BC, 400		3 lots	.53	
4-10-31BC, 401		1 lot	0.13	X
4-10-31BC, 402		3 lots	0.25	
4-10-31BC, 403		1 lot	0.28	X
4-10-31BC, 500		2 lot	0.38	X
4-10-31BC, 600		1 lot	0.19	

Property Included in the Cove Beach Exception Area:

Tax lot	Lots	Acreage	Building
4-10-31BC, 601	1 lot	0.22	X
4-10-31BC, 602	1 lot	0.02	X
4-10-31BC, 603	1 lot	0.07	
4-10-31BC, 700	1 lot	0.08	
4-10-31BC, 701	1 lot	0.17	
4-10-31BC, 704	1 lot	0.18	
4-10-31BC, 705	1 lot	0.34	
4-10-31BC, 706	1 lot	0.18	
4-10-31BC, 707	1 lot	0.27	
4-10-31BC, 708	1 lot	0.26	
4-10-31BC, 709	1 lot	0.26	
4-10-31BC, 710	1 lot	0.26	
4-10-31BC, 800	1 lot	0.54	
4-10-31BC, 801	1 lot	0.25	X
4-10-31BC, 802	1 lot	0.39	X
4-10-31BC, 804	1 lot	0.25	X
4-10-31BC, 806	1 lot	0.23	
4-10-31BC, 807	1 lot	0.37	X
4-10-31BC, 808	1 lot	0.36	X
4-10-31BC, 809	1 lot	0.37	X
4-10-31BC, 900	1 lot	1.38	
4-10-31BC, 901	1 lot	0.46	
4-10-31BC, 902	1 lot	0.46	
4-10-31BC, 903	1 lot	0.46	
4-10-31BC, 1000	1 lot	1.32	
4-10-31C, 200		0.55	
4-10-31CB, 200		1.25	
4-10-31CB, 202		2.53	
4-10-31CB, 300		1.37	
4-10-31CB, 301		.69	X
4-10-31CB, 302		.23	X
4-10-31CB, 303		.46	
4-10-31CB, 400		1.01	
4-10-31CB, 401		0.35	
4-10-31CB, 402		0.68	
4-10-31CB, 500		0.02	X
4-10-31CB, 501		0.26	
4-10-31CB, 502		0.37	
4-10-31CB, 600		0.06	
4-10-31CB, 601		0.03	
4-10-31CB, 700		0.11	
4-10-31CB, 800		0.21	X
4-10-31CB, 900		0.21	X
4-10-31CB, 1000		0.23	

Property Included in the Cove Beach Exception Area:

Tax lot	Lots	Acreage	Building
4-10-31CB, 1002		0.23	
4-10-31CB, 1003		0.23	
4-10-31CB, 1004		0.46	
4-10-31CB, 1005		0.23	
4-10-31CB, 1006		0.23	X
4-10-31CB, 1007		0.23	X
4-10-31CB, 1007			
4-10-31CB, 1008		0.46	
4-10-31CB, 1009		0.23	X
4-10-31CB, 1010		0.23	X
4-10-31CB, 1100		0.69	
4-10-31CB, 1101		0.46	X
4-10-31CB, 1102		0.69	X
4-10-31CB, 1103		0.46	
4-10-31CB, 1104		0.46	
4-10-31CB, 1200		0.34	
4-10-31CB, 1201		0.8	
4-10-31CB, 1202		0.23	
4-10-31CC, 100	1 lot	0.46	
4-10-31CC, 101	1 lot	0.46	
4-10-31CC, 102	1 lot	0.46	
4-10-31CC, 200	1 lot	0.69	X
4-10-31CC, 201	1 lot	0.92	
4-10-31CC, 202	1 lot	0.69	
4-10-31CC, 203	1 lot	0.46	
4-10-31CC, 300	1 lot	2.29	
4-10-31CC, 301	1 lot	0.46	
4-10-31CC, 302	1 lot		
4-10-31CC, 303	1 lot		
4-10-31CC, 304	1 lot		
4-10-31CC, 401	1 lot	0.34	X
4-10-31CC, 402		0.06	
4-10-31CC, 403	1 lot	0.62	X
4-10-31CC, 404	1 lot	0.34	X
4-10-31CC, 408	1 lot	0.07	
4-10-31CC, 410	1 lot	0.24	
4-10-31CC, 500	1 lot	0.26	X
4-10-31CC, 600	1 lot	0.16	X
4-10-31CC, 601		0.01	
4-10-31CC, 700	1 lot	0.17	
4-10-31CC, 701	1 lot	0.29	X
4-10-31CC, 702	1 lot	0.11	
4-10-31CC, 800	1 lot	0.28	X

Ordinance 03-11 Comprehensive Plan Text Amendment

Property Included in the Cove Beach Exception Area:

Tax lot	Lots	Acreage	Building
4-10-31CC, 801		0.03	
4-10-31CC, 900	1 lot	0.12	
4-10-31CC, 901	1 lot	0.17	
4-10-31CC, 902	1 lot	0.09	X
4-10-31CC, 1000	1 lot	0.09	X
4-10-31CC, 1100	1 lot	0.20	X
4-10-31CC, 1200	1 lot	0.08	X
4-10-31CC, 1300	1 lot	0.11	X
4-10-31CC, 1301	1 lot	0.22	
4-10-31CC, 1302	1 lot	0.33	X
4-10-31CC, 1303	1 lot	0.11	X
4-10-31CC, 1304	1 lot	0.22	X
4-10-31CC, 1308	1 lot	0.22	X
4-10-31CC, 1400	1 lot	0.11	
4-10-31CC, 1500		0.69	
4-10-31CC, 1501	1 lot	0.11	X
4-10-31CC, 1502	1 lot	0.12	
4-10-31CC, 1503		0.69	
4-10-31CC, 1504		1.15	
4-10-31CC, 1600		1.77	
4-10-31CC, 1601		0.26	
4-10-31CC, 1603		0.44	
4-10-31CC, 1604		0.21	
4-10-31CC, 1700	1 lot	0.26	
4-10-31CC, 1701	1 lot	0.30	
4-10-31CC, 1702	1 lot	0.60	
4-10-31CC, 1703	1 lot	0.30	
4-10-31CC, 1704	1 lot	0.30	

Comprehensive Plan
Section 2
Exception to Goal 14 - Urbanization
ARCADIA BEACH AREA

Summary:
This exception is taken to statewide planning goal 14, urbanization, to allow residential development at a density of twenty-thousand square feet (20,000) in the Arcadia Beach area south of Cannon Beach and a portion of land adjacent to Arch Cape on the north boundary. Portions of these two areas border both the east and west side of Highway 101.

Exception Requirements:
This exception is for land that is physically developed with residences at a density of 20,000 square feet in the SFR-1 and CR zone; and for land that is irrevocably committed to residential development at the 20,000 square feet density. Applicable exception requirements are in ORS 197.732(1)(b), OAR 660-004-0010.1(c) and OAR 660-014-0030.1 – 5. Pertinent parts are excerpted below:

660-014-0030: ...*RURAL LANDS IRREVOCABLY COMMITTED TO URBAN LEVELS OF DEVELOPMENT*

(1) A conclusion, supported by reasons and facts, that rural land is irrevocably committed to urban levels of development can satisfy the Goal 2 exceptions standard (e.g., that it is not appropriate to apply Goals 14's requirements prohibiting the establishment of urban uses on rural lands). If a conclusion that land is irrevocable committed to urban levels of development is supported, the four factors in Goal 2 and OAR 660-04-0020(2) need not be addressed.

(2) A decision that land has been built upon at urban densities or irrevocably committed to an urban level of development depends on the situation at the specific site proposed for incorporation. The exact nature and extent of the areas found to be irrevocably committed shall be clearly set forth in the justification for the exception. The area proposed for incorporation must be shown on a map or otherwise described and keyed to the appropriate findings of fact.

(3) A decision that land is committed to urban levels of development shall be based on findings of fact, supported by substantial evidence in the record of the local proceeding, that address the following:

- *(a) Size and extent of commercial and industrial uses;*
- *(b) Location, number and density of residential dwellings;*
- *(c) Location of urban levels of facilities and services; including at leas public water and sewer facilities; and*
- *(d) Parcel sizes an ownership patterns.*

(4) A conclusion that rural land is irrevocable committed to urban development shall be based on all of the factors listed in section (3) of this rule. The conclusion shall be supported by a statement of reasons explaining why the facts found support the conclusion that the land in question is committed to urban uses and urban l3evel development rather than a rural level of development.

(5) Larger parcels or ownerships on the periphery of an area committed to urban densities may only be considered committed to urban development and included in the area proposed for incorporation of findings of fact demonstrate:

(a) Urban levels of facilities are currently provided to the parcel; and

(b) The parcel is irrevocably committed to non-resource use or is not resource land; and

(c) The parcel can reasonable be developed for urban density uses considering topography, natural hazards or other constraints on site development.

These requirements are addressed as follows:

The Exception Area:
The proposed exception area is shown on the attached maps, and includes the following areas:

The residential area of Arcadia Beach, is located in T.4N., R.10W., Sections 6CC, 7BB, 7CA, 7CB, 7CC, 7CD, T.4N., R.10W., Sections 18BA, 18BB. The Arcadia Beach area has developed over the last 50-plus years through the consolidation of tracts of land to meet the 20,000 square feet minimum lot size, legal lots of record from existing plats and a few subdivisions. The level of development will be restricted by the GHO overlay, and soils adequate for septic system and potable water. A complete listing of the tax lots in the exception area is attached along with an arial photo with the exceptions area shown as cross-hatched.

OAR 660-014-0030(2)
These criteria are reproduced above, and addressed in this section. Existing adjacent uses...:Lands adjacent to the exception area are not developed at the 20,000 square feet density. The exceptions area is bordered on the north and east by open space zoned Recreation Management (RM) and Forest (F) which also borders a portion on the east, and the ocean beach borders the western side. The southern border is Forest and a portion is bordered by the Arch Cape rural community. ...other relevant factors...:Land in the exception area has been developed at 20,000 square feet lots or some what larger through combining lots of record from old plats. The existing lot sizes are generally one-half acre in size. Attached is a listing of the exceptions area lot sizes and includes information on which lots are developed. The exception area includes a tract of land that has been zoned TC and proposed to be rezoned to CR to allow for a change in use from a existing motel to residential development of four to six homes. Landowners in these areas have investment-backed expectations of developing their property at that density, making allowances for geological overlay and adequate septic systems and potable water. Based on this, Clatsop County concludes that the exception area is irrevocably committed to residential density not allowed under statewide planning goal 14 because existing adjacent uses and other relevant factors make compliant densities impracticable.

Physically Developed Criteria OAR 660-014-0030(3)

Criteria for a physically developed exception are reproduced above. This exception is taken to allow twenty-thousand square feet lots in the exception area. The exception area is already divided into residential lots that do not conform to Goal 14's residential lot size requirements. The following facts support a physically developed exception: 1. Nearly all lots in the exception area are smaller than two acres. Proposed zoning in the exception area does not allow land divisions creating lots smaller than 20,000 square feet, so lots smaller than two acres cannot be further divided. The exception area contains approximately 139 separate tax lots; none are larger than two acres. Some of the over-sized tax lots (larger then 20,000 square feet) are unbuildable because they are development constraints associated with geological hazards along the coast shoreland and from Highway 101 the topography contains steep ravines that form wetland areas from runoff along the hillsides towards the ocean. With steep slopes and an identified GHO area covering most of the exceptions area, some of the areas identified in the exceptions areas will not be further subdivided for residential uses. 2. Many lots in the exception area are already occupied by single family dwellings. A total of 28 single family dwellings are present in the exception area.

Based on these facts, Clatsop County concludes that the exception area is physically developed to the extent that it is no longer available for development at a density of one dwelling unit per two acres.

Committed Lands Criteria OAR 660-014-030(3)
Criteria for land irrevocably committed to other uses is listed above. This exception is taken to allow 20,000 square feet residential lots in the exception area. The exception area is committed to this density for development by virtue of the following:

Water: The exception area is served by established wells. The provision of potable water to the developed lots scattered between vacant lots, constitutes an irrevocable commitment to support residential development at the platted density.

Fire Protection: The exception area is served by the Cannon Beach Rural Fire Protection District.

Electrical Service: The exception area is served by Pacific Power, a regulated, investor-owned, public utility. Electrical lines are above ground and throughout the Arcadia Beach area. The provision of electrical service to each lot constitutes an irrevocable commitment to support residential development at a 20,000 square feet density.

Streets: The exception area is served by a network of public and private streets. Internal circulation is over public streets. The provision of the street system as designed were created from existing plats and constitutes an irrevocable commitment in support of residential development at a 20,000 square feet density.
Based on these factors, Clatsop County concludes that the exception area is irrevocably committed to residential development at a density of one dwelling unit per 20,000 square feet lot.

Property Included in the Exception Area (Arcadia Beach):

Township	Range	Section	TaxLot	Lots	Acreage	Building
4	10	6CC	400		0.40	
4	10	6CC	401		0.44	
4	10	6CC	900		0.37	
4	10	6CC	1000		0.43	
4	10	6CC	1100		0.16	
4	10	6CC	1200		0.13	
4	10	6CC	1300		0.10	
4	10	6CC	1400		0.08	X
4	10	6CC	1600		0.13	
4	10	6CC	1700		0.60	
4	10	6CC	1800		0.16	
4	10	6CC	1900		0.14	
4	10	6CC	2000		0.11	
4	10	6CC	2100		0.13	
4	10	6CC	2200		0.13	
4	10	6CC	2300		0.41	
4	10	6CC	2400		0.20	
4	10	6CC	2500		0.15	
4	10	6CC	2600		0.16	
4	10	6CC	2700		0.18	
4	10	6CC	2800		0.18	
4	10	6CC	2900		0.37	
4	10	6CC	3000		0.20	
4	10	6CC	3600		0.09	

Property Included in the Exception Area (Arcadia Beach):

Township	Range	Section	TaxLot	Lots	Acreage	Building
4	10	7BB	301		0.21	
4	10	7BB	400		0.07	
4	10	7BB	500		0.26	
4	10	7BB	501		0.02	
4	10	7BB	1400		0.11	
4	10	7BB	1501		0.42	
4	10	7BB	2000		0.13	
4	10	7BB	2100		0.12	
4	10	7BB	2200		0.12	
4	10	7BB	2300		0.37	X
4	10	7BB	2400		0.12	
4	10	7BB	2500		0.18	
4	10	7BB	2501		0.07	
4	10	7BB	2600		0.20	
4	10	7BB	2700		0.13	
4	10	7BB	2800		0.58	X
4	10	7BB	2801		0.05	
4	10	7BB	2900		0.09	X
4	10	7BB	3000		0.09	
4	10	7BB	3100		0.25	X
4	10	7BB	3200		0.03	
4	10	7BB	3300		0.03	

Property Included in the Exception Area (Arcadia Beach):

Township	Range	Section	TaxLot	Lots	Acreage	Building
4	10	7CA	1400		0.04	
4	10	7CA	1500		0.05	
4	10	7CA	2000		0.10	
4	10	7CA	2100		0.11	
4	10	7CA	2200		0.06	
4	10	7CA	2300		0.24	
4	10	7CA	3000		1.03	
4	10	7CA	3100		0.11	
4	10	7CA	3400		0.11	
4	10	7CA	3600		0.80	
4	10	7CA	4000		0.80	
4	10	7CA	4200		0.11	
4	10	7CA	4301		0.78	
4	10	7CA	5200		0.11	
4	10	7CA	5300		0.22	
4	10	7CA	5400		0.23	
4	10	7CA	5500		0.11	
4	10	7CA	5700		0.44	
4	10	7CA	5701		0.02	
4	10	7CA	5800		0.23	
4	10	7CA	5900		0.11	
4	10	7CA	6000		0.11	
4	10	7CA	6100		0.11	
4	10	7CA	6200		0.11	X
4	10	7CA	6300		0.11	
4	10	7CA	6301		0.11	
4	10	7CA	6302		0.35	
4	10	7CA	6500		0.10	
4	10	7CA	6600		0.11	
4	10	7CA	6700		0.11	
4	10	7CA	6800		0.11	
4	10	7CA	6900		0.11	
4	10	7CA	7000		0.11	
4	10	7CA	7100		0.10	
4	10	7CA	7200		0.11	
4	10	7CA	7302		0.35	

Property Included in the Exception Area (Arcadia Beach):

Township	Range	Section	TaxLot	Lots	Acreage	Building
4	10	7CB	1100		0.12	
4	10	7CB	1200		0.96	X
4	10	7CB	1800		0.69	X
4	10	7CB	1900		1.50	X
4	10	7CB	1902		0.80	
4	10	7CC	200		1.15	X
4	10	7CC	300		1.01	
4	10	7CC	400		1.04	
4	10	7CC	500		0.99	X
4	10	7CC	600		1.34	
4	10	7CC	700		1.37	
4	10	7CC	800		1.41	
4	10	7CC	900		1.59	
4	10	7CC	1000		1.77	X
4	10	7CD	101		2.22	
4	10	7CD	102		0.86	
4	10	7CD	103		0.96	
4	10	7CD	104		1.11	

Property included in the Exception Area (Arcadia Beach):

Township	Range	Section	TaxLot	Lots	Acreage	Building
4	10	18BA	1300		0.23	
4	10	18BA	1400		0.46	
4	10	18BA	1500		0.80	X
4	10	18BA	1600		0.12	
4	10	18BA	1700		0.23	
4	10	18BA	1800		0.35	
4	10	18BA	1801		0.12	X
4	10	18BA	1802		0.34	
4	10	18BA	1803		0.11	
4	10	18BA	1900		0.12	
4	10	18BA	1901		0.12	X
4	10	18BA	1902		0.34	X
4	10	18BA	2000		0.12	
4	10	18BA	2100		0.12	X
4	10	18BA	2101		0.12	X
4	10	18BA	2200		0.28	X
4	10	18BA	2300		0.23	
4	10	18BA	2400		0.46	
4	10	18BA	2500		0.22	
4	10	18BA	2600		0.20	
4	10	18BA	2700		0.23	
4	10	18BA	2800		0.23	
4	10	18BA	2900		0.08	
4	10	18BA	3000		0.86	
4	10	18BA	3100		0.86	
4	10	18BB	100		2.00	X
4	10	18BB	200		0.27	
4	10	18BB	300		0.28	X
4	10	18BB	400		0.61	
4	10	18BB	500		0.31	
4	10	18BB	600		0.31	X
4	10	18BB	700		0.32	X
4	10	18BB	800		0.33	X
4	10	18BB	900		0.35	
4	10	18BB	1000		0.32	X
4	10	18BB	1100		0.18	
4	10	18BB	1200		0.16	
4	10	18BB	1300		0.34	
4	10	18BB	1400		0.16	X
4	10	18BB	1500		0.16	
4	10	18BB	1600		0.49	
4	10	18BB	1700		0.49	

Property included in the Exception Area (Arcadia Beach):

Township	Range	Section	TaxLot	Lots	Acreage	Building
4	10	19BB	200		6.32	
4	10	19BB	300		1.22	X
4	10	19BB	401		0.67	X

- Zoning Map amendment from RA2 to AF (see exhibit 3);
- comprehensive plan text amendment, amending the existing exception to remove these two tax lots from the existing exception area (see exhibit 5).

This exception is needed to allow the proposed comprehensive plan map and zoning map amendments on tax lot 300.

Exceptions to the statewide planning goals are governed by ORS 197.732; OAR 660-04; and statewide planning goal 2. This document includes findings as required under these statutes and administrative rules.

Exception Requirements

Statewide Planning Goals

This exception is taken to statewide planning goals 3 and 4.

Statewide planning goal 3 addresses agricultural lands. The goal is "To preserve and maintain agricultural lands." Tax lot 300 has not been designated in the comprehensive plan as agricultural land, nor is there any evidence that it qualifies as farm land under statewide planning goal 3. Nonetheless, this goal exception includes an exception to goal 3 to allow uses and densities not allowed on farm land. Exceptions to goal 3 are authorized under OAR 660-04-10(1)(a).

Statewide planning goal 4 addresses forest lands. The goal reads as follows:

> *To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.*

Tax lot 300 is designated as forest land in the County's comprehensive plan. Exceptions to goal 4 are authorized under OAR 660-04-10(1)(b).

The proposed exception area may include resources and features under one or more of the other statewide planning goals. This goal exception does not exempt the subject property from the requirements of these other statewide planning goals. Proposed goal findings are included with the amendment request as exhibit 8.

Exception Criteria

An exception is a decision to exclude certain land from the requirements of one or more applicable statewide goals. Exceptions to the statewide planning goals are authorized under ORS 197.732, OAR 660-04, and statewide planning goal 2. Exception requirements are described below.

Oregon Revised Statutes (ORS) 197.732(1) establishes three different types of exceptions: physically developed (ORS 197.732(1)(a)); irrevocably committed (ORS 197.732(1)(b)); and reasons (ORS 197.732(1)(c)).

This exception is a *reasons* exception. ORS 197.732(1)(c) establishes requirements for a reasons exception:

> *(1) A local government may adopt an exception to a goal if:*
>
> .
>
> .
>
> .
>
> *(c) The following standards are met:*
>
> *(A) Reasons justify why the state policy embodied in the applicable goals should not apply;*
>
> *(B) Areas which do not require a new exception cannot reasonably accommodate the use;*
>
> *(C) The long term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and*
>
> *(D) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.*

Statewide planning goal 2 establishes requirements for exceptions. Part

II(c) of goal 2 is applicable to a reasons exception, and is identical to ORS 197.732(1)(c), cited above.

Oregon Administrative Rules (OAR) chapter 660, division 4, establishes rules for exceptions. OAR 660-04-000(2) and OAR 660-04-05(1) provide general definitions of an exception:

> *An exception is a decision to exclude certain land from the requirements of one or more applicable statewide goals in accordance with the process specified in Goal 2, Part II, Exceptions. The documentation for an exception must be set forth in a local government's comprehensive plan. Such documentation must support a conclusion that the standards for an exception have been met. The conclusion shall be based on findings of fact supported by substantial evidence in the record of the local proceeding and by a statement of reasons which explain why the proposed use not allowed by the applicable goal should be provided for. The exceptions process is not to be used to indicate that a jurisdiction disagrees with a goal.* (OAR 660-04-000(2))

> *An "Exception" is a comprehensive plan provision, including an amendment to an acknowledged comprehensive plan, that:*
>
> *(a) Is applicable to specific properties or situations and does not establish a planning or zoning policy of general applicability;*
>
> *(b) Does not comply with some or all goal requirements applicable to the subject properties or situations; and*
>
> *(c) Complies with the provisions of this Division.* (OAR 660-04-05(1))

OAR 660-04-20(2) sets detailed requirements for a reasons exception:

> *(1) If a jurisdiction determines there are reasons consistent with OAR 660-004-0022 to use resource lands for uses not allowed by the applicable Goal, the justification shall be set forth in the comprehensive plan as an exception.*
>
> *(2) The four factors in Goal 2 Part II(c) required to be addressed when taking an exception to a Goal are:*

(a) "Reasons justify why the state policy embodied in the applicable goals should not apply": The exception shall set forth the facts and assumptions used as the basis for determining that a state policy embodied in a goal should not apply to specific properties or situations including the amount of land for the use being planned and why the use requires a location on resource land;

(b) "Areas which do not require a new exception cannot reasonably accommodate the use":

(A) The exception shall indicate on a map or otherwise describe the location of possible alternative areas considered for the use, which do not require a new exception. The area for which the exception is taken shall be identified;

(B) To show why the particular site is justified, it is necessary to discuss why other areas which do not require a new exception cannot reasonably accommodate the proposed use. Economic factors can be considered along with other relevant factors in determining that the use cannot reasonably be accommodated in other areas. Under the alternative factor the following questions shall be addressed:

(i) Can the proposed use be reasonably accommodated on nonresource land that would not require an exception, including increasing the density of uses on nonresource land? If not, why not?

(ii) Can the proposed use be reasonably accommodated on resource land that is already irrevocably committed to nonresource uses, not allowed by the applicable Goal, including resource land in existing rural centers, or by increasing the density of uses on committed lands? If not, why not?

(iii) Can the proposed use be reasonably accommodated inside an urban growth boundary? If not, why not?

(C) This alternative areas standard can be met by a broad review of similar types of areas rather than a review of specific alternative sites. Initially, a local government adopting an exception need assess only whether those similar types of areas in the vicinity could not reasonably accommodate the proposed use. Site specific comparisons are not required of a local government taking an exception, unless another party to the local proceeding can describe why there are specific sites that can more reasonably accommodate the proposed use. A

detailed evaluation of specific alternative sites is thus not required unless such sites are specifically described with facts to support the assertion that the sites are more reasonable by another party during the local exceptions proceeding.

(c) The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception. The exception shall describe the characteristics of each alternative areas considered by the jurisdiction for which an exception might be taken, the typical advantages and disadvantages of using the area for a use not allowed by the Goal, and the typical positive and negative consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts. A detailed evaluation of specific alternative sites is not required unless such sites are specifically described with facts to support the assertion that the sites have significantly fewer adverse impacts during the local exceptions proceeding. The exception shall include the reasons why the consequences of the use at the chosen site are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site. Such reasons shall include but are not limited to, the facts used to determine which resource land is least productive; the ability to sustain resource uses near the proposed use; and the long-term economic impact on the general area caused by irreversible removal of the land from the resource base. Other possible impacts include the effects of the proposed use on the water table, on the costs of improving roads and on the costs to special service districts;

(d) "The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts." The exception shall describe how the proposed use will be rendered compatible with adjacent land uses. The exception shall demonstrate that the proposed use is situated in such a manner as to be compatible with surrounding natural resources and resource management or production practices. "Compatible" is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses.

(3) If the exception involves more than one area for which the reasons and circumstances are the same, the areas may be considered as a group. Each of the areas shall be identified on a map, or their location otherwise described, and keyed to the appropriate findings.

OAR 660-04-22 lists reasons needed to justify an exceptions under goal 2, part II(c). Those pertaining to this exception include:

An exception Under Goal 2, Part II(c) can be taken for any use not allowed by the applicable goal(s). The types of reasons that may or may not be used to justify certain types of uses not allowed on resource lands are set forth in the following sections of this rule:

(1) For uses not specifically provided for in subsequent sections of this rule or OAR 660, division 014, the reasons shall justify why the state policy embodied in the applicable goals should not apply. Such reasons include but are not limited to the following:

(a) There is a demonstrated need for the proposed use or activity, based on one or more of the requirements of Statewide Goals 3 to 19; and either

(b) A resource upon which the proposed use or activity is dependent can be reasonably obtained only at the proposed exception site and the use or activity requires a location near the resource. An exception based on this subsection must include an analysis of the market area to be served by the proposed use or activity. That analysis must demonstrate that the proposed exception site is the only one within that market area at which the resource depended upon can reasonably be obtained; or

(c) The proposed use or activity has special features or qualities that necessitate its location on or near the proposed exception site.

(2) Rural Residential Development: For rural residential development the reasons cannot be based on market demand for housing, except as provided for in this section of this rule, assumed continuation of past urban and rural population distributions, or housing types and cost characteristics. A county must show why, based on the economic analysis in the

> *plan, there are reasons for the type and density of housing planned which require this particular location on resource lands. A jurisdiction could justify an exception to allow residential development on resource land outside an urban growth boundary by determining that the rural location of the proposed residential development is necessary to satisfy the market demand for housing generated by existing or planned rural industrial, commercial, or other economic activity in the area.*

These requirements are addressed in the following sections.

Reasons justify why the state policy embodied in the applicable goals should not apply (OAR 660-04-20(2)(a))

This section sets forth the facts and assumptions for determining that state policy embodied in goals 3 and 4 should not apply to the exception area. This section also explains why the proposed uses require a location on resource land. The exception area includes all of tax lot 7-9-12-300, covering 19.16 acres.

The policy embodied in goal 3 is in ORS 215.243:

> *Agricultural land use policy. The Legislative Assembly finds and declares that:*
>
> *(1) Open land used for agricultural use is an efficient means of conserving natural resources that constitute an important physical, social, aesthetic and economic asset to all of the people of this state, whether living in rural, urban or metropolitan areas of the state.*
>
> *(2) The preservation of a maximum amount of the limited supply of agricultural land is necessary to the conservation of the state's economic resources and the preservation of such land in large blocks is necessary in maintaining the agricultural economy of the state and for the assurance of adequate, healthful and nutritious food for the people of this state and nation.*
>
> *(3) Expansion of urban development into rural areas is a matter of public concern because of the unnecessary increases*

> *in costs of community services, conflicts between farm and urban activities and the loss of open space and natural beauty around urban centers occurring as the result of such expansion.*
>
> *(4) Exclusive farm use zoning as provided by law, substantially limits alternatives to the use of rural land and, with the importance of rural lands to the public, justifies incentives and privileges offered to encourage owners of rural lands to hold such lands in exclusive farm use zones.* (ORS 215.243)

The State policy embodied in goal 4 is stated in the text of the goal:

> *To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture.* (Statewide planning goal 4)

Goals 3 and 4 should not apply to tax lot 300 for the following reasons:

- Tax lot 300 contributes relatively little to the agricultural economy of the County or the state. The 19-acre exception area contains about 16 acres of grass that can be mown for forage.
- Tax lot 300 is not part of the forest land base of either the County or the state, nor does it contribute to the forest products industry.
- Forest practices are not presently occurring on tax lot 300, nor are they likely to occur in the future.
- Recreational opportunities associated with forest land (such as hiking, hunting, camping, and fishing) are not present on the tax lot 300.
- The proposed exception area is not managed for soil, air, water, fish or wildlife resources.

These reasons are explained in the following paragraphs.

Farming:

Land in the proposed exception area contributes relatively little to the agricultural economy of the County or the state. Clatsop County has a small agricultural sector compared to other Oregon counties. According to 1997 data from the US National Agricultural Statistics Service:

- Clatsop County has relatively few farms: 229 in 1997, or less than one percent of all farms in Oregon. [1]
- Clatsop County has less farm acreage than any other county in Oregon; 34,030 acres in 1997, less than two-tenths of one percent of Oregon's farm acreage. [1]
- Clatsop County farms produced about $5,325,000 worth of farm products in 1997, less than two-tenths of one percent of the state total, and less than any other County except one (Lincoln County) [1].

Tax lot 300 contributes relatively little to the County's agricultural sector. The proposed exception covers about 19 acres in the AF zone. About 16 acres are managed as a hay field. However, even if all 19 acres were "farm land" under the 1997 *Census of Agriculture*, it would represent less than one-tenth of one percent of the County's farmland.

The exception area currently yields hay, a low-value farm product, especially compared to nearly all other agricultural products grown in Clatsop County. Relative to other forage products, hay from tax lot 300 is low-value. Tax lot 300 is not planted in alfalfa, perennial ryegrass, or other more valuable feed crops. Instead, hay from tax lot 300 is a mix of native and invasive grasses, including velvetgrass, bentgrass species, and various undesirable weeds. Dairy products, grass seed, beef cattle, and cranberries are examples of higher-value agricultural products that have been or are currently grown on Clatsop County farms. Higher-value products are not grown on tax lot 300 for several reasons:

- Soil on tax lot 300 is saturated for about five months out of every year. Fewer animals can be pastured during the wet months to avoid damage to the pasture, and to keep grazing animals healthy. Areas of the state receiving less rain can pasture more animals for longer periods of time.

- Milk production in Oregon is changing from a system involving many small dairies to one with a few large dairies. The Tillamook Creamery Association contracts with a single dairy near Boardman, Oregon, for a large quantity of its milk [6]. Although small milk producers in Clatsop County continue to sell their milk to the Tillamook Creamery, economies of scale associated with the Boardman dairy's size and location are making smaller dairies non-competitive. A large Boardman-scale dairy cannot be developed or efficiently operated on tax lot 300 because: (1) feed (alfalfa) comes from the east side of the Cascades; (2) neighboring non-farm residences exist around the exception area; (3) management of animal waste and controlling runoff in Clatsop County's rainy environment is more expensive than in the dry environment east of the Cascades; and (4) tax lot 300 is not large enough to support even a small commercial dairy.

- Cranberries are grown in Clatsop County in peat bogs south of Cullaby Lake and north of Gearhart. They are also grown on the Long Beach (Washington) peninsula, and near Bandon, Oregon. Nearly all cranberries in Oregon and Washington are grown for Oceanspray, a grower's cooperative. Where they are grown successfully, cranberries are cultivated on low-lying sandy soils overlaying peat bogs. Acidic soil conditions are desirable. Soils in the proposed exception area are not sandy: soils on tax lot 300 are silt-loam. While it might be possible to grow cranberries on the site, soil conditions are not ideal, and it is unlikely that cranberry production in the exception area would be economically feasible.

- Grazing beef cattle in the exception area is not currently a profitable agricultural activity. Rising production costs, price competition from imported beef, declining per-capita beef consumption, consolidation in the beef purchasing market, and regulatory costs are all factors that weigh against small-scale beef producers. More recently, feed and export restrictions have worsened this situation.

- Grass seed has been successfully grown elsewhere in Clatsop County. Much of the seed was colonial bentgrass (*Agrostis tennuis*). Several factors lead to the demise of this crop in the County:

    1. A nematode infects bentgrass seed grown in the cool, damp coastal climate. Nematodes are microscopic roundworms. The nematode does not infect bentgrass grown in the Willamette Valley. Grass seed must be nematode-free to be certified at the highest grade. There is no practical way to remove infected seed

from un-infected seed, so bentgrass from the exception area can only be sold as a lower-grade seed, at a price lower than production costs. [5]

2. The loss of rail service in the region in the 1970s increased the cost of shipping seed to Willamette Valley markets. Competing seed is grown in the Willamette Valley, where transportation costs are lower.
3. Grass seed yields are higher in the Willamette Valley than they are west of the Coast Range. Reasons for this include climate and soil conditions.
4. Grass seed production requires relatively expensive, specialized harvesting equipment and storage facilities. A combine for harvesting bentgrass seed costs between $200,000 and $300,000; a cost that can be justified on highly productive farm land growing certified seed, but not on low-productivity land in small tracts growing non-certified seed. [5]
5. Nearly all of the certified seed grown in Oregon is grown in the Willamette Valley or east of the Cascades. Seed certification, authorized under ORS 633.620, relies on a series of field inspections. Inspectors are not located in Clatsop County. They are located in the seed-producing regions of Oregon: Benton, Malheur, Clackamas, Marion, Crook, Morrow, Douglas, Polk, Gilliam, Sherman, Harney, Umatilla, Jackson, Union, Jefferson, Wallowa, Klamath, Wasco, Lane, Washington, Linn, and Yamhill counties. [5]

- Minks have been successfully raised in Clatsop County. At least one viable ranch remains, located outside of the proposed exception area. Mink are not a viable product for the exception area because:

  1. Mink production generates odors that non-farm neighbors are likely to find objectionable. Tax lot 300 has many non-farm neighbors.
  2. Mink demand has declined with changing fashions and consumer preferences.
  3. Fur breeders in other regions have been victims of acts of vandalism. This threat increases production costs, and is a strong dis-incentive to starting or continuing in the fur breading business.
  4. Abundant rainfall make mink waste management more expensive than in drier locations. The proposed exception area

receives an average of about 70 inches of precipitation annually, with a twenty percent chance of more than 77 inches in a given year [2].

5. Mink ranching attracts nuisance animals, notably gulls. Non-farm neighbors are likely to find this objectionable.

- Peas were grown successfully in Clatsop County. They are no longer grown commercially here because production has shifted to areas with better growing climates; because of the lack of local processing or storage facilities; and because plant diseases associated with our cool, moist climate result in lower yields. Peas are not a feasible commercial crop choice on tax lot 300 for these reasons.
- Flower bulbs were grown commercially in Clatsop County. They are a poor crop choice for the exception area due to the distance to markets; distance to the I-5 transportation corridor; and cost competition from foreign producers.

The small size of the County's agricultural sector is linked to the lack of agricultural support services in the County. The lack of developed markets, storage facilities, processing plants, farm equipment and chemical suppliers, and transportation infrastructure in Clatsop County raises production costs relative to competing farms with these services close at hand.

The *Soil Survey of Clatsop County, Oregon* [2] classifies soils in the exception area as "Grindbrook silt loam" and "Walluski silt loam". The *Soil Survey* assigns these soil types a Land Capability Class of IVe (for the Grindbrook soil), and IIIe (for the Walluski soil). The Land Capability Classification System shows, in a general way, the suitability of soils for most kinds of field crops. Class I soils have few limitations that restrict their use. Class VI soils have severe limitations that make them generally unsuitable for any cultivation. The *Soil Survey* describes Class IV soils, including Grindbrook silt loam, as follows:

> *Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.*

Class III soils, including the Walluski silt loam, are described as follows:

> *Class III soils have severe limitations that reduce the choice of plants, or that require special conservation practices, or both.*

The *Soil Survey* adds an "e" modifier to its classification of both of these soil types. This means that the risk of erosion is present.

Tax lot 300 is too small to contribute to the County's or to the state's agricultural sector. Sixteen acres is too small to effectively manage for production of farm products. This is recognized in goal 3 and its administrative rules. ORS 215.780(1)(a) establishes a minimum lot size of 80 acres for creation of new parcels in the EFU zone. The lot size issue is also addressed in ORS 215.262(1):

> *The Legislative Assembly declares that the creation of small parcels for nonfarm dwellings in exclusive farm use zones introduces potential conflicts into commercial agricultural areas and allows a limited number of nonfarm dwellings in exclusive farm use zones. To protect the state's land base for commercial agriculture from being divided into multiple parcels for nonfarm dwellings while continuing to allow a limited number of nonfarm dwellings on less productive agricultural land not suitable for farm use, it is necessary to:*
>
> *(a) Limit the incremental division of lots or parcels larger than the minimum size established under ORS 215.780 into smaller lots or parcels for the purpose of creating new nonfarm dwellings; and*
>
> *(b) Allow a limited number of lots or parcels equal to or less than the minimum size established under ORS 215.780 to be partitioned into not more than two parcels unsuitable for farm use and eligible for siting nonfarm dwellings under ORS 215.284.*

This demonstrates that the state policy of preserving farm land is not aimed at small tracts.

Nearby non-farm dwellings make certain kinds of farm practices difficult to conduct, especially those that generate odors. Adjoining property is not in farm use. Land to the north is owned by Weyerhaeuser, Inc., and is managed for commercial forestry. A church is located to the immediate east of tax lot 300. A residences and the Olney Store are to the immediate west. Across Highway 202 to the south are a small-scale lumber mill, and the Olney School.

Tax lot 300 is not needed to assure continued agricultural use on adjoining farm land: adjoining land is not in farm use, nor is it in the EFU zone.

Adjoining land is used for commercial forestry (to the north), residential and neighborhood commercial uses (to the west), a church (to the east), and the Olney School and a small sawmill (to the south).

Small parcel sizes; nearby non-farm residences; the lack of a sizable agricultural sector in Clatsop County; poor soil quality on tax lot 300; and the absence of agricultural infrastructure all support a conclusion that land in the proposed exception area contributes relatively little to the agricultural economy of the County or the state.

Forestry:

Land in the proposed exception area is not part of the forest land base of the County or the state, nor does it contribute to the forest products industry. Forest practices are not presently occurring on the proposed exception area, nor are they likely to occur in the future.

Grindbrook silt loam and Walluski silt loam, the two soil types found on the exception area, are rated in the *Soil Survey of Clatsop County, Oregon* [2], and in *Land Evaluation of Forest Soils; Clatsop County, Oregon* [7] for forest productivity. The Grindbrook soil has a relatively high site index for Western hemlock of 166. The Walluski soil is not rated for forest productivity in either of the documents cited above as being suitable for the production of forest tree species. The site is approximately evenly split between these two soil types.

Even though half of the site consists of soils with a relatively high productivity rating, there is no evidence that tax lot 300 could be successfully managed for commercial forestry.

Tax lot 300 covers about 19 acres. This is too small to be managed for viable commercial forestry. Oregon requires an 80-acre minimum lot size for land divisions in forest zones (OAR 660-06-026(1)). A commercially-managed forest tract adjacent to tax lot 300 covers more than 500 acres.

Recreational opportunities associated with forest land (such as hiking, hunting, camping, fishing) are not present on tax lot 300. The exception area is privately-owned, and public access for recreational opportunities is not available. Tax lot 300 is poorly suited for these activities. There is no evidence that the proposed exception area could be successfully managed for forest recreational activities.

Unlike some forest lands, the proposed exception area is not managed for soil, air, water, fish or wildlife resources.

Tax lot 300 is not planted in commercial tree species. It is presently managed as a hay field.

Conclusion - OAR 660-04-20(2)(a):

These reasons justify a decision to not apply the state policy embodied in the forest lands goal and the agricultural lands goal to tax lot 300.

Areas which do not require a new exception cannot reasonably accommodate the use (OAR 660-04-20(2)(b))

Alternative areas for the rural residential uses planned for the exception site cannot reasonably accommodate these uses. These alternative areas, and the reasons for this conclusion, are described below.

Urban areas within the Astoria UGB:

Rural residential uses planned for tax lot 300 might be accommodated within the Astoria UGB, located north-west of the exception area. However, the UGB cannot reasonably accommodate these uses for reasons explained in the following paragraphs.

Astoria contains some vacant buildable residential areas. Tentative populations prepared by CREST [8] indicate that Astoria is likely to grow by slightly less than one percent annually during the 20-year planning horizon ending in 2020. This assumed growth rate, plus growth rates for other cities in the County, and for the County as a whole, means that the unincorporated County will need to absorb more than 500 additional people, or about 250 more dwelling units, during the twenty year planning horizon ending in 2020. Most of this can be accommodated in rural communities, but some can be accommodated outside of rural communities, in places like the proposed exception area.

The proposed exception site is in the Olney area. Rural residences fill a different need than do urban residences. Density is the key difference. Homesites on tax lot 300 will be developed at a maximum density of one

dwelling unit per two acres. Residential densities in the Astoria UGB are substantially greater, between four and eight dwelling units per acre.

Urban areas within the Warrenton Urban Growth Boundary:

Rural residential uses planned for tax lot 300 might be accommodated within the Warrenton UGB, located some miles west of the proposed exception area. However, the Warrenton UGB cannot reasonably accommodate these uses for the reasons explained in the following paragraphs.

The Warrenton UGB contains large tracts of land in urban residential zones; however, many vacant buildable lots in the Warrenton UGB contain wetlands under the jurisdiction of the US Army Corps of Engineers [4] and the Oregon Division of State Lands [3]. Because of the additional regulatory requirements imposed by these agencies, and uncertainties and delays associated with their permit processes, some of this residentially-zoned land within the Warrenton UGB is not available for immediate development.

Warrenton contains some vacant buildable residential lands. Tentative populations prepared by CREST [8] indicate that Warrenton is likely to grow by more than slightly more than one percent annually during the 20-year planning horizon ending in 2020. This growth rate, plus growth rates for other cities in the County, and for the County as a whole, means that the unincorporated County will need to absorb more than 500 additional people, or about 250 more additional dwelling unit, during the twenty year planning horizon ending in 2020. A small part of this can be accommodated at the proposed exception site.

The Jeffers Gardens-Miles Crossing Rural Community:

Vacant buildable residential land exists in the Jeffers Gardens–Miles Crossing rural community, located west of the exception area. Residential lands within the Jeffers Gardens–Miles Crossing rural community boundary are not the same as land in the Olney area, or at the proposed exception site:

Traffic: Alternate Highway 101 (highway 105) passes through the Jeffers Gardens–Miles Crossing rural community. Average Daily Traffic on

Highway 105 just north of the Miles Crossing intersection is 6,500, compared to average daily traffic volumes on State Highway 202 of about 950 vehicles per day at the proposed exception site, according to the Oregon Department of Transportation (2001, the most recent year for which figures are available).

Non-residential uses: The Jeffers Gardens–Miles Crossing rural community hosts many commercial and industrial uses within its boundaries. The Olney area has substantially fewer commercial or industrial uses.

Planned residential density: The Jeffers Gardens–Miles Crossing rural community has a planned residential density of about five dwelling units per net acre. The proposed exception site would be zoned at a substantially lower density of one dwelling unit per two acres.

The Existing Olney Exception Area:

Vacant buildable residential land exists in the existing Olney exception area. According to the exception text adopted by Clatsop County in 1982, exception area # 26 (which covers the non-farm and non-forest land in the Olney area) has eight parcels containing a total of about 53 acres. This proposed exception adds a 19.6 acre parcel, but another component of the proposed amendment package removes two residentially-zoned parcels from exception area # 26 (tax lot 7-9-12-500 and a portion of tax lot 7-9-13-400). Because of this, the proposed exception is neutral with respect to the existing Olney exception area. Tax lots 500 and 400 are buildable, but their development would require extensive grading and filling on a steep slope.

Long-term environmental, economic, social and energy consequences (OAR 660-04-20(1)(c)):

The following criteria must be met in order to approve this exception:

> *The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal*

exception. The exception shall describe the characteristics of each alternative areas considered by the jurisdiction for which an exception might be taken, the typical advantages and disadvantages of using the area for a use not allowed by the Goal, and the typical positive and negative consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts. A detailed evaluation of specific alternative sites is not required unless such sites are specifically described with facts to support the assertion that the sites have significantly fewer adverse impacts during the local exceptions proceeding. The exception shall include the reasons why the consequences of the use at the chosen site are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site. Such reasons shall include but are not limited to, the facts used to determine which resource land is least productive; the ability to sustain resource uses near the proposed use; and the long-term economic impact on the general area caused by irreversible removal of the land from the resource base. Other possible impacts include the effects of the proposed use on the water table, on the costs of improving roads and on the costs to special service districts.

These criteria are addressed in the following paragraphs.

Environmental Consequences:

The long-term environmental consequences resulting from the exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception. Facts supporting this conclusion are discussed below.

Water quality: Residential development within the proposed exception area is not likely to have significant water quality impacts because:

- All new development will be served by new DEQ-approved drainfields and septic tanks;
- Existing County regulations controlling soil erosion (section S4.300 – S4.310) and establishing riparian setbacks (S4.237) help mitigate some of the water quality impacts of new development.

Air quality: Residential development within the proposed exception area is unlikely to have significant air quality impacts because:

- The exception area, like all other lands in Clatsop County, is not listed as a "non-attainment" area with respect to air quality standards by the Oregon Department of Environmental Quality.
- Air emissions from motor vehicle transportation associated with the exception area are the same as would be expected from other potential exception areas in the County. The proposed exception area is closer to Astoria than other possible exception areas to the south and east, which may help minimize travel distances, and thus minimize transportation-related air emissions.

Fish and wildlife habitat: Residential development planned for tax lot 300 is not likely to have significant impacts on fish or wildlife habitat because:

- Fish habitat is not present at the proposed exception area.
- Nearby waters of the Klaskanine River includes habitat for many fish species [9], including threatened or endangered salmon species. Potential down-slope water quality impacts can be minimized or avoided by following best management practices during and after construction, and by requiring DEQ-approved drainfields and septic tanks for new homes on tax lot 300.
- Wildlife habitat in the proposed exception area may be impacted by new residential development; but this impact is unlikely to be significantly greater than it would be in other potential exception areas because (1) the proposed exception area has not been identified as providing exceptional or significant habitat for any wildlife species; and (2) wildlife habitat in the proposed exception area is limited by existing development in the surrounding area.

Noise: Residential development planned for tax lot 300 may increase noise levels in the immediate vicinity, but this environmental impact is not likely to be significantly greater in the proposed exception area than it would be in alternative exception areas.

Other environmental consequences: There is no evidence that environmental impacts associated with solid waste disposal, toxic

substances, or greenhouse gas emissions are substantially different at the proposed exception area as compared to any other alternative exception area.

Based on this information, the County can conclude that the long-term environmental consequences resulting from residential, commercial and industrial development in the proposed exception area are not significantly more adverse than would typically result from the same development being located in other areas requiring an exception.

Economic consequences:

The long-term economic consequences resulting from the exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a goal exception. Findings supporting this conclusion are discussed here. Potential economic consequences of residential development in the proposed exception area include the following:

- Land values may rise slightly because the per-acre price of agricultural or forest land in Clatsop County is less than the per-acre price of residential, commercial or industrial land, other factors being equal.
- The total value of all agricultural products sold from Clatsop County may drop slightly as a result of the proposed exception. The applicant, Mr.Helligso, harvested a small quantity of hay from the site in 2002. Other potential exception sites are likely to yield some farm or forest products.

Based on this information, the County can conclude that the exception's long-term economic consequences are not significantly different than would typically result from the same proposal being located in alternative areas requiring a goal exception.

Social consequences:

The long-term social consequences resulting from the exception are not significantly more adverse than would typically result from the same

proposal being located in other areas requiring a goal exception. Findings supporting this conclusion are discussed here.

Population growth: New homes are likely to be built on tax lot 300 as a result of this exception. This will result in more families living in the Olney area than at present, and may result in changes in the social setting in this community. This is unlikely to be significantly worse than might be expected at other alternative exception areas because the Olney area already accommodates a small rural residential population; the area is well-served by infrastructure and services needed to accommodate low-density rural residential development; and the area is close to existing urban residential population centers (Astoria and Warrenton). Additionally, new residential construction is subject to development standards that, to a limited extent, help minimize social disruption. Examples of these standards include yard setbacks and height limits.

Commercial activity: New commercial development is not planned for the proposed exception area. An existing store located west of the proposed exception, in the Neighborhood Commercial zone, may benefit from additional residences in the area.

Industrial development: New industrial development is not planned for the exception area. An existing industrial use in the vicinity of the proposed exception area is separated from the exception area by Highway 202.

Loss of open space: The proposed exception will result in the loss of open space. The open space afforded by tax lot 300 may provide social benefits to surrounding residents, and for visitors passing the exception area on Highway 202. There is no evidence that the proposed exception area provides this kind of social benefit to a significantly greater degree than do alternative exception areas. If this social consequence exists, it is likely to be roughly proportional to the number of people who pass the site, plus the number of surrounding property owners who benefit from adjoining farm land. Some alternative exception sites, such as farm land on the Clatsop Plains, have substantially more passing traffic than does the proposed exception site. Other alternative exception sites may have less. In general, the site's open space value can't be preserved for the public without compensating the owner. Overall, there is no evidence that the proposed exception area will result in this kind of negative social consequence to a significantly greater degree than any other alternative exception area.

This information supports a conclusion that the long-term social consequences resulting from the exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a goal exception.

Energy consequences:

Long-term energy consequences resulting from the proposed exception are not significantly worse than would typically result from the same proposal being located in other areas requiring a goal exception. This conclusion is supported by the following findings:

- No known energy resources (such as oil or gas fields, geothermal resources, hydroelectric generating capacity, or coal deposits) are located on tax lot 300.
- Energy consumption may change as a result of residential development. These uses typically consume more energy per acre than do low-intensity agricultural or forestry uses. However, this change is unlikely to be substantially greater than it would be at alternative exception areas.
- Energy distribution requirements are likely to change as a result of development within the proposed exception area, but the change is likely to be relatively minor. There is no evidence that the proposed exception area is significantly worse with respect to energy transmission than any other potential exception area.
- Waste products resulting from energy production are unlikely to be more difficult to manage as a result of the proposed exception than would be the case if an alternative exception site were chosen.

These facts support a conclusion that long-term energy consequences resulting from the proposed exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a goal exception.

Conclusion (Long-term environmental, economic, social and energy consequences):

Findings on preceding pages support a conclusion that long-term environmental, economic, social and energy consequences resulting from the uses allowed within the proposed exception on tax lot 300 are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception.

Compatibility with adjacent uses (OAR 660-04-05(1)(d))

OAR 660-04-20(2)(d) reads as follows:

> *(d) "The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts." The exception shall describe how the proposed use will be rendered compatible with adjacent land uses. The exception shall demonstrate that the proposed use is situated in such a manner as to be compatible with surrounding natural resources and resource management or production practices. "Compatible" is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses.*

Proposed uses on tax lot 30 are those listed in the RA2 zone:
300

- Single-family dwelling (LWDUO section 3.204(1) and (2))
- Limited home occupation (LWDUO section 3.204(3))
- Minor utilities (LWDUO section 3.204(4))
- Farm use (LWDUO section 3.204(5))
- Roadside stand for farm products grown on the premises (LWDUO section 3.204(6))
- Forestry (LWDUO section 3.204(7))
- Low intensity recreation (LWDUO section 3.204(8))
- Public or private neighborhood park or playground (LWDUO section 3.204(9))

- Horticultural nursery (LWDUO section 3.204(10))
- Cluster developments (LWDUO section 3.204(11))
- Duplex (LWDUO section 3.204(12))
- Temporary uses (LWDUO section 3.204(13))
- Handicapped housing facility (LWDUO section 3.204(14))
- Health hardship dwelling (LWDUO section 3.204(15))
- Communication facilities (LWDUO section 3.204(17))
- Public/semi-public development (LWDUO section 3.207(1))
- Utilities necessary for public service (LWDUO section 3.207(2))
- Extraction, processing, and stockpiling of rock, sand, mineral and other subsurface materials (LWDUO section 3.207(3))
- Dog kennel (LWDUO section 3.207(4))
- Airport (LWDUO section 3.207(5))
- Public or private recreation such as riding stable, fishing or boating docks or ramps, gun club, golf course, or resort type establishment in association with recreation (LWDUO section 3.207(6))
- Home occupation (LWDUO section 3.207(7))
- Veterinary clinic (LWDUO section 3.207(8))
- Golf course (LWDUO section 3.207(9))
- Golf driving range (LWDUO section 3.207(10))
- Campground, primitive (LWDUO section 3.207(11))
- Boat ramps (LWDUO section 3.207(12))
- Bed and breakfast establishment (LWDUO section 3.207(14))

Single-family residences are the primary use intended for the exception area. Some of the potential uses listed above and allowed in the RA2 zone can't be developed on tax lot 300. The site is too small for a airport, golf course or driving range; it lacks water access needed for a boat ramp. Some uses listed above don't require a goal exception: agriculture or

forestry; a primitive campground; low-intensity recreation. Some of the allowable RA2 uses would not be allowed under this exception because they haven't been addressed: communications facilities, public and semi-public development, kennels, and veterinary clinics would require an additional (or amended) exception on tax lot 300.

Adjacent uses include the Olney Community Church (tax lot 901, to the east); commercial forest land (tax lot 200, to the north); a rural residence and the Olney Store (tax lots 2300 and 2400, to the west); a small wood products processing facility (tax lot 400, across Highway 202 to the south); and the Olney School (tax lot 501, across Highway 202, to the south). Planned uses in the proposed exception area are generally compatible with existing and planned uses on adjoining lands for the following reasons:

Adjacent forest use: Forest land is located adjacent to a portion of the exception area. Forestry-related activities on these lands may include timber harvesting, thinning, application of chemicals, and slash disposal. The County relies on the following measures to ensure compatibility between adjoining forestry uses and residential uses in the proposed exception area:

- Oregon Forest Practices Act and its administrative rules include provisions to avoid conflicts between forestry and adjoining non-forest uses.
- Clatsop County's development code includes a 50-foot setback from adjoining resource zones (including land in forest zones) for new structures (see LWDUO section 3.208(5) and (6)).

Nearby industrial use: A small sawmill is located south of tax lot 300, across Highway 202. The County relies on the following to ensure compatibility between residential use on the proposed exception area and this nearby industrial use:

- The Highway 202 has a 50-foot wide right-of way past the exception site. This provides a spatial buffer between potentially incompatible residential development on tax lot 300, and existing industrial development on tax lot 400.
- Minimum street-side setbacks in the proposed RA2 zone provide an additional setback from the industrial site on tax lot 400: see LWDUO section 3.208(4).

- Mr.Helligso intends to cluster residences on tax lot 300. Clatsop County's review procedure for cluster developments provides an opportunity to impose additional setbacks from potentially incompatible industrial development on tax lot 400: see Clatsop County standards document sections 3.150 through 3.159.
- Residential development on tax lot 300, allowed under this exception, would be no nearer to incompatible industrial development on tax lot 400 than residential development on tax lot 7-9-12-500 and a portion of tax lot 7-9-13-400. These two tax lots are to be down-zoned as a part of this amendment. As a result, the proposed exception does not worsen potential residential-industrial conflicts involving the small saw mill.

Church: The Olney Community Church is located immediately adjacent to tax lot 300 to the east, on tax lot 901. The County relies on the following to ensure compatibility between residential use on the proposed exception area and this nearby non-residential use:

- The Olney Community Church is a relatively small facility with use patterns consistent with its rural location.
- Setbacks between residential development on tax lot 300 and the church can be imposed during development of tax lot 300 to avoid some kinds of conflicts.
- Mr.Helligso intends to cluster residences on tax lot 300. Clatsop County's review procedure for cluster developments provides an opportunity to impose additional setbacks from this potentially incompatible use to the east: see Clatsop County standards document sections 3.150 through 3.159.
- Mr.Helligso recognizes the Olney Community Church's right to operate a place of worship on tax lot 901. This right is guaranteed under federal law [11].

Olney Store: A small convenience store is located on tax lot 2400, to the west of the proposed exception area. The County relies on the following to ensure compatibility between residential use on the proposed exception area and this nearby commercial use:

- The Olney Store is separated from tax lot 300 by an intervening lot.

- The County's Neighborhood Commercial zone (NC) restricts uses so as to avoid conflicts between rural residential uses and more intense commercial activities: see LWDUO sections 3.304 and 3.306.
- Mr.Helligso intends to cluster residences on tax lot 300. Clatsop County's review procedure for cluster developments provides an opportunity to impose additional setbacks from this potentially incompatible use to the west: see Clatsop County standards document sections 3.150 through 3.159.

Olney School: A school building is located south of tax lot 300, across Highway 202. The County relies on the following to ensure compatibility between residential use on the proposed exception area and this nearby non-residential use:

- The Highway 202 has a 50-foot wide right-of way past the exception site. This provides a spatial buffer between potentially incompatible residential development on tax lot 300, and existing industrial development on tax lot 501.
- Minimum street-side setbacks in the proposed RA2 zone provide an additional setback from the school: see LWDUO section 3.208(4).
- Mr.Helligso intends to cluster residences on tax lot 300. Clatsop County's review procedure for cluster developments provides an opportunity to impose additional setbacks from potentially incompatible industrial development on tax lot 400: see Clatsop County standards document sections 3.150 through 3.159.
- The Olney School is not currently used by the Astoria School District. Because of this, there is almost no activity at the School. This should completely avoid incompatibility, although the school's closure is unlikely to be permanent.
- School-related activities may be largely compatible with residential uses. Many elementary schools are located in residential neighborhoods. Gray and Astor schools in Astoria, Warrenton Elementary, Seaside Heights, and Gearhart Elementary are all located in residential neighborhoods.

Conclusion: Compatibility with adjacent uses

Clatsop County finds that proposed residential, commercial and industrial uses planned for the exception area compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.

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[11] 106th Congress of the United States of America. (2000) *Religious Land Use and Institutionalized Persons Act of 2000.* Washington, D.C.: US Government Printing Office.

Exception to Goal 14 for Tax Lot 7-9-12-300

11 March 2004

Summary

This document contains an exception to statewide planning goal 14 for tax lot 7-9-12-300, covering about 19 acres in the Olney area.

Clatsop County is considering a proposal consisting of the following amendments:

- Comprehensive Plan Map amendment from the *Conservation–Forest Lands* plan designation to the *Rural Lands* plan designation (see exhibit 2) for tax lot 7-9-12-300;
- Zoning Map amendment from AF to RA2 (see exhibit 3) for tax lot 7-9-12-300;
- Comprehensive Plan Map amendment from the *Rural Lands* plan designation to the *Conservation–Forest Lands* plan designation (see exhibit 2) for tax lot 7-9-12-500 and a portion of tax lot 7-9-13-400;
- Zoning Map amendment from RA2 to AF (see exhibit 3) for tax lot 7-9-12-500 and a portion of tax lot 7-9-13-400.

These amendments allow rural residential development on tax lot 300. As part of these amendments, two new exceptions are needed. One is an exception to statewide planning goal 14 (this document); the other is an exception to statewide planning goal 4 (forest lands – see exhibit 4). Finally, the proposal includes the removal of tax lot 7-9-12-500 and a portion of tax lot 7-9-13-400 from the existing goal 4 exception area (see exhibit 5).

Exception Requirements

An exception is a decision to exclude certain land from the requirements of one or more applicable statewide goals. This exception to goal 14 is provided to meet the requirements of OAR 660-04-0040(6):

> *(6) After the effective date of this rule, a local government's requirements for minimum lot or parcel sizes in rural residential areas shall not be amended to allow a smaller minimum for any individual lot or parcel without taking an exception to Goal 14.*

This exception is a *reasons* exception, subject to OAR 660-004-0020 and 660-004-0022. These requirements are addressed on the following pages.

Goal 14 addresses urbanization. The goal is "To provide an orderly and efficient transition from rural to urban land use." Administrative rules have been adopted by the state to implement goal 14 by requiring counties to regulate residential density and service availability in rural residential areas. Proposed amendments do not affect service availability (such as water or fire protection) at the exception site; however, density *is* affected. The proposal changes the maximum density on tax lot 300 to one dwelling unit per two acres.

Goal 14 does not state that a two-acre minimum lot size is urban; in fact, Oregon's administrative rules state that two acres is generally the smallest rural lot size:

> *A rural residential zone currently in effect shall be deemed to comply with Goal 14 if that zone requires any new lot or parcel to have an area of at least two acres.* (OAR 660-004-0040(5)(a))

Nonetheless, goal 14 may be interpreted as requiring an exception for any up-zoning involving rural residential lands, regardless of lot size:

> *After the effective date of this rule, a local government's requirements for minimum lot or parcel sizes in rural residential areas shall not be amended to allow a smaller minimum for any individual lot or parcel without taking an exception to Goal 14.* (OAR 660-04-0040(6))

This reasons exception is taken to satisfy the language in OAR 660-04-0040(6).

OAR 660-14-0040 may be relevant, too. This administrative rule is entitled " Incorporation of New Cities on Undeveloped Rural Lands". It is addressed beginning on page 22 of this exception.

Oregon Revised Statutes (ORS) 197.732(1) establishes three different types of exceptions: physically developed (ORS 197.732(1)(a)); irrevocably committed (ORS 197.732(1)(b)); and reasons (ORS 197.732(1)(c)). This exception is a *reasons* exception. ORS 197.732(1)(c) establishes requirements for a reasons exception:

> *(1) A local government may adopt an exception to a goal if:*
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> .
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> .
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> .
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> *(c) The following standards are met:*
>
> *(A) Reasons justify why the state policy embodied in the applicable goals should not apply;*
>
> *(B) Areas which do not require a new exception cannot reasonably accommodate the use;*
>
> *(C) The long term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and*
>
> *(D) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.*

Statewide planning goal 2 establishes requirements for exceptions. Part II(c) of goal 2 is applicable to a reasons exception, and is identical to ORS 197.732(1)(c), cited above.

Oregon Administrative Rules (OAR) chapter 660, division 4, establishes rules for exceptions. OAR 660-04-000(2) and OAR 660-04-05(1) provide general definitions of an exception:

> *An exception is a decision to exclude certain land from the requirements of one or more applicable statewide goals in*

> *accordance with the process specified in Goal 2, Part II, Exceptions. The documentation for an exception must be set forth in a local government's comprehensive plan. Such documentation must support a conclusion that the standards for an exception have been met. The conclusion shall be based on findings of fact supported by substantial evidence in the record of the local proceeding and by a statement of reasons which explain why the proposed use not allowed by the applicable goal should be provided for. The exceptions process is not to be used to indicate that a jurisdiction disagrees with a goal.* (OAR 660-04-000(2))

> *An "Exception" is a comprehensive plan provision, including an amendment to an acknowledged comprehensive plan, that:*
>
> *(a) Is applicable to specific properties or situations and does not establish a planning or zoning policy of general applicability;*
>
> *(b) Does not comply with some or all goal requirements applicable to the subject properties or situations; and*
>
> *(c) Complies with the provisions of this Division.* (OAR 660-04-05(1))

OAR 660-04-20(2) sets detailed requirements for a reasons exception:

> *(1) If a jurisdiction determines there are reasons consistent with OAR 660-004-0022 to use resource lands for uses not allowed by the applicable Goal, the justification shall be set forth in the comprehensive plan as an exception.*
>
> *(2) The four factors in Goal 2 Part II(c) required to be addressed when taking an exception to a Goal are:*
>
> *(a) "Reasons justify why the state policy embodied in the applicable goals should not apply": The exception shall set forth the facts and assumptions used as the basis for determining that a state policy embodied in a goal should not apply to specific properties or situations including the amount of land for the use being planned and why the use requires a location on resource land;*
>
> *(b) "Areas which do not require a new exception cannot reasonably accommodate the use":*
>
> *(A) The exception shall indicate on a map or otherwise describe the location of possible alternative areas considered for*

the use, which do not require a new exception. The area for which the exception is taken shall be identified;

(B) To show why the particular site is justified, it is necessary to discuss why other areas which do not require a new exception cannot reasonably accommodate the proposed use. Economic factors can be considered along with other relevant factors in determining that the use cannot reasonably be accommodated in other areas. Under the alternative factor the following questions shall be addressed:

(i) Can the proposed use be reasonably accommodated on nonresource land that would not require an exception, including increasing the density of uses on nonresource land? If not, why not?

(ii) Can the proposed use be reasonably accommodated on resource land that is already irrevocably committed to nonresource uses, not allowed by the applicable Goal, including resource land in existing rural centers, or by increasing the density of uses on committed lands? If not, why not?

(iii) Can the proposed use be reasonably accommodated inside an urban growth boundary? If not, why not?

(C) This alternative areas standard can be met by a broad review of similar types of areas rather than a review of specific alternative sites. Initially, a local government adopting an exception need assess only whether those similar types of areas in the vicinity could not reasonably accommodate the proposed use. Site specific comparisons are not required of a local government taking an exception, unless another party to the local proceeding can describe why there are specific sites that can more reasonably accommodate the proposed use. A detailed evaluation of specific alternative sites is thus not required unless such sites are specifically described with facts to support the assertion that the sites are more reasonable by another party during the local exceptions proceeding.

(c) The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception. The exception shall describe the characteristics of each alternative areas considered by the jurisdiction for which an exception might be taken, the typical advantages and disadvantages of using the area for a use not allowed by the

> *Goal, and the typical positive and negative consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts. A detailed evaluation of specific alternative sites is not required unless such sites are specifically described with facts to support the assertion that the sites have significantly fewer adverse impacts during the local exceptions proceeding. The exception shall include the reasons why the consequences of the use at the chosen site are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site. Such reasons shall include but are not limited to, the facts used to determine which resource land is least productive; the ability to sustain resource uses near the proposed use; and the long-term economic impact on the general area caused by irreversible removal of the land from the resource base. Other possible impacts include the effects of the proposed use on the water table, on the costs of improving roads and on the costs to special service districts;*
>
> *(d) "The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts." The exception shall describe how the proposed use will be rendered compatible with adjacent land uses. The exception shall demonstrate that the proposed use is situated in such a manner as to be compatible with surrounding natural resources and resource management or production practices. "Compatible" is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses.*
>
> *(3) If the exception involves more than one area for which the reasons and circumstances are the same, the areas may be considered as a group. Each of the areas shall be identified on a map, or their location otherwise described, and keyed to the appropriate findings.*

OAR 660-04-22 lists reasons needed to justify an exceptions under goal 2, part II(c). Those pertaining to this exception include:

> *An exception Under Goal 2, Part II(c) can be taken for any use not allowed by the applicable goal(s). The types of reasons that may or may not be used to justify certain types of uses not*

allowed on resource lands are set forth in the following sections of this rule:

(1) For uses not specifically provided for in subsequent sections of this rule or OAR 660, division 014, the reasons shall justify why the state policy embodied in the applicable goals should not apply. Such reasons include but are not limited to the following:

(a) There is a demonstrated need for the proposed use or activity, based on one or more of the requirements of Statewide Goals 3 to 19; and either

(b) A resource upon which the proposed use or activity is dependent can be reasonably obtained only at the proposed exception site and the use or activity requires a location near the resource. An exception based on this subsection must include an analysis of the market area to be served by the proposed use or activity. That analysis must demonstrate that the proposed exception site is the only one within that market area at which the resource depended upon can reasonably be obtained; or

(c) The proposed use or activity has special features or qualities that necessitate its location on or near the proposed exception site.

(2) Rural Residential Development: For rural residential development the reasons cannot be based on market demand for housing, except as provided for in this section of this rule, assumed continuation of past urban and rural population distributions, or housing types and cost characteristics. A county must show why, based on the economic analysis in the plan, there are reasons for the type and density of housing planned which require this particular location on resource lands. A jurisdiction could justify an exception to allow residential development on resource land outside an urban growth boundary by determining that the rural location of the proposed residential development is necessary to satisfy the market demand for housing generated by existing or planned rural industrial, commercial, or other economic activity in the area.

These requirements are addressed in the following sections.

Reasons justify why the state policy embodied in the applicable goals should not apply (OAR 660-04-20(2)(a))

This section sets forth the facts and assumptions for determining that state policy embodied in goal 14 should not apply to tax lot 7-9-12-300. This section also explains why the proposed uses require a location on resource land. The exception area includes all of tax lot 300, covering about 19.16 acres.

The policy embodied in goal 14 is "To provide for an orderly and efficient transition from rural to urban land use." Administrative rules adopted to implement this policy include OAR 660-04-0040(6):

> *(6) After the effective date of this rule, a local government's requirements for minimum lot or parcel sizes in rural residential areas shall not be amended to allow a smaller minimum for any individual lot or parcel without taking an exception to Goal 14.*

This exception is intended to address OAR 660-04-0040(6). Reasons justifying this exception are best summarized by comparing the proposed exception site (tax lot 300) with the proposed off-setting downzone (tax lot 7-9-12-500 and a portion of tax lot 7-9-13-400):

Topography: Tax lot 300, the exception site, is moderately-sloping, and includes relatively flat areas suitable for home-site development with minimal grading. The proposed down-zone site (tax lot 7-9-12-500 and a portion of tax lot 7-9-13-400) is steeply-sloping. Rural residential development on the proposed downzone site will require extensive excavation and engineering.

Habitat: The proposed down-zone site includes extensive wetland areas. These wetland areas may provide habitat for migratory waterfowl, anadromous fish, reptiles and amphibians, and neo-tropical songbirds. The proposed exception area has a much less extensive wetland which does not provide these types of habitat.

Traffic Impacts: The proposed exception site can be developed with an internal road system, and one or two access points onto Highway 202. The proposed down-zone site can only be developed in a linear fashion with each home-site having an individual driveway onto the County Road.

Density: Because this proposal contains off-setting amendments, the exception has no net impact on buildable vacant land or overall density in the Olney area.

Pedestrian Access: The proposed exception site is on the same side of Highway 202 as two community facilities: the Olney Store and the Olney Community Church. Pedestrians can reach the store or the church without crossing the highway. The proposed down-zone site is on the opposite side of Highway 202.

Solar Access: Potential homesites on the exception site have a southern exposure. The proposed down-zone site has a westerly and south-westerly exposure.

These reasons justify a decision to approve an exception to the goal 14 requirement in OAR 660-04-0040(6).

Areas which do not require a new exception cannot reasonably accommodate the use (OAR 660-04-20(2)(b))

The use planned for the exception site is a rural residential development located in the Olney area consisting of no more than five single-family detached dwellings. Alternative non-exception areas cannot reasonably accommodate this use, for reasons explained in the following paragraphs.

Administrative rules identify certain areas that are not subject to the exception requirement in OAR 660-04-0040(6). These areas are potentially available to accommodate the proposed use. However, practical difficulties preclude using these areas for the proposed use:

- *Lands within an urban growth boundary (OAR 660-04-0040(2)(a) and (2)(c)(A)).* There are no UGB lands in the Olney area. The nearest Urban Growth Boundary is Astoria, about six miles northwest of Olney. Land in the Astoria UGB is not available for the proposed use because it is zoned for urban rather than rural residential density; because Astoria UGB lands are not in the Olney area, and residents of the Astoria UGB do not generally participate in Olney community activities; and because residential land in the Astoria UGB does not offset the loss of residential land in the Olney area associated with the proposed down-zoning of tax lot 7-9-12-500 and a portion of tax lot 7-9-13-400.

- *Lands divided prior to the effective date (3 April 2001) of the administrative rule (OAR 660-04-0040(2)(b))*. Existing divided lands are not available in the Olney area. Approved partitions and subdivisions in the Olney area are limited to the following: partition plats 1993-014 and 1994-013, in the AF zone; partition plat 1995-008, in the EFU zone, and the Plat of the Town of Olney, in the EFU zone. The proposed use is prohibited under the current zoning on these partition and subdivision lots.

- *Land in an unincorporated community (OAR 660-04-0040(2)(c)(B))*. There are no unincorporated communities in the Olney area. The nearest unincorporated community is Jeffers Gardens – Miles Crossing, about five miles to the northwest. Land in the Jeffers Gardens – Miles Crossing unincorporated community is zoned at a higher density than is planned for the exception area. Residents of the Jeffers Gardens – Miles Crossing unincorporated community do not generally participate in community life in Olney.

- *Land in an urban reserve area (OAR 660-04-0040(2)(c)(C))*. There are no urban reserve lands in the Olney area. The nearest urban reserve areas are in Washington County, approximately 60 miles southeast of the proposed exception area. These urban reserve areas are not suitable for the proposed use.

- *Land in an area designated for destination resort development (OAR 660-04-0040(2)(c)(D))*. Clatsop County's comprehensive plan does not identify any lands in the Olney area suitable for destination resorts. There are no existing destination resorts in the Olney area, or anywhere in Clatsop County. Some lands in Tillamook County have been identified in that county's comprehensive plan as suitable for destination resort development. These areas are not suitable for the proposed use.

- *Resource land (OAR 660-04-0040(2)(c)(E))*. Resource lands are zoned for farm use, forestry, open space, recreation, wetlands, and aquatic uses. These lands are present in the Olney area, but they are not available for the proposed use because rural residential development is not permitted in Clatsop County's resource zones.

- *Nonresource land (OAR 660-04-0040(2)(c)(F))*. Non-resource lands are not suitable for agriculture or forestry due to a physical factor such as poor soil conditions. There are no lands in the Olney area identified as non-resource lands. The nearest non-resource lands are about eight miles to the west, on the west side of Highway 101 in the Clatsop Plains, where the County adopted findings in 1982

demonstrating that this area was not suitable for farming or forestry. Clatsop Plains non-resource lands are not suitable for the proposed use because they are too far removed from the Olney area.

- *Marginal land (OAR 6660-04-0040(2)(c)(G)).* Low-value farm land formally identified as such in the 1980s can be classified as marginal land. There is no identified marginal land in the Olney area, or anywhere in Clatsop County.

- *Rural industrial, commercial, or public use lands (OAR 6660-04-0040(2)(c)(H)).* The Olney Store is zoned for rural commercial uses. A sawmill across Highway 202 from the exception site is zoned for rural industrial uses. These sites are not available for the proposed use because their zoning does not allow rural residential development.

- *Curry County compliant lands (OAR 660-04-0040(3)(b)).* Rural residential areas found to comply with goal 14 after the Oregon Supreme Court's 1986 ruling in *1000 Friends of Oregon v. LCDC* (301 Or 447), and before 3 April 2001 are exempt from this exception requirement. There are no rural residential lands in the Olney area, or elsewhere in Clatsop County, that were acknowledged as compliant with goal 14 during the period between the 1986 court decision and LCDC's adoption in 2001 of goal 14 lot size rules (OAR 660-04-0040).

- *Lands in a rural residential zone that requires a new lot or parcel to have an area of at least two acres (OAR 660-04-0040(5)(a)).* The Olney area includes lands in the RA2 and RA5 zones. The proposed down-zone lands (tax lot 7-9-12-500 and a portion of tax lot 7-9-13-400) are in the RA2 zone. These lands are poorly suited for the proposed use because of steep slopes; the presence of extensive wetland areas; and other development-related constraints.

This information justifies a conclusion that areas which do not require a new exception cannot reasonably accommodate the proposed use.

Long-term environmental, economic, social and energy consequences (OAR 660-04-20(1)(c)):

The following criteria must be met in order to approve this exception:

> *The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site with*

> *measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception. The exception shall describe the characteristics of each alternative areas considered by the jurisdiction for which an exception might be taken, the typical advantages and disadvantages of using the area for a use not allowed by the Goal, and the typical positive and negative consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts. A detailed evaluation of specific alternative sites is not required unless such sites are specifically described with facts to support the assertion that the sites have significantly fewer adverse impacts during the local exceptions proceeding. The exception shall include the reasons why the consequences of the use at the chosen site are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site. Such reasons shall include but are not limited to, the facts used to determine which resource land is least productive; the ability to sustain resource uses near the proposed use; and the long-term economic impact on the general area caused by irreversible removal of the land from the resource base. Other possible impacts include the effects of the proposed use on the water table, on the costs of improving roads and on the costs to special service districts.*

These criteria are addressed in the following paragraphs.

Environmental Consequences:

The long-term environmental consequences resulting from the exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a goal exception. Facts supporting this conclusion are discussed below.

Water quality: Residential development within the proposed exception area is not likely to have significant water quality impacts because:

- All new development on the exception site will be served by new DEQ-approved drainfields and septic tanks;
- Existing County regulations controlling soil erosion (section S4.300 –

S4.310) and establishing riparian setbacks (S4.237) help mitigate potential water quality impacts of new development.

Air quality: Residential development within the proposed exception area is unlikely to have significant air quality impacts because:

- The exception area, like all other lands in Clatsop County, is not listed as a "non-attainment" area with respect to air quality standards by the Oregon Department of Environmental Quality.
- Air emissions from motor vehicle transportation associated with the exception area are substantially the same as would be expected from other potential exception areas. The proposed exception area is closer to Astoria than other possible exception areas to the south and east, which may help minimize travel distances, and thus minimize transportation-related air emissions.

Fish and wildlife habitat: Residential development planned for tax lot 300 is unlikely to have significant impacts on fish or wildlife habitat because:

- Fish habitat is not present on the proposed exception site.
- Nearby waters of the Klaskanine River includes habitat for many fish species [1], including threatened or endangered salmon species. Potential down-slope water quality impacts can be minimized or avoided by following best management practices during and after construction, and by requiring DEQ-approved drainfields and septic tanks for new homes on tax lot 300.
- Wildlife habitat in the proposed exception area may be impacted by new residential development; but this impact is unlikely to be significantly greater than it would be in other potential exception areas because (1) the proposed exception area has not been identified as providing exceptional or significant habitat for any wildlife species; and (2) wildlife habitat in the proposed exception area is limited by existing development in the surrounding area.

Noise: Residential development planned for tax lot 300 may increase noise levels in the immediate vicinity, but this environmental impact is not likely to be significantly greater in the proposed exception area than it would be in alternative exception areas.

Other environmental consequences: There is no evidence that environmental impacts associated with solid waste disposal, toxic substances, or greenhouse gas emissions are substantially different at the proposed exception area as compared to other alternative exception areas. Significant local noise sources include the sawmill, truck traffic on Highway 202, and a nearby quarry.

Based on this information, the County can conclude that the long-term environmental consequences resulting from residential, commercial and industrial development in the proposed exception area are not significantly more adverse than would typically result from the same development being located in other areas requiring an exception.

Economic consequences:

The long-term economic consequences resulting from the proposed exception are not significantly worse than would typically result from the same proposal being located in other areas requiring a goal exception. Findings supporting this conclusion are discussed here. Potential economic consequences of residential development in the proposed exception area might include:

- Land values may rise slightly because the per-acre price of farm or forest land in Clatsop County is less than the per-acre price of residential, commercial or industrial land, other factors being equal. The Olney area lacks any non-resource or marginal lands.
- The total value of all agricultural products sold from Clatsop County may drop slightly as a result of the proposed exception. The landowner harvested a small quantity of hay from the site in 2002. Other potential exception sites are likely to yield some farm or forest products.

Based on this information, the County can conclude that the exception's long-term economic consequences are not significantly different than would typically result from the same proposal being located in alternative areas requiring a goal exception.

Social consequences:

Long-term social consequences resulting from the proposed exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a goal exception. Findings supporting this conclusion are discussed here.

Population growth: New single-family dwellings are likely to be built on tax lot 300 as a result of this exception. This will result in more families living in the Olney area than at present, and may result in changes in the character of this community. This is unlikely to be significantly worse than might be expected at other alternative exception areas because the Olney area already accommodates a small rural residential population; the area is well-served by infrastructure and services needed to accommodate low-density rural residential development; and the area is relatively close to existing urban residential population centers (Astoria and Warrenton). Additionally, new residential construction is subject to development standards that help minimize social disruption. Examples of these standards include yard setbacks and building height limits.

Commercial activity: New commercial development is not planned for the proposed exception area. An existing store located west of the proposed exception, in the Neighborhood Commercial zone, may benefit from additional residences in the area.

Industrial development: New industrial development is not planned for the exception area. An existing industrial use in the vicinity of the proposed exception area is separated from the exception area by Highway 202.

Loss of open space: The proposed exception will result in the loss of open space. The open space afforded by tax lot 300 may provide social benefits to surrounding residents, and for travelers passing the exception area on Highway 202. There is no evidence that the proposed exception area provides this kind of social benefit to a significantly greater degree than do alternative exception areas. If this social consequence exists, it is likely to be roughly proportional to the number of people who pass the site, plus the number of surrounding property owners who benefit from adjoining vacant land. Some alternative exception sites, such as farm land on the Clatsop Plains, have substantially more passing traffic than does the proposed exception site. Other alternative exception sites may have less. In general, the site's open space value can't be entirely reserved for the public without compensating the owner. Overall, there is no evidence that the proposed exception area will result in this kind of negative social

consequence to a significantly greater degree than any other alternative exception area.

This information justifies a conclusion that the long-term social consequences resulting from the exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a goal exception.

Energy consequences:

Long-term energy consequences resulting from the proposed exception are not significantly worse than would typically result from the same proposal being located in other areas requiring a goal exception. This conclusion is supported by the following facts:

- No known energy resources (such as oil or gas deposits, geothermal resources, hydroelectric generating capacity, or coal deposits) are located on tax lot 300.
- Energy consumption may change as a result of residential development. These uses typically consume more energy per acre than do low-intensity agricultural or forestry. However, this change is unlikely to be substantially greater than it would be at alternative exception areas.
- Energy distribution requirements may change in response to development within the proposed exception area, but the change is likely to be relatively minor. There is no evidence that the proposed exception area is significantly worse than any other potential exception area with respect to energy transmission.
- Waste products resulting from energy production are unlikely to be more difficult to manage as a result of the proposed exception than would be the case if an alternative exception site were chosen.

These facts justify a conclusion that long-term energy consequences resulting from the proposed exception are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a goal exception.

Conclusion – Long-term environmental, economic, social and energy consequences:

Findings on preceding pages support a conclusion that long-term environmental, economic, social and energy consequences resulting from the uses allowed within the proposed exception on tax lot 300 are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a Goal exception.

Compatibility with adjacent uses (OAR 660-04-05(1)(d))

OAR 660-04-20(2)(d) reads as follows:

> *(d) "The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts." The exception shall describe how the proposed use will be rendered compatible with adjacent land uses. The exception shall demonstrate that the proposed use is situated in such a manner as to be compatible with surrounding natural resources and resource management or production practices. "Compatible" is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses.*

Proposed uses on tax lot 30 are those listed in the RA2 zone:

- Single-family dwelling (LWDUO section 3.204(1) and (2))
- Limited home occupation (LWDUO section 3.204(3))
- Minor utilities (LWDUO section 3.204(4))
- Farm use (LWDUO section 3.204(5))
- Roadside stand for farm products grown on the premises (LWDUO section 3.204(6))
- Forestry (LWDUO section 3.204(7))
- Low intensity recreation (LWDUO section 3.204(8))
- Public or private neighborhood park or playground (LWDUO section 3.204(9))

- Horticultural nursery (LWDUO section 3.204(10))
- Cluster developments (LWDUO section 3.204(11))
- Duplex (LWDUO section 3.204(12))
- Temporary uses (LWDUO section 3.204(13))
- Handicapped housing facility (LWDUO section 3.204(14))
- Health hardship dwelling (LWDUO section 3.204(15))
- Communication facilities (LWDUO section 3.204(17))
- Public/semi-public development (LWDUO section 3.207(1))
- Utilities necessary for public service (LWDUO section 3.207(2))
- Extraction, processing, and stockpiling of rock, sand, mineral and other subsurface materials (LWDUO section 3.207(3))
- Dog kennel (LWDUO section 3.207(4))
- Airport (LWDUO section 3.207(5))
- Public or private recreation such as riding stable, fishing or boating docks or ramps, gun club, golf course, or resort type establishment in association with recreation (LWDUO section 3.207(6))
- Home occupation (LWDUO section 3.207(7))
- Veterinary clinic (LWDUO section 3.207(8))
- Golf course (LWDUO section 3.207(9))
- Golf driving range (LWDUO section 3.207(10))
- Campground, primitive (LWDUO section 3.207(11))
- Boat ramps (LWDUO section 3.207(12))
- Bed and breakfast establishment (LWDUO section 3.207(14))

Single-family residences are the primary use intended for the exception area. Some of the potential uses listed above and allowed in the RA2 zone can't be developed on tax lot 300. The site is too small for an airport, golf course or driving range; it lacks water access needed for a boat ramp. Some uses listed above don't require a goal exception: agriculture or forestry; a primitive campground; low-intensity recreation. Some of the allowable RA2 uses would not be allowed under this exception because they haven't

been addressed: communications facilities, public and semi-public development, kennels, and veterinary clinics would require an additional (or amended) exception on tax lot 300. The principal use proposed under this exception is single family residential use, along with the accessory buildings and uses characteristic of rural residential development.

Adjacent uses include the Olney Community Church (tax lot 901, to the east); commercial forest land (tax lot 200, to the north); a rural residence and the Olney Store (tax lots 2300 and 2400, to the west); a small wood products processing facility (tax lot 400, across Highway 202 to the south); and the Olney School (tax lot 501, across Highway 202, to the south). Planned uses in the proposed exception area are generally compatible with existing and planned uses on adjoining lands for the following reasons:

Adjacent forest use: Forest land is located adjacent to a portion of the exception area. Forestry-related activities on these lands may include timber harvesting, thinning, application of chemicals, and slash disposal. The County can rely on the following measures to ensure compatibility between adjoining forestry uses and residential uses in the proposed exception area:

- Oregon Forest Practices Act and its administrative rules include provisions to avoid and minimize conflicts between forestry and adjoining non-forest uses.
- Clatsop County's development code includes a 50-foot setback from adjoining resource zones (including land in forest zones) for new structures (see LWDUO section 3.208(5) and (6)).

Nearby industrial use: A small sawmill is located south of tax lot 300, across Highway 202. The County can rely on the following to ensure compatibility between residential use on the proposed exception area and this nearby industrial use:

- Highway 202 has a 50-foot wide right-of way past the exception site. This provides a spatial buffer between potentially incompatible residential development on tax lot 300, and existing industrial development on tax lot 400.
- Minimum street-side setbacks in the proposed RA2 zone provide an additional setback from the industrial site on tax lot 400: see LWDUO section 3.208(4).

- Mr. Helligso may cluster residences on tax lot 300. Clatsop County's review procedure for cluster developments provides an opportunity to impose additional setbacks from potentially incompatible industrial development on tax lot 400: see Clatsop County standards document sections S3.150 through S3.159.

- Residential development on tax lot 300, allowed under this exception, would be no nearer to incompatible industrial development on tax lot 400 than residential development on tax lot 7-9-12-500 and a portion of tax lot 7-9-13-400. These two tax lots are to be down-zoned as a part of this amendment. As a result, the proposed exception does not worsen potential residential-industrial conflicts involving the small saw mill.

Church: The Olney Community Church is located immediately adjacent to tax lot 300 to the east, on tax lot 901. The County relies on the following to ensure compatibility between residential use on the proposed exception area and this nearby non-residential use:

- The Olney Community Church is a relatively small facility with use patterns consistent with its size and its rural location.

- Setbacks between residential development on tax lot 300 and the church can be imposed during development of tax lot 300 to avoid some kinds of conflicts.

- Mr. Helligso may cluster residences on tax lot 300. Clatsop County's cluster development review process allows additional setbacks from this potentially incompatible use to the east: see Clatsop County standards document sections S3.150 through S3.159.

- Mr. Helligso recognizes the Olney Community Church's right to operate a place of worship on tax lot 901. This right is guaranteed under federal law [2].

Olney Store: A small convenience store is located on tax lot 2400, to the west of the proposed exception area. The County relies on the following to ensure compatibility between residential use on the proposed exception area and this nearby commercial use:

- The Olney Store is separated from tax lot 300 by an intervening lot.

- The County's Neighborhood Commercial zone (NC) restricts uses so as to avoid conflicts between rural residential uses and more intense commercial activities: see LWDUO sections 3.304 and 3.306.
- Mr. Helligso may cluster residences on tax lot 300. Clatsop County's review procedure for cluster developments provides an opportunity to impose additional setbacks from this potentially incompatible use to the west: see Clatsop County standards document sections S3.150 through S3.159.

Olney School: A school building is located south of tax lot 300, across Highway 202. The County relies on the following to ensure compatibility between residential use on the proposed exception area and this nearby non-residential use:

- Highway 202 has a 50-foot wide right-of way past the exception site. This provides a spatial buffer between potentially incompatible residential development on tax lot 300, and existing industrial development on tax lot 501.
- Minimum street-side setbacks in the proposed RA2 zone provide an additional setback from the school: see LWDUO section 3.208(4).
- Mr. Helligso may cluster residences on tax lot 300. Clatsop County's review procedure for cluster developments provides an opportunity to impose additional setbacks from potentially incompatible industrial development on tax lot 400: see Clatsop County standards document sections S3.150 through S3.159.
- The Olney School is not currently used by the Astoria School District. Because of this, there is almost no activity at the school site. This should completely avoid incompatibility, although the school's closure may not be permanent.
- School-related activities may be largely compatible with residential uses. Many elementary schools are located in residential neighborhoods. Gray and Astor schools in Astoria, Warrenton Elementary, Seaside Heights, and Gearhart Elementary are all located in predominantly residential neighborhoods.

Conclusion: Compatibility with adjacent uses

Clatsop County finds that proposed rural residential uses planned for the exception area compatible with adjacent uses or will be so rendered

through measures designed to reduce adverse impacts.

Incorporation of New Cities on Undeveloped Rural Lands

OAR 660-014-0040(1) reads as follows:

> *(1) As used in this rule, "undeveloped rural land" includes all land outside of acknowledged urban growth boundaries except for rural areas committed to urban development. This definition includes all resource and nonresource lands outside of urban growth boundaries. It also includes those lands subject to built and committed exceptions to Goals 3 or 4, but not developed at urban density or committed to urban level development.*

The subject property is *undeveloped rural land* under this definition because it is outside of an urban growth boundary, and it is not committed to urban density or to urban level development.

OAR 660-014-0040(2) reads as follows:

> *(2) A county can justify an exception to Goal 14 to allow incorporation of a new city or establishment of new urban development on undeveloped rural land. Reasons which can justify why the policies in Goals 3, 4, 11, and 14 should not apply can include but are not limited to findings that an urban population and urban levels of facilities and services are necessary to support an economic activity which is dependent upon an adjacent or nearby natural resource.*

Subsection (2) is not applicable to this proposed exception because the exception does not allow the establishment of new urban development on undeveloped rural land. The proposed exception would allow the establishment of no more than five rural homesites on a 19-acre tract of undeveloped rural land. The maximum density would be one dwelling unit per 3.8 acres. This density does not constitute "urban development", as the term is used in this rule.

OAR 660-014-0040(3) reads as follows:

(3) To approve an exception under this rule, a county must also show:

(a) That Goal 2, Part II(c)(1) and (c)(2) are met by showing the proposed urban development cannot be reasonably accommodated in or through expansion of existing urban growth boundaries or by intensification of development at existing rural centers;

(b) That Goal 2, Part II(c)(3) is met by showing the long-term environmental, economic, social and energy consequences resulting from urban development at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located on other undeveloped rural lands, considering:

(A) Whether the amount of land included within the boundaries of the proposed urban development is appropriate, and

(B) Whether urban development is limited by the air, water, energy and land resources at or available to the proposed site, and whether urban development at the proposed site will adversely affect the air, water, energy and land resources of the surrounding area.

(c) That Goal 2, Part II(c)(4) is met by showing the proposed urban uses are compatible with adjacent uses or will be so rendered through measures designed to reduce adverse impacts considering:

(A) Whether urban development at the proposed site detracts from the ability of existing cities and service districts to provide services; and

(B) Whether the potential for continued resource management of land at present levels surrounding and nearby the site proposed for urban development is assured.

(d) That an appropriate level of public facilities and services are likely to be provided in a timely and efficient manner;

(e) That incorporation of a new city or establishment or new urban development of undeveloped rural land is coordinated with comprehensive plans of affected jurisdictions and consistent with plans that control the area proposed for incorporation.

This section is not applicable to this exception for the following reasons:

(3)(a): This exception does not allow urban development or urban densities, so the requirements of OAR 660-14-040(3)(a) are not applicable. However, the requirements of Goal 2, Part II(c)(1) and (c)(2) are met: see the discussion starting on page 9 of this exception.

(3)(b): This exception does not allow urban development or urban densities, so the requirements of OAR 660-14-040(3)(b) are not applicable. However, the requirements of Goal 2, Part II(c)(3) are met: see the discussion beginning on page 11 of this exception.

(3)(c): This exception does not allow urban development or urban densities, so the requirements of OAR 660-14-040(3)(c) are not applicable. However, the requirements of Goal 2, Part II(c)(4) are met: see the discussion beginning on page 17 of this exception.

(3)(d): This exception does not allow urban development or urban densities, so the requirements of OAR 660-14-040(3)(d) are not applicable. However, the County can find that an appropriate level of public facilities and services are likely to be provided in a timely and efficient manner because:

- A minimum level of water service is established in the County's development standards, in section S2.400. The site is in the area served by the Olney-Walluski Water Association. Water availability can be evaluated at the time the land is divided or a dwelling is approved.
- The site has about 1,500 linear feet of frontage on State Highway 202. This part of the highway is not access-limited. Driveway location can be reviewed at the time a development permit or land division is requested.
- The Olney-Walluski Fire and Rescue District provides these services to the subject property. There is no need to expand the district's boundaries to service the property.
- Other services, such as electricity, solid waste collection, and telephone, are provided by investor-owned for-profit companies.

(3)(e): This exception does not allow urban development or urban densities, so the requirements of OAR 660-14-040(3)(e) are not applicable. The site will not be annexed into any city or urban service district as a result of this exception. Clatsop County will retain planning and zoning authority on the site regardless of whether or not the exception is approved.

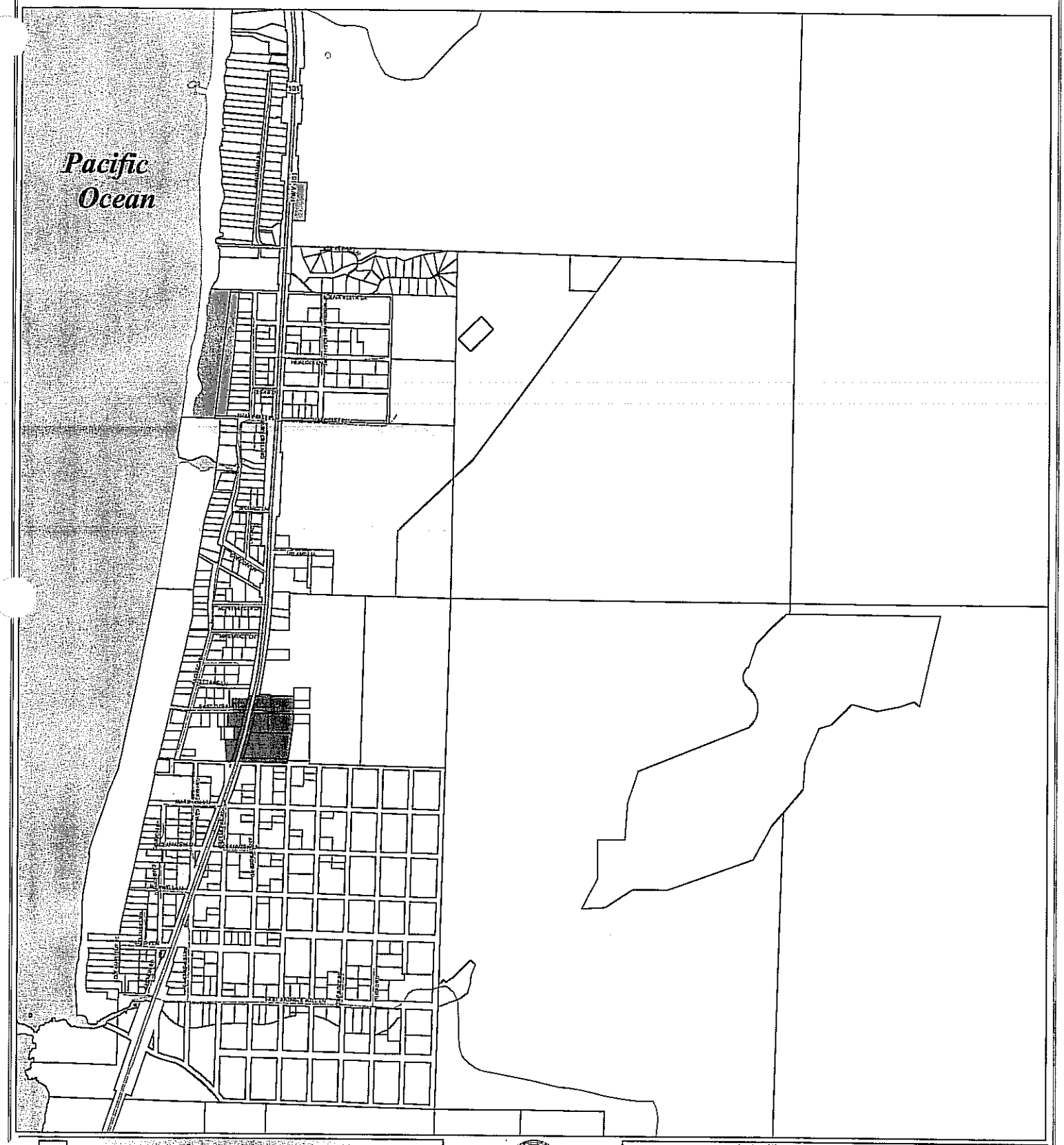
Based on this, the County can conclude that the requirements of OAR 660-014-0040(1) through (3) do not apply to this exception.

References

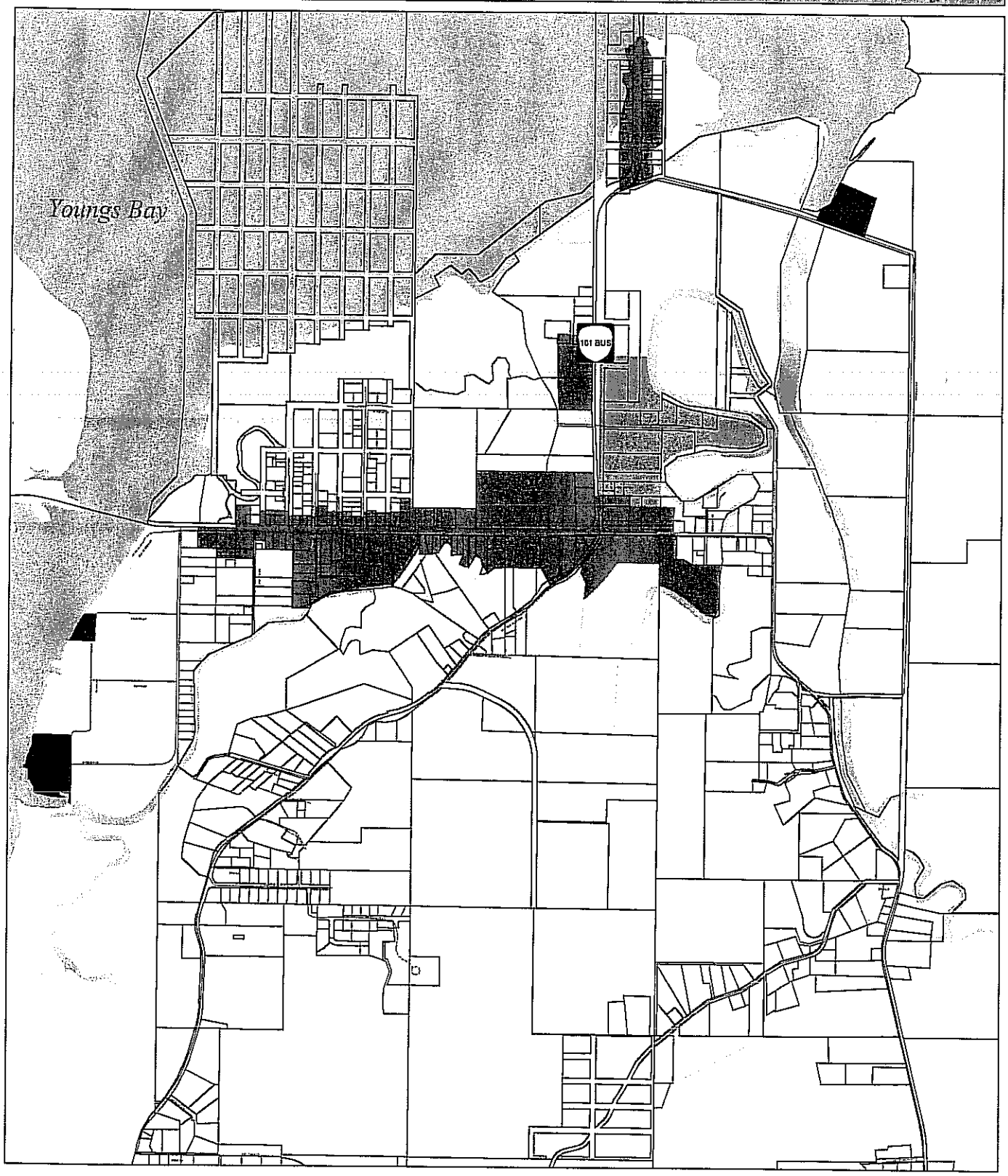
[1] Bottom, D. L., Jones, K. K., Herring, M. J. (1984). *Fishes of the Columbia River Estuary.* Astoria, Oregon: Oregon Department of Fish and Wildlife, Columbia River Estuary Data Development Program.

[2] 106th Congress of the United States of America. (2000) *Religious Land Use and Institutionalized Persons Act of 2000.* Washington, D.C.: US Government Printing Office.

Arch Cape Rural Community Zoning Designation



Miles Crossing/Jeffers Garden Rural Community Zoning



RCR - Rural Community Residential
RCC - Rural Community Commerical
RCI - Rural Community Industrial
MI - Marine Industrial
Tax Lot

Produced by Clatsop County GIS
Assessment & Taxation
Astoria, Oregon

September 9, 2003

Svensen Rural Community Zoning Designation

Tax Lot

RCC - Rural Community Commercial

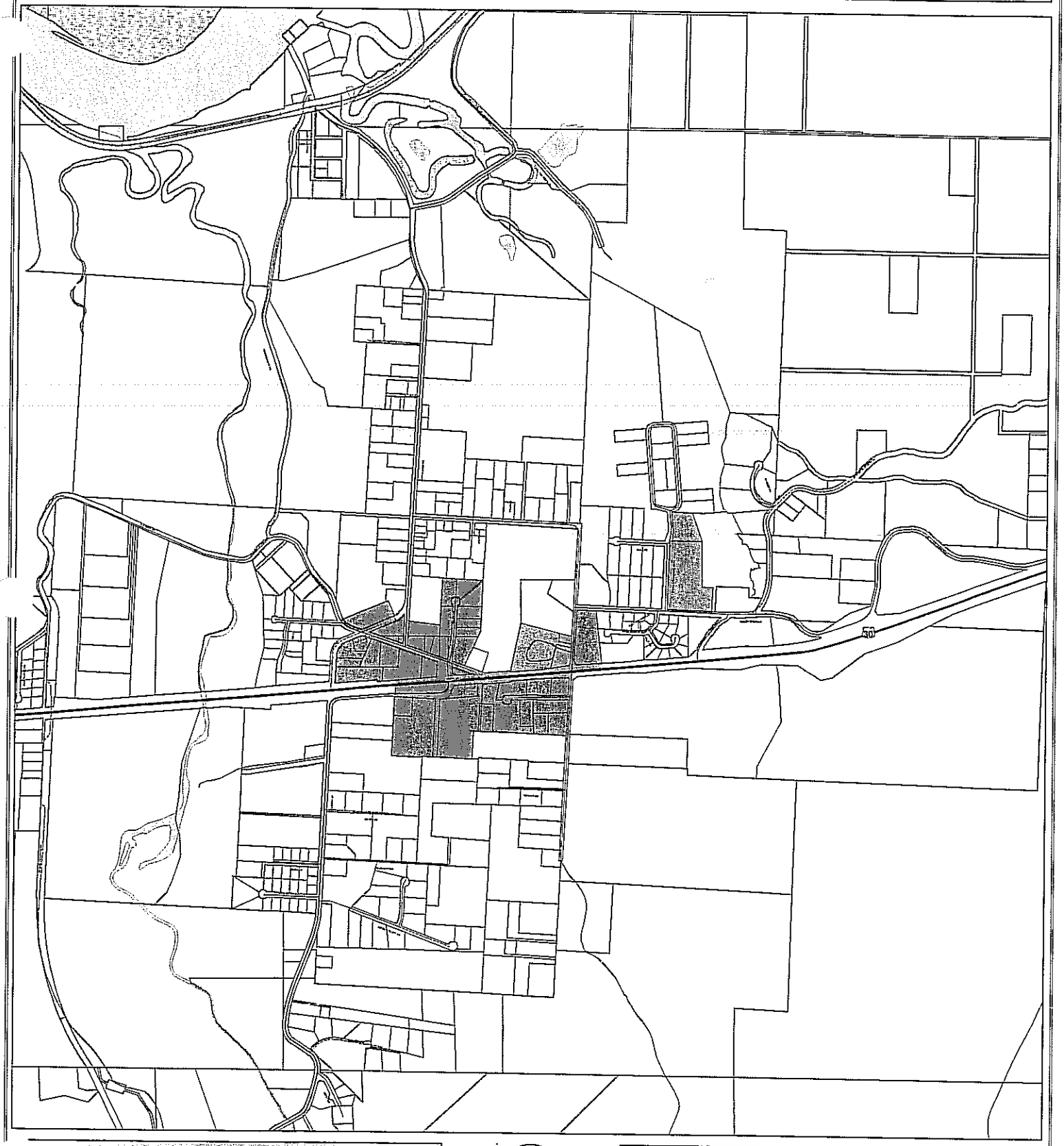
KS-RCR - Knappa-Svensen Rural Community Residential

RCR-MF - Rural Community Residential Multi-Family

Produced By Clatsop County GIS
Assessment & Taxation
Astoria, Oregon

September 9, 2003

Knappa Rural Community Zoning Designation



Tax Lot

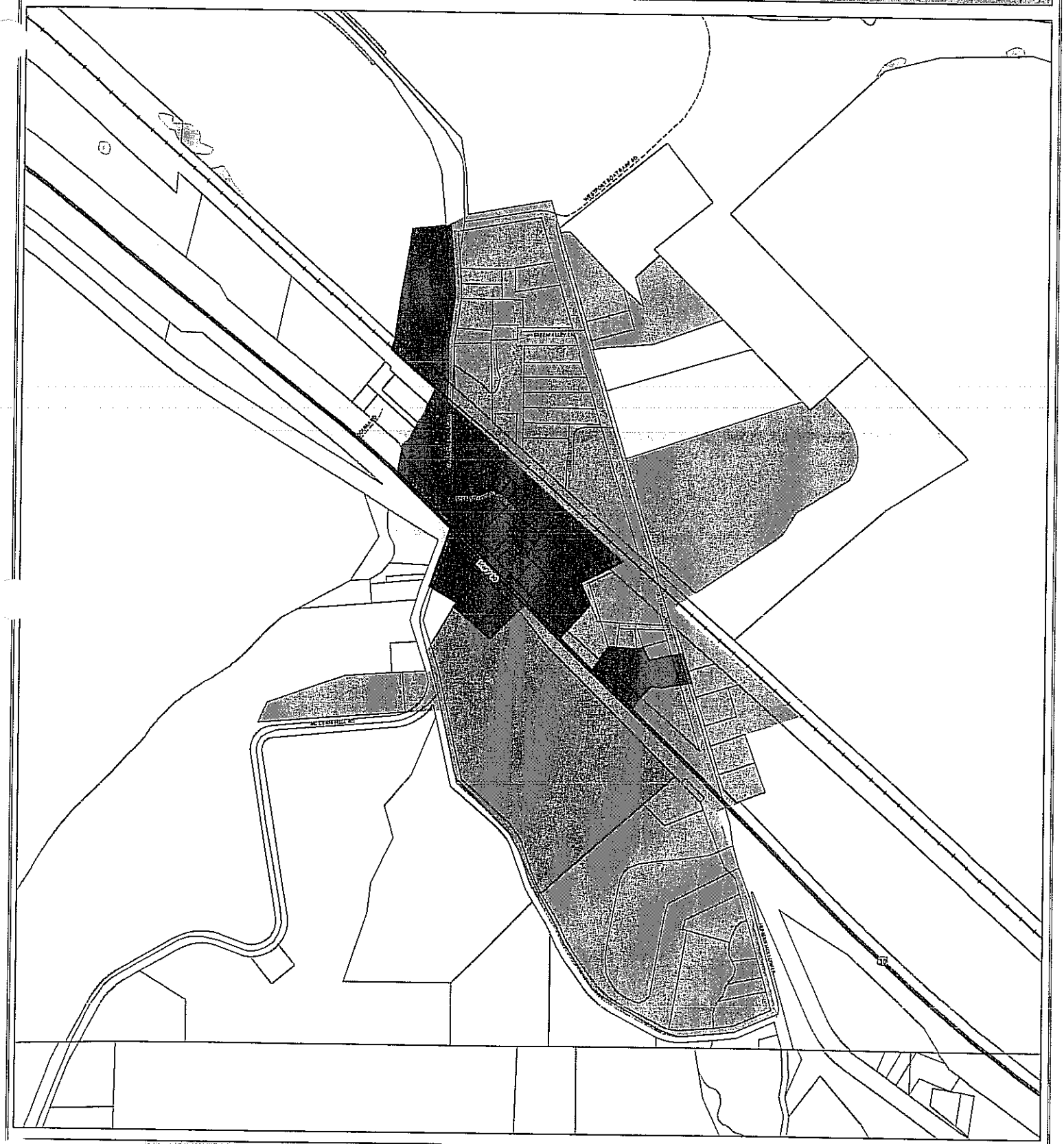
KS-RCR - Knappa-Svensen Rural Community Residential

RCC-LI - Rural Community Commercial-Light Industrial

RCR-MF - Rural Community Residential Multi-Family

Produced By Clatsop County GIS
Assessment & Taxation
Astoria, Oregon
August 8, 2003

Westport Rural Community Zoning Designation



Tax Lot

OPR - Open Space Parks & Recreation

RCC - Rural Community Commercial

RCC/LI - Rural Community Commercial-Light Industrial

RCR/MF - Rural Community Residential Multi-Family

W-RCR - Westport Rural Community Residential

Produced By Clatsop County GIS
Assessment & Taxation
Astoria, Oregon

August 19, 2003

EXISTING GEOLOGIC HAZARD RELATED POLICIES PROPOSED FOR DELETION

NATURAL HAZARDS SECTION

General Mass Movement Policies

1. ~~The County shall recognize the development limitations imposed by areas of mass movement potential.~~

   Discussion: This concept is covered by proposed policy 1.

2. ~~Mass movement hazards do not necessitate disapproval of development, but higher development standards can be expected in order to minimize problems.~~

   Discussion: This concept is covered by proposed policy 2.

3. ~~Clustering of development on stable or less steep portions of sites is encouraged in order to maintain steeper or unstable slopes in their natural conditions.~~

   Discussion: This policy has been slightly revised as policy 3.

4. ~~Closely spaced septic tanks and drainfields should be restricted from moderately to steeply sloping areas because of the potential for sliding.~~

   Discussion: This policy has been slightly revised as Policy 7.

5. ~~Projects which include plans for modifying the topography of sloping areas or established drainage patterns shall be evaluated in terms of the effect these changes would have on slope stability.~~

   Discussion: This concept is covered by proposed policy 4 & 5.

6. ~~The presence of faults in an area shall constitute additional reason for restricting development in areas of landslide topography.~~

   Discussion: Areas of potential landside topography, including those that include faults will be subject to proposed policy 2.

7. ~~The County Planning Department should inform potential builders and developers of the presence of fault lines and may require a site investigation in appropriate situations (such as the construction of a school, hospital or large residential development).~~

Discussion: Areas of potential landside topography, including those that include faults will be subject to proposed policy 2. In addition, proposed policy 8 addresses the educational component of this policy.

Development Policies for Areas of Mass Movement

1. ~~Structures should be planned to preserve natural slopes. Cut and fill construction methods shall be discouraged.~~

Discussion: This concept is covered by proposed policy 4.

2. ~~Access roads and driveways shall follow slope contours to reduce the need for grading and filling, reduce erosion, and prevent the rapid discharge of runoff into natural drainageways.~~

Discussion: This concept is covered by proposed policy 4, 5 &6.

3. ~~Loss of ground cover for moderately to steeply sloping lands may cause land slippage and erosion problems by increasing runoff velocity. Development on moderate to steep slopes should generally leave the natural topography of the site intact. Existing vegetation, particularly trees, should be retained on the site.~~

Discussion: This concept is covered by proposed policy 4.

4. ~~The County shall require a preliminary slope stability investigation in the following hazard areas:~~

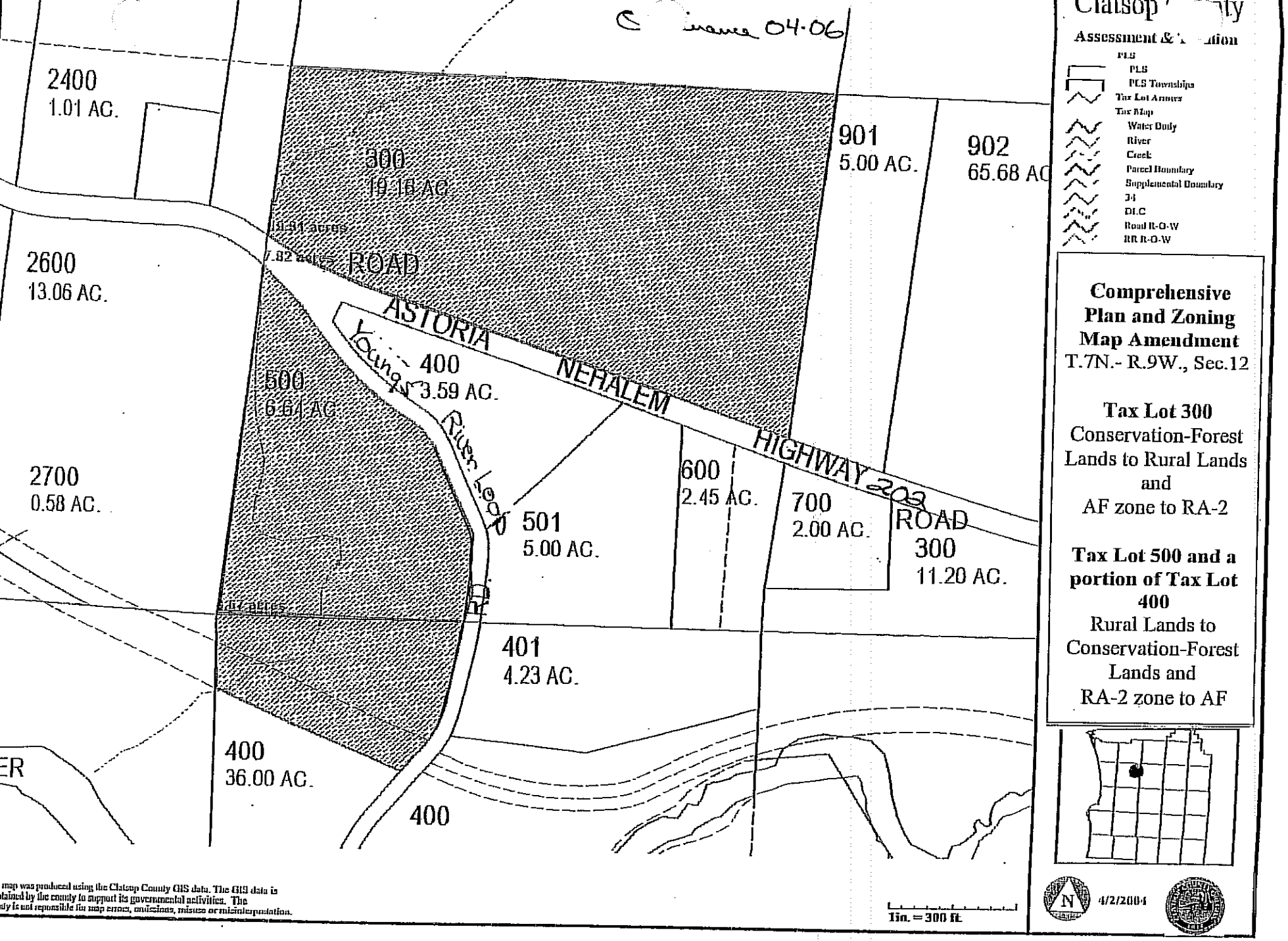
~~a. Where detailed soils map exist, in hazardous soils areas listed in Table 2;~~

~~b. Where no detailed soil maps exist, all areas which have slopes in excess of 25%.~~

~~Where the preliminary slope stability investigation indicates mass movement hazards on the site, a detailed site investigation report shall be prepared. The detailed report shall indicate the severity of the hazard and any recommended techniques that could be used to alleviate the hazard before structures, roads, and septic tanks are allowed in non-commercial forest lands.~~

Discussion: This concept is covered by proposed policy 2. More detailed information about where site investigations will be required will be contained in the revised geologic hazard section of the development code.

Policies for Streambank Erosion and Deposition


Clatsop County
Assessment & Taxation
PLS
PLS
PLS Townships
Tax Lot Arrows
Tax Map
Water Body
River
Creek
Parcel Boundary
Supplemental Boundary
34
DLC
Road R-O-W
RR R-O-W
Comprehensive Plan and Zoning Map Amendment
T.7N.- R.9W., Sec.12
Tax Lot 300
Conservation-Forest Lands to Rural Lands
and
AF zone to RA-2
Tax Lot 500 and a portion of Tax Lot 400
Rural Lands to Conservation-Forest Lands and
RA-2 zone to AF
2400
1.01 AC.
2600
13.06 AC.
2700
0.58 AC.
300
19.18 AC.
19.81 acres
7.82 acres
ROAD
ASTORIA
NEHALEM
HIGHWAY 202
ROAD
Young's River Loop
400
3.59 AC.
500
6.64 AC.
501
5.00 AC.
600
2.45 AC.
700
2.00 AC.
300
11.20 AC.
401
4.23 AC.
400
36.00 AC.
400
901
5.00 AC.
902
65.68 AC
1in. = 300 ft.
4/2/2004
map was produced using the Clatsop County GIS data. The GIS data is
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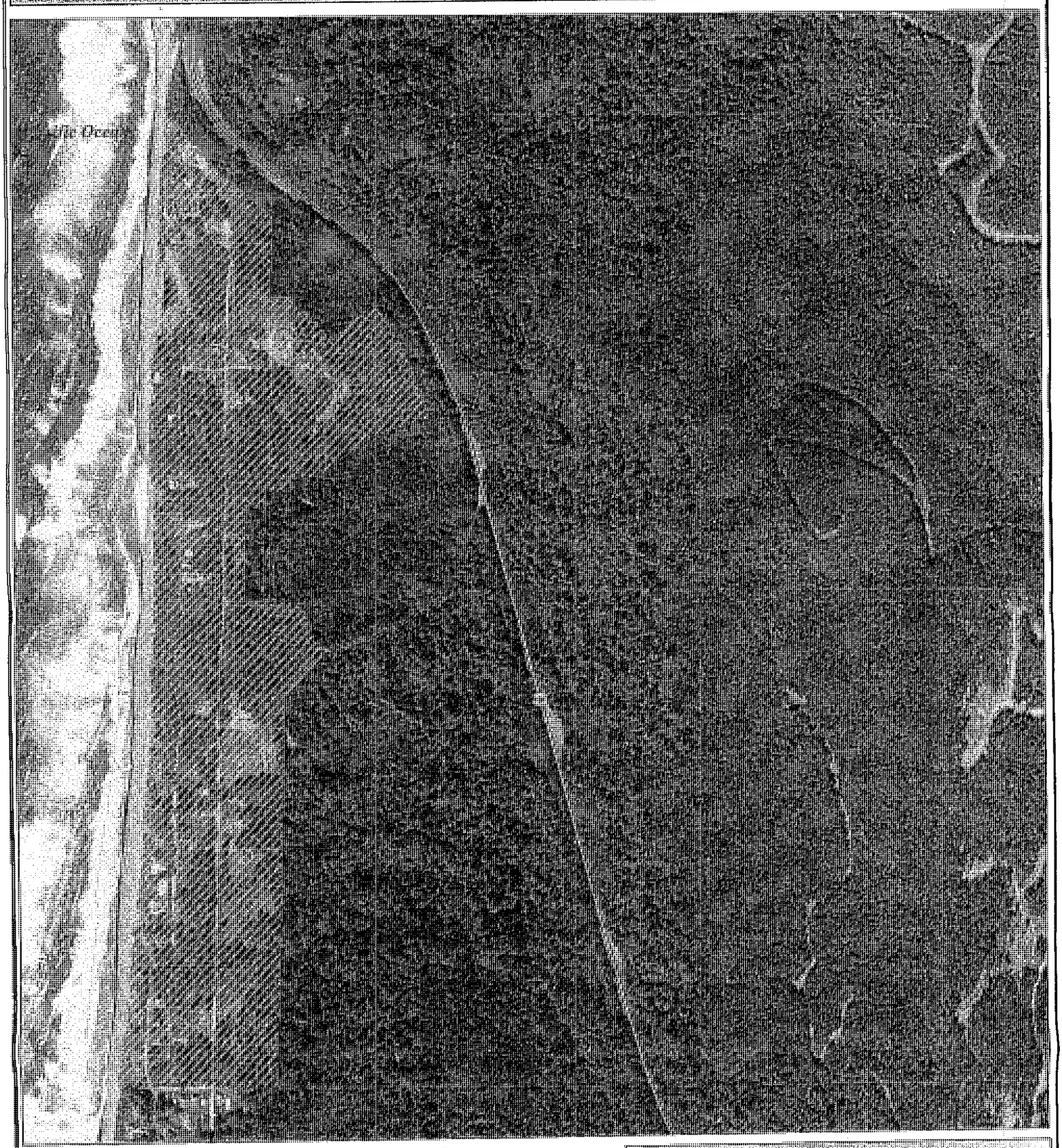
Goal 14 Exception Area -- Vicinity of Cove Beach



Tax Lot

Exception Zone CR

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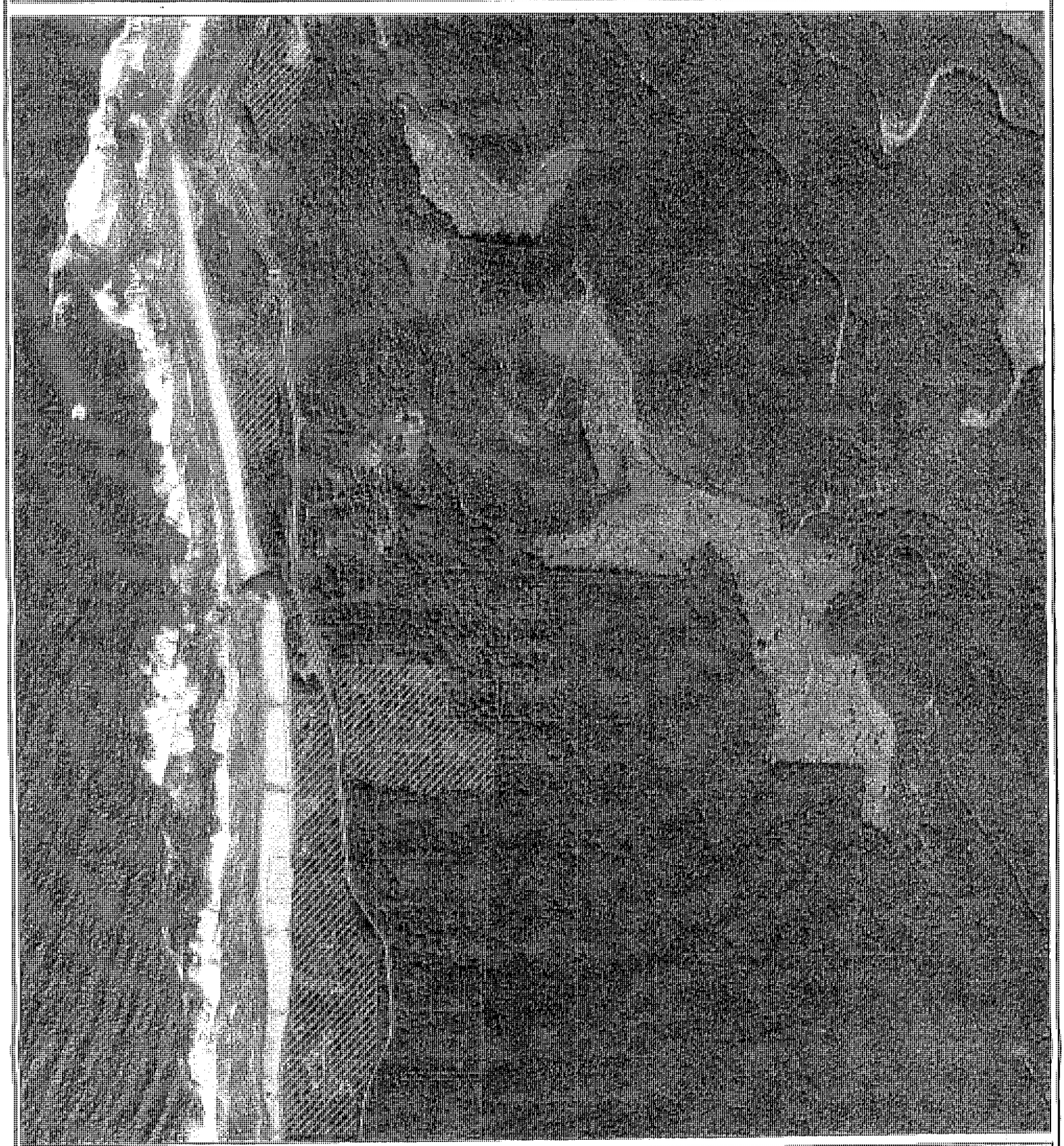
Assessment & Taxation
Astoria, Oregon
August 12, 2003

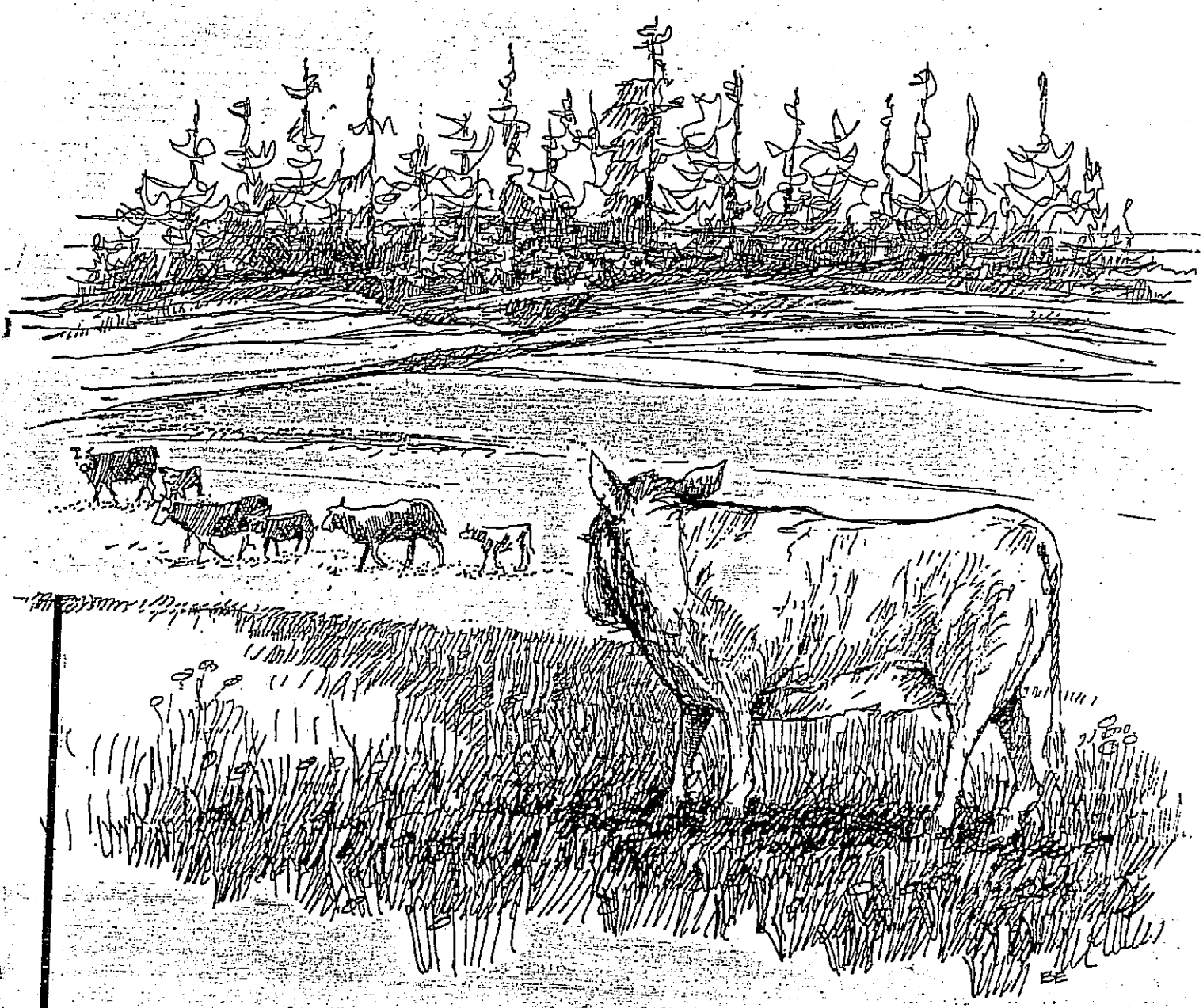
Goal 14 Exception Area -- Vicinity of Arcadia Beach



Goal 3

CLATSOP COUNTY
GOAL 3
COUNTY-WIDE ELEMENT

AGRICULTURAL LANDS



County-wide Element

Goal 3

Agricultural Lands

Adopted Ordinance 80-7, July 23, 1980
Clatsop County Board of Commissioners

Developed By
Clatsop County Department of Planning and Development

Introduction

Farming in Clatsop County has declined in the last 15-30 years and the future does not look particularly bright.

Small farm sizes interspersed with rural tracts, difficult terrain, a wet climate, and competition from other land uses all work against the consolidation of large, efficient farm units which are characteristic of other areas of the state where agriculture is thriving. As pressure for land for other uses increases, and the off-the-farm employment becomes more attractive, it is probable that farm acreage and the number of farms will decline below the present level. However, the pattern of small farms, producing a low income stream, with the operator working in other employment for part of the year, is likely to continue. This compliments the seasonal employment cycles of some of the County's industries and provides an appealing way of life for some people.

Findings

1. Clatsop County's total acreage in farm land continues to be a very small percentage of the State and the regional farm land. Also, the County's acreage in farm land is a small percentage (5.1%) of its own total land area.

2. The average farm size in Clatsop County as of 1974 is 122 acres.

3. The number of farms in the County has declined to about one-quarter of what existed in 1949.

4. The total acres in agriculture has declined nearly 50% since 1949.

5. Average farm size, however, has increased nearly 50% since 1949.

6. A rapid drop has occurred in the number of small farms consisting of 10-49 acres.

7. The majority of farms are owned by older, long-time residents.

8. Approximately two-thirds (2/3) of all farms are operated on a part-time basis.

9. The economic importance of farming in the County is minor compared to other sectors. Farmers here must absorb additional transportation costs to get local products to distant markets, primarily to Portland.

10. There are no agricultural processing enterprises in the County.

11. The small scale of farming also supports very few farm related businesses. This has led to increased costs to farmers for farm equipment, supplies, and services.

12. There are 79,850 acres of Class I-IV soils in the County comprising 14.8% of the total land area. There are no Class I soils due to climatic limitations. Over 90% of the total land area is forest lands including the majority of areas having Class I-VI soils.

2. New proposals shall require a zone change and an assessment of public need and impacts of establishing additional wildlife refuges or game management areas adjacent to agricultural activities.

b. The State Wildlife Commission shall be officially requested to resolve the existing adverse impacts on agricultural lands associated with elk, including but not limited to, one or more of the following measures:

1. revision of hunting laws to sustained management levels.
2. reduce the elk population in Clatsop County.
3. indemnify the owners for damage on their property resulting from elk.
4. pay for and install adequate fencing.

9 "In land use changes involving a change from Conservation-Forest Lands or Rural Agricultural Lands to Rural Lands or Development designations an Exception to the Agricultural Lands or Forest Lands Goals must be taken.*

* Amended 84-9, dated May 23, 1984.

BACKGROUND REPORT

GOAL 3

AGRICULTURE IN CLATSOP COUNTY

by

John Mills, Gail Hochhalter & Janet Young
Clatsop County Department
of Planning and Development

March 1980

Adopted July 23, 1980 by
Clatsop County Board of Commissioners

Amended March 1983

[illegible] County P.C
[illegible] 9, 1983

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INTRODUCTION

The protection and preservation of agricultural land is primarily for the purpose of maintaining the soil resource and farm industry as a basis of food and fiber production now and in the future.

The main tools to accomplish this goal are farm zoning and land division controls. Partially through the exercise of these controls, the agriculture industry can be maintained.

As part of the County Comprehensive Plan, this report describes the history, problems and limitations of agriculture in the County. It compares agriculture in Clatsop County to the industry in the entire State and suggests that this north coast area is distinguished from the rest of the state by the small role that agriculture plays in the County.

In addition, policies are included which address the County's committment to the preservation of agricultural lands and the means to protect them. The commercial agricultural enterprises in the County are described and a minimum parcel size for farm land divisions defined.

The discussion of impacts of agriculture on air, water and land is contained in the Air, Water and Land Quality Background Report. Policies which relate to specific community concerns about agricultural practices can be found in the County Community Plans.

FACTS AND TRENDS IN AGRICULTURE

Agriculture had a poor beginning in Clatsop County. Livestock and a variety of vegetable seeds were brought to the area by the Astor Fur Company in 1811, a few years after Lewis and Clark wintered here. Except for radishes, potatoes and turnips, the crops failed to mature. According to one party member, the turnips were huge, one measuring 33 inches around and weighing 15-1/2 pounds. But, due to mice infestation and other problems, all their crops came to nothing. The farm was abandoned in 1813.

By 1850 the increased business of ocean and river traffic caused the development of lumber mills, large livestock import for dairy and beef farms, and a fishing export industry. Agriculture grew.

Farming in the County was also strong in the 1940's to the early 1960's. There were 56 small poultry farms with from 1,000 to 10,000 hens. There were four milk processing plants, several raw milk distributors and many small 40 to 50 acre dairies. Other specialty crops and products that also experienced growth were mink, cranberries, holly and Astoria bent grass lawn seed.

Since 1949, agriculture in the County has declined to its present level. Several factors may have been responsible. Among these are:

1. The local agriculture processing industry and, consequently, a ready market for farm products gradually disappeared;

2. Farming required continuing improvement of management methods (i.e. mechanization);

3. The disappearance of very large farms (over 1,000 acres);

4. Increasing costs.

Since 1969, the amount of land in the County in farms has remained about the same, as has the average size of a farm.

Table 1. - Trends in Farm Numbers and Acreages

Year	Acres	% Total Land Area	Total # Farms	Average Farm Size	Median Farm Size
1949	57,000	11.1%	837	68.1 acres	--
1954	51,000	9.9%	NA	NA	--
1959	55,082	10.7%	457	120.5 acres	--
1964	39,501	6.6%	486	81.3 acres	--
1969	23,745	4.6%	258	92.0 acres	--
1974	26,560	5.1%	217	122.0 acres	--
1978	22,681	4.2%	234	96.9 acres	60.5 acres

Source: Census of Agriculture

The Census separates farms which have an income of $2500 or more from all farms in the County. Of the 234 farms in the County, only 128 reported incomes of at least $2500. Only two counties, Curry and Wheeler, had a fewer number of farms in this category in 1978. In the case of Wheeler County the average farm size was 8695 acres. Two of their farms would make up all the farm acreage in Clatsop County with incomes over $2500. Curry County had 122 farms with incomes over $2500 compared to Clatsop County's 128. Lincoln County had only slightly more, at 132. These three coastal counties appear similar in agricultural characteristics, although Tillamook and Coos counties have many more farms earning at least $2500 as well as many more total farms.

Clatsop County had the highest number of farms in which all crops failed of all coastal counties.

Farms are defined by the Census of Agriculture as including crop land and pasture land but also include wood land, waste land, and land under houses, roads and ponds. For Clatsop County:

Woodland not pastured:	5,037 acres
Land in house lots, roads, ponds, etc.:	1,893 acres
	6,930 acres

Total farm acres in County: 22,681 acres

Therefore, 30.5% of farm land acreage is not used at all for crops or pasture land. This leaves 15,751 acres used as farm land in the County.

Reported farm acreage includes "all lands under the day-to-day control or supervision of one person or partnership." This includes land rented from others. For farm with incomes of over $2500 rented lands are a significant amount of farm acreage.

Table 2. - Land Rented from Others
Farms with Incomes over $2500 ONLY

Farm Acreage	# of Farms	% of Farms Which Rent Land From Others	% of Acreage on Farm Rented From Others
1-19 ac	13	7.7%	D*
20-39 ac	15	13.3%	D*
40-79 ac	32	15.6%	11.5%
80-159ac	35	31.4%	18.3%
160-319ac	23	47.8%	32.6%
320 or more	10	90%	39.9%

D*: Reported at District level only

For farms over 160 acres, an average of 1/3 or more of the acreage is rented from others.

Table 3. shows the trends in farm acreage classes since 1959. Total numbers of farms, as well as most categories, dropped from 1959 to 1974. Since 1974, though the total number of farms has increased. What is most evident from the 1978 figures is the growth of small farms and the corresponding drop in the number of large farms. It is impossible to make any conclusions from these figures on how agricultural activities are conducted in Clatsop County. In combination, though, with figures listed later in this section showing the large number of part-time farms in the County, the figures may infer the growth of small, part-time farms replacing large farms.

Table 3. - Farms by Size 1959-1978

Size	1978	1974	1969	1964	1959
Under 10 acres	19	11	25	46	42
10-49 acres	80	68	100	232	203
50-179 acres	105	98	100	154	164
180-499 acres	26	35	29	44	39
500-999 acres	4	6	3	9	6
1000-1999 acres	0	1	1	1	1
2000+ acres	0	0	0	0	2
Total	234	217	258	486	457

A Census of Agriculture breakdown of farms in other size ranges is shown in Table 4. Is is useful for finer breakdown of smaller size ranges.

Table 4. - Farms by Size - 1978 Only

Acreage	Number of Farms
1-19 acres	46
20-39	36
40-79	61
80-159	51
160-319	29
320+	11
Total	234

From this table it can be determined that 61% of the farms in Clatsop County are 79 acres or less. A minimum parcel size of 40 acres in the EFU zone would require at least an 80 acre parcel before any farm use division could take place. Therefore, the majority of farms in the County would not be capable of any further division.

Table 5. compares agriculture in Clatsop County with the industry in the entire state.

In most cases, the trends for Clatsop County follow those of the state. The number of farms is one area which shows a difference - with farm numbers up almost 20% in the state but down 9% here. A drastic difference shows up in the "other cropland" category. In Clatsop County, almost 1/3 of that acreage was for crops which failed.

Table 5.

Farms, Land in Farms and Values 1969-1978

	Clatsop County				State of Oregon			
	1978	1974	1969	% Change 1969-1978	1978	1974	1969	% Change 1969-1978
Acres of Farm Lands	22,681	26,560	23,745	-4.5%	18,414,484	18,241,455	18,017,850	[illegible]
% of Total Area in Farm Land	4.2%	5.2%	4.6%	-	29.9%	29.6%	29.3%	
Number of Farms	234	217	258	-9%	34,642	26,753	29,063	[illegible]
Average Size of Farms (Acres)	97	122	92	+5.4%	532	682	620	[illegible]
Average Value of Land and Buildings Per Farm ($)	127,698	82,326	40,235	+217%	267,149	170,145	93,134	[illegible]
Acres in Crop Land - Total	10,815	12,549	10,194	+6.1%	5,247,487	5,074,988	5,197,520	[illegible]
Acres Harvested Crop Land	3,799	4,692	3,684	+3%	3,280,005	3,213,399	2,893,632	[illegible]
Acres Pasture Only	6,187	7,607	6,455	+4.2%	814,484	815,197	1,077,257	[illegible]
Other Crop Land*	829	250	55	1407%	1,152,998	1,046,392	1,226,631	[illegible]
Acres of Woodland, Including Woodland Pasture	7,248	8,618	8,626	-15.9%	1,786,919	1,730,245	2,037,077	[illegible]
All Other Farm Land (Includes unimproved pasture land, barn lots, ponds, wasteland, etc.)	4,618	5,393	4,925	-6%	11,380,078	11,436,212	10,790,253	[illegible]

*Other crop land includes crop land with cover crops or soil improvement grasses which is not harvested or pastured; crop land in summer fallow; crop land lying idle; and crop land on which all crops failed.

Findings:

1. The amount of land in the County in farms and the acreage size of a farm have stayed about the same since 1969.

2. Of coastal counties, Clatsop County had the highest number of farms in 1978 in which all crops failed.

3. In 1978, Clatsop County ranked 34th out of 36 counties in the State in the number of farms with incomes over $2500.

4. Over 30% of the 22,681 acres defined as farm land in the County are in wood land or house lots, roads, ponds, etc.

5. For farms with incomes of over $2500, lands rented from others are a significant amount of farm acreage.

6. In 1978, Clatsop County had a total of 234 farms; only 128 of these had incomes of $2500 or more.

7. Since 1974, there has been an increase of small farms (49 acres or less) and a decrease of very large farms (500 acres or more).

8. In 1978, 61% of farms in Clatsop County are 79 acres or less.

9. The average size of a farm is 97 acres. The median, or middle sized farm is 60.5 acres. Therefore, half of the farms in the County are less than 60.5 acres, half greater (1978 data).

10. Between 1969 and 1978, Clatsop County had a decrease of 9% in the total number of farms, whereas the entire State had an increase of nearly 20%.

THE PEOPLE WHO ARE FARMING

This section is to provide some general census information on the farm operators in the County.

Table 6.
Census of Farm Operators

Days Reported Working Off Farm	1978 All Farms	1978 Farms w/sales of $2500+	1974 All Farms	1974 Farms w/sales of $2500+	1969 All Farms	1964 All Farms	1959 All Farms
None	74	48	70	41	n/a	n/a	n/a
1-99 days	13	9	23	11	25	40	48
100+ days	143	68	106	32	144	237	225
Total Farms	234	128	217	95	258	486	457
Principal Occupation							
Farming	81	61	90	61	n/a	n/a	n/a
Other	153	67	125	32	n/a	n/a	n/a
Average Age	51.2	50.9	53.3	54.7	52.8	n/a	n/a
Farms by Tenure							
Full Owners	181	89	171	63	208	n/a	n/a
Part Owners	45	35	38	30	37	n/a	n/a
Tenants	8	4	8(3.7%)	2(2.1%)	13(5%)	n/a	n/a

Source: Census of Agriculture

The first category of Table 6. indicates the number of days that farm operators reported working off their farms. As can be seen from the number of days worked off the farms since 1959, part-time farming has been the usual in Clatsop County for many years. This category does not include spouses who may work off the farm.

It is interesting to note the difference between 1974 and 1978 in the number of operators of farms over $2500 income per year with a principal occupation other than farming. The number of principal operators has remained the same at 61, but the number of part-time operators has increased from 32 to 67.

In the next category, "Average Age", the Table shows that farmers on an average are over 50 years old in Clatsop County, which is comparable with the rest of the State.

Table 7.
Breakdown of Principal Occupation by Type of Farm

Principal Occupation	Dairy Farms	Intensive Animal Husbandry	Extensive Animal Grazing	Horticultural Specialities	Total All Farming 250
Farming	17	9	28	2	61
Non-farming	2	3	53	5	67

As would be expected, more operators of grazing operations have other principal occupations than in the other two major types of farming in the County. A grazing operation involves less intensive maintenance than dairying or mink ranching.

FINDINGS

1. The majority of farms are owned by older residents.

2. Almost 2/3 of all farms are operated on a part-time basis. Even of those farms earning over $2500, over 1/2 are operated on a part-time basis.

3. Most operators of dairy farms and intensive animal husbandry farms list farming as their principal occupation. For grazing operations, only about 1/3 of the operators are principally employed by farming.

TYPES OF AGRICULTURE IN CLATSOP COUNTY

Agriculture is not diverse in Clatsop County. Grazing, mink farming and dairying are predominant, with numerous miscellaneous crops and specialties such as cranberries, holly, small fuits and berries.

Intensive animal husbandry, a category which includes mink farming, comprises only 10.3% of the farms in the County but generates almost 1/3 of the farm income. The average parcel size of a farm in this category is 32.6 acres.

Extensive animal grazing, by contrast, constitutes 69.7% of the farms but generates less than 1/4 of the farm income. The average parcel size of a grazing operation is 81.5 acres.

Clatsop County has 19 dairies, compared to Tillamook County, our neighbor to the south, with 190. These 19 dairies constitute only 8.1% of the farms in the County but generate 42.8% of the farm income. Characteristics of climate and soils are similar for Clatsop and Tillamook counties as well as characteristics of the dairy operations themselves. Tillamook Dairy Cooperative is the market for most Clatsop County milk. It is reasonable that planning provisions which have been found to be adequate to protect the dairy industry of Tillamook County would also protect the much smaller dairy industry of Clatsop County.

In Tillamook County, the Soil and Water Conservation District and a majority of the County's citizen advisory committee members agreed that 40 or more acres are normally required for a viable dairy farm (source: Tillamook County Plan). They stated that a 40 acre minimum lot size requirement would help protect conversion of commercial agricultural land to non-farm uses.

Clatsop County's Exclusive Farm Use (EFU) zone has a 40 acre minimum parcel size, identical to the 40 acre parcel size for farms in Tillamook County.

Table 8. Breakdown of Farm Types

	% of Total Farms	% of Farms Over $2500+ Income	% of Total Income
Extensive Animal Grazing	69.7	63.3	24
Intensive Animal Husbandry	10.3	9.3	29.3
Dairying	8.1	14.8	42.8
Horticultural Specialties	4.7	5.4	1.5

Findings

1. Predominant agricultural activities in Clatsop County are grazing, dairying and mink farming.

2. The majority of farm income in the County is derived from dairying and intensive animal husbandry (including mink farming).

3. Grazing is the agricultural activity which comprises the majority of farms (69.7%) in the County but generates less than 1/4 of the farm income.

4. A 40 acre minimum parcel size has been found to be sufficient to protect the dairying industry of Tillamook County, the County adjacent to the south with a dairy industry 10 times the size of Clatsop County.

THE ROLE OF AGRICULTURE

Employment in the agricultural sector has steadily declined in the County from 860 people in 1960 to 550 in 1970 to an estimated 182 (Input/Output Analysis) for 1977. The 1974 Agriculture Census, however, shows a gain in hired farm workers from 1969 to 1974, from 272 to 309 workers, respectively. The Census also shows that these hired workers were working for fewer days in 1974 than in 1964 and that the total dollar payroll went from $211,000 to $247,000. The 1977 estimate of 128 workers accounts for 1.6% of the total County employment.

Oregon State University's Extension Service has conducted an Input/Output Analysis of the County's economy from which the estimated farm employment for 1977 was derived. The Analysis also shows the Agricultural sector as representing 0.6% of the total export sales (dollars into the County) of Clatsop County.

The figures above place agriculture far down on the list in comparison with the County's top three industries: forestry, fisheries, and tourism. In export sales the lumber and wood products industry is 51.9%, the marine resources industry is 18.0%, and the retail/whole products and services sector (tourism) is 9.9% of the County's total.

The lumber and wood products industry employs 2,092 people or 17.8% of the total County employment (1977). This industry constitutes 474,000 acres of the County or 90% of the total land area.

There are no agricultural processing enterprises in Clatsop County except for preliminary processing of milk and mink occurring on the site.

There are also very few supportive businesses for agriculture. For example, there are only three slaughterhouse/butchers in the County for people wanting to butcher their cattle for personal consumption. Cattle operators must ship the cattle to Portland to market adding a transportation cost to expenses. There are no tractor sales or farm equipment repair shops in the County.

There are four outlets for fertilizer and feed and seed in the County. One outlet (Mayflower Farms, Inc.) adds $13.00 freight per ton of fertilizer increasing the cost by 5-7% above the price in Portland.

Findings

1. The economic importance of farming in the County is minor compared to other sectors. Farmers here must absorb additional transportation costs to get local products to distant markets, primarily to Portland.

2. There are no agricultural processing enterprises in the County.

3. The small scale of farming also supports very few farm related businesses. This has led to increased costs to farmers for farm equipment, supplies, and services.

ECONOMICS OF FARMING

This section addresses the economic status and health of farming in the County in recent years and the economic importance of the agricultural sector in the County.

The gross cash sales for specific farm items in the County is shown in Table 9. The numbers have increased since 1970 but this is deceptive since inflation is not taken into account . The mainstays of agriculture in the County include hay crops, small fruits and berries, particularly cranberries, specialty products such as holly and forestry, cattle and calf operations, dairy products, and miscellaneous animal products, particularly mink. It is expected that these items will continue to be the County's predominant farm products.

Table 9. shows overall gains in total farm sales. However, in constant 1967 dollars the amounts are nearly equal. Farm expenses also increased by 3-1/2 times more than the sales rate, as shown on Table 10. The events that led to this situation of skyrocketing prices began with the grain crisis in 1973-74. The cost of grain had a dramatic impact on feed for cattle and poultry operators as shown in the "Cattle and Calves" and "Chicken Eggs" categories in Table 9. Another factor increasing expenses in those years was the price of petroleum, including fuel and fertilizers. This example is indicative of the effects and uncertainty that is caused by the lack of diversity in the County's agriculture.

Table 9. also shows the gradual disappearance of the "Grass and Legume Seeds", "Field Crops", and "Tree Fruits and Nuts" categories. Some field crops were combined into "Truck Crops". Astoria bent grass is no longer grown in this County due to a combination of climate and fluctuating market conditions.

It is not possible to directly correlate the information of Table 9. with the next chart, Table 10., which shows farm sales against farm expenses in the County. This is because Table 10. includes only the farms with sales of $1000 or more.

For total farm sales from 1969 to 1974 Table 10. shows a very small increase of 18.9% for the County compared to the State's increase of 93%. This is due, partly, because 1974 was a poor year for cattle operations in the County and the decrease in this one item by 45% that year also significantly decreased the total sales figures (by 15%).

Farm expenses are also on the rise due to fencing needed to protect crops from elk damage. Total losses due to elk on farm land have not been documented but are well known in farming communities. For example, the annual Brownsmead Corn Feed was cancelled in 1979 because the farmer lost his entire crop to the elk.

The value of agricultural products for the County in 1977 represents 10% of the Tillamook-Clatsop-Columbia region's value of agricultural products. Clatsop County ranked 34th in the State in 1977 for the total value of farm sales, 35th in the percent of land in farm land and 36th in the total number of acres in farm land. Unlike other areas, a bad year in one farm item means a significant drop in total agricultural [illegible] These two [illegible] ments in farming, agricultural processing, and related business in the County.

Findings

1. Clatsop County does not have a diverse agricultural base.

2. While the mainstays of agriculture have experienced a slight increase in total farm sales, some products are gradually disappearing.

3. The increase in farm expenses spurred by the skyrocketing cost of feed and fuel has decreased profits and caused uncertainty in farming in the County.

4. Clatsop County ranks very low in the state in total farm sales, total amount of farm land, and percent of land in farm land.

TABLE 9.
Clatsop County--Estimated Gross Farm Sales
1969-1977 (in $1000)

Item	1969	1970	1971	1972	1973	1974	1975	1976	1977
Hay	30	23	33	32	41	53	88	49	73
Grass and Legume Seeds	4	12	20	5	3	3	--	--	--
Field Crops	2	2	4	3	5	--	--	--	--
Tree Fruits and Nuts	2	2	2	3	4	--	--	--	--
Small Fruits and Berries	66	35	37	42	58	32	58	58	5[illegible]
All Truck Crops	8	9	6	5	8	11	12	11	1[illegible]
Specialty Crops (including forestry)	128	118	52	162	175	315	425	500	62[illegible]
ALL CROPS	240	201	154	252	294	414	583	618	77[illegible]
Cattle and Calves	598	453	512	681	982	529	507	665	58[illegible]
Hogs and Pigs	12	10	4	12	28	13	15	45	*
Sheep and Lambs	9	10	10	9	15	14	13	23	*
Dairy Products	667	387	411	517	617	620	621	949	91[illegible]
Farm Chickens	97	n.a.	1	1	1	2	1	1	*
Chicken Eggs	121	n.a.	50	68	106	46	51	29	1[illegible]
Misc. Animals & Products	538	n.a.	333	338	518	546	781	683	140[illegible]
ALL LIVESTOCK AND PRODUCTS	2042	n.a.	1321	1626	2267	1770	1989	2395	292[illegible]
ALL CROPS AND LIVESTOCK	2282	n.a.	1475	1878	2561	2184	2572	3013	369[illegible]

Source: Oregon State University Extension Service

*combined into misc. animals and [illegible]

TABLE 10.
Farm Sales and Farm Expenses: 1974 and 1969

	CLATSOP COUNTY--ALL FARMS			STATE OF OREGON--ALL FARMS		
	1974	1969	% of Change	1974	1969	% of Change
Total Farm Sales ($1000)	2540	2136	+18.9%	1,025,082	531,209	+93.[illegible]
Average per Farm	$11,705	$8,279	+41.4%	$38,317	$18,277	+110.[illegible]
Sales by Category ($1000)						
Crops including nursery products and hay						
Farms	65	56		15,457	16,825	
$1000	227	189	+20.1%	651,552	260,416	+150.2%
Forest Products						
Farms	29	27		1,485	1,640	
$1000	226	44	+413.6%	13,051	6,827	+91.2%
Livestock, Poultry, and products						
Farms	181	209		18,417	19,459	
$1000	2,086	1,902	+9.7%	360,480	263,966	+36.6%
Total Farm Expenses ($1000)	2,225	1,735	+71.8%	784,663	466,946	+68.[illegible]

Source: Census of Agriculture

SOILS SUITABILITY

Clatsop County is predominantly a mountainous upland area with over 90% of the land area being forest land. Because of its topography and the resulting high precipitation and runoff experienced here the County continues to have a very high potential for erosion.

Over time the erosion of sedimentary rock areas has formed deposits of fine grained sediments that make up the soils of the alluvial floodplains and river terraces in the County. When igneous rock areas have been eroded then deposits of sand and gravel are also likely to occur in these floodplain and terrace areas.

Estuarine deposits are fine sand, silt, and clay intermixed with peaty material that occur in the estuarine tidal flats of the Columbia River. Many of these areas have been protected by dikes and drainage systems to create soils suitable for agriculture.

Finally, peat and organic materials intermixed with fine sand make up the organic soils of the Clatsop Plains area.

Together these deposits make up the soils most commonly used for agriculture in the County.

The peat soils, the estuarine deposits called the Coquille and Clatsop soils, the alluvial floodplain deposits which are usually Nehalem soils, and the river and stream terrace deposits most often being Knappa, Walluski and Chitwood soils have all been ranked by the Soil Conservation Service into "Land Capability Classifications" with the other soils of the County. Soil characteristics such as permeability, water holding capacity, depth, inherent fertility, texture, structure, wetness, acidity, overflow hazards, slope, and also climatic conditions as they influence use, management, and productivity of land are considered in the grouping of soil types into eight land capability classes which are designated by Roman numerals. The hazards and limitations of the use of the groups increase as the class number increases so that Class VIII soils have the most limitations.

Table 11. shows the number of acres in each of the classes for Clatsop County. Classes I, II, III and IV soils are considered suitable for agriculture. No Class I or Class V soils occur in Clatsop County. Each capability class is divided into subclasses that show the major cause of the limitations: "e" is for erosion hazard, "w" for wetness, "s" for root zone limitations, and "c" for climatic limitations. The definitions of each class are given below:

Class I soils have few limitations that restrict their use and are excellent for cultivated crops.

Class II soils have some limitations that reduce the choice of plants or require special conservation practices and are good for cultivated crops.

Class III soils have severe limitations that reduce the choice of plants or require special conservation practices, or both. They are fair for cultivated crops.

Class IV soils have very severe limitations that restrict the choice of plants, require very careful management or both. They are poor for cultivated crops. All four of the above classes can also be used for pasture or wood land.

Class V soils. There are no Class V soils in the County.

Class VI soils have severe limitations that make them generally unsuited for cultivation and limit their use largely to pasture and wood land. Physical conditions are such that pasture and wood land improvements can be made if needed. These soils are often on steep slopes.

Class VII soils have very severe limitations that make them unsuited for cultivation and that restrict their use largely to grazing, wood land or wildlife. Physical conditions are such that it is impractical to apply improvements.

Class VIII soils have limitations that prohibit their use for commercial plant production and restrict their use to recreation, wildlife, water supply, and aesthetic purposes.

The mapping of soils for EFU designations are based on detailed soils maps completed by the Soil Conservation Service. These maps were surveyed primarily from 1964 to 1976 although earlier surveys from 1939 to 1950 were done for the Necanicum River and Clatsop Plains areas. Not all of the County has been surveyed.

Beginning in November 1978, the Soil Conservation Service began examining the unsurveyed areas of the County and correlating them with past surveys to provide a complete detailed soils mapping of the County. Based on these revisions the acreage estimates in Table 11. may change.

The 1978 Agricultural Census shows a total of 22,681 acres in Clatsop County in farms. Some small percentage of these are probably in Classes VI-VIII, but most are on Class I-IV soils. Since there are almost 80,000 acres of Class I-IV soils in the County, and only about 1/4 are in farm use, the remainder are in either "built or committed" to residential development or in forest use.

Findings

1. There are 79,850 acres of Class I-IV soils in the County comprising 14.8% of the total land area. There are no Class I soils due to climatic limitations. Over 90% of the total land area is forest lands including the majority of the areas having Class II-IV soils.

2. Over 3/4 of the land in the County is in soil Class VIe which has severe limitations for agricultural use and is subject to wind and water erosion.

TABLE 11.
Inventory of Acreage
by Soil Conservation Service Capability Class and Subclass
Clatsop County, 1973

Class & Subclass	Acreage	% of Total
I	None	--
II	45,170	8.4%
--e	--17,445	
--w	--16,657	
--c	--11,070	
III	27,130	5.0%
--e	-- 6,150	
--w	--20,978	
IV	7,550	1.4%
--e	-- 1,080	
--w	-- 6,470	
Class I-IV Soils	79,850	14.8%
V	None	--
VI	417,620	77.7%
--e	--417,620	
VII	16,945	3.2%
--e	-- 3,640	
--w	-- 1,520	
--s	-- 11,785	
VIII	23,085	4.3%
--w	-- 3,855	
--s	-- 19,228	
TOTAL	537,500	100.0%

Source: U.S. Soil Conservation Service

CLIMATE

Climatic conditions in the County have significantly limited the potential and diversity of agriculture in the County. This limitation is reflected in the soils ratings described above. There are no Class I soils in the County because of a soil temperature factor which is directly related to the climate.

On the other hand the mild climate is beneficial for dairying, and for peas, lettuce, and other cool weather crops providing the excess precipatation can be drained.

The two climatic limitations are the heavy precipation, which greatly shortens the growing season and invariably ruins hay crops each year, and also the lack of sunshine which contributes to an adverse soil temperature factor.

The heavy precipitation does substantially reduce a need for irrigation in the County whereas it is a necessary expense for other areas. However, the lack of sunshine is a limitation that will always plague farmers and gardeners here as anyone who has tried to grow tomatoes in the County can attest.

Table 12. shows the cloud cover on an average day for different areas of the State over the summer months and indicates that Astoria remains in the cloudy category for the entire summer unlike any of the other areas shown. The year 1977 was used because it was a typical year. Since 1953, the month of May has averaged 3.3 clear days; July averaged 6.0 clear days; August averaged 6.6 clear days; and September averaged 8.7 clear days.

The difference in Astoria's amount of sunshine compared to other areas is significant when it is related to soil temperature and to the advantage of other areas that have successive days of sunshine. Also, it is significant that the difference in Astoria's 7.1 to Portland's 6.1 average cloud cover (on a scale of 0-10) for the month of July is the result of 6 clear, 8 partly cloudy, and 17 cloudy days in Astoria compared to 14 clear, 8 partly cloudy, and 9 cloudy days in Portland.

A favorable climatic factor for agriculture is the mild temperature in Astoria which is very seldom cold enough to cause a concern about frost. The average duration of days with temperatures above 32 since 1953 is 207 days per year. These days generally occur between mid-April to mid-November. This factor can be advantageous, such as when local sweet corn reaches the Portland fresh market after other areas have finished, or when livestock require a mild climate. However, it is not an indication of a long growing season because the ground is usually too wet due to the precipitation.

Table 13. shows the amount of rain that is stopped by the mountains when a front passes from the Coast to the Willamette Valley. Generally there is almost twice as much precipitation at Astoria than in the Willamette Valley.

Findings

1. A combined climatic condition of heavy precipitation and a lack of sunshine in the County seriously hampers farming because it limits the diversity of agriculture in the County and shortens the growing season.

Table 12.
Average Daily Cloud Cover (in tenths) From Sunrise to Sunset--1977

	May	June	July	August	September	October
Astoria	8.1	7.7	7.1	7.3	7.2	7.0
Burns	7.6	5.4	3.1	5.3	5.0	4.6
Eugene	8.3	6.6	5.2	5.6	7.0	8.1
Medford	7.5	5.1	1.8	4.4	4.3	5.9
Pendleton	7.6	5.6	4.2	4.4	5.8	5.5
Portland	8.3	6.2	6.1	5.1	6.7	7.3
Salem	8.0	6.1	5.2	4.4	6.5	7.1

Clear: 0-3 Cloudy: 8-10 Partly: 4-7.

Source: National Weather Service

Table 13.
Rainfall in Inches for 1977
January through December

	Astoria	Portland	Newport	Salem	Eugene
January	3.20	1.07	2.31	.88	1.11
February	5.22	2.49	7.09	2.83	5.05
March	9.74	3.50	8.82	3.33	4.66
April	1.65	1.04	1.20	.62	1.47
May	6.00	4.30	6.21	3.76	2.84
June	1.36	.83	1.15	.73	.97
July	.44	.39	.25	.26	.11
August	3.85	3.26	3.07	1.70	1.70
September	5.44	3.33	5.38	2.36	2.39
October	4.38	2.28	4.18	2.37	2.87
November	12.37	5.56	11.94	6.19	9.14
December	14.34	8.98	15.55	8.73	14.60
Total	67.99	37.03	67.15	33.76	46.91

Source: National Weather Service

STATE AGRICULTURAL LAND USE POLICY

As part of ORS 215 the State Legislature adopted a policy on agricultural lands. The County's Agricultural Plan element and Exclusive Farm Use zone must be consistent with this policy.

> 215.243 Agricultural Land Use Policy,
> The Legislative Assemby finds and declares that:
>
> (1) Open land used for agricultural use is an efficient means of conserving natural resources that constitute an important physical, social, aesthetic and economic asset to all of the people of this state, whether living in rural, urban or metropolitan areas of the state.
>
> (2) The preservation of a maximum amount of the limited supply of agricultural land is necessary to the conservation of the state's economic resources and the preservation of such land in large blocks is necessary in maintaining the agricultural economy of the state and for the assurance of adequate, healthful and nutritious food for the people of this state and nation.
>
> (3) Expansion of urban development into rural areas is a matter of public concern because of the unnecessary increases in costs of community services, conflicts between farm and urban activities and the loss of open space and natural beauty around urban centers occurring as the result of such expansion.
>
> (4) Exclusive farm use zoning as provided by law, substantially limits alternatives to the use of rural land and, with the importance of rural lands to the public, justifies incentives and privileges offered to encourage owners of rural lands to hold such lands in exclusive farm use zones. (1973 c.503 §1).

The following section discusses minimum parcel size in the EFU zone. The 40 acre minimum parcel size for EFU lands in Clatsop County complies with the State Agricultural Land Use Policy by conserving land in large enough blocks to maintain the commercial agricultural economy of the County.

Since 50% of the farms in the County are under 60.5 acres and 61% are under 79 acres, these farms would not be capable of any further division, except under the very limited criteria for non/farm developments. Only 39% of farms would normally be capable of any land divisions. Many of the larger farms in the County are in long-time family ownership with no intentions of dividing up the commercial enterprise. Large enough parcel sizes to maintain the four major types of commercial agriculture in the County will continue to exist. The following section further discusses the minimum parcel size of 40 acres.

MINIMUM PARCEL SIZE

Goal 3 requires that "such minimum lot sizes as are utilized for any farm use zones shall be appropriate for the continuation of the existing commercial agricultural enterprise in the area."

This standard is further explained in the Agricultural Lands Administrative Rule (OAR 660-05-015). The size needed to maintain the existing commercial agricultural enterprise shall be determined by identifying the types and sizes of commercial farm units in the area. Any divisions smaller than that minimum parcel size are considered non-farm divisions and are evaluated by the criteria in ORS 215.21(3)(3). Non-farm divisions are discouraged and the criteria will be strictly interpreted by the County. The minimum parcel size being discussed in this section is for farm land divisions, not non-farm. All divisions of EFU land for farm purposes must meet the minimum parcel size of 40 acres which is consistent with the State Agricultural Land Use Policy. Dwellings must be necessary to carry out the Agricultural activity on the parcel. Dwellings on parcels less than 40 acres must meet the same criteria as creation of a parcel less than 80 acres.

The Census of Agriculture describes certain agricultural characteristics on a county-wide basis. No analysis of agriculture in subareas of the County has been done. This is because agriculture is such a minor portion of Clatsop County's employment (1.6% - see Economic of Farming above) and total land area (1.2% - see Facts and Trends in Agriculture above) that examining it on a county-wide basis makes more sense than further dividing up an already small industry.

The Administrative Rule states that types and values of products produced and how they are marketed are more important in determing a minimum lot size than characteristics of part-time and full-time farming. Part-time farming is presently, and has been for some time, a major factor in Clatsop County agriculture. Figures listed above show that this category is a growing one.

The activities which constitute the commercial agricultural activities in Clatsop County are primarily:

(1) Extensive animal grazing
(2) Intensive animal husbandry
(3) Dairying
(4) Horticultural specialties

The average size of a farm in this County is 97 acres. Statistics above show that this figure commonly includes land rented from others. Farm acreage also includes non-contiguous parcels, often fields managed by one operator may be in different locations in a part of the County. The average size, then, of a farm which is in one contiguous block must be less than 97 acres. The median, or middle sized, farm in Clatsop County is 60.5 acres.

A minimum lot size of 40 acres in the EFU zone would require at least an 80 acre parcel to be eligible for division. 61% of the farms in the County are 79 acres or less. Median parcel size of 60.5 acres shows that well over half of Clatsop County farms would not even be eligible to request a farm land division.

	Average Parcel Size
Extensive Animal Grazing	81.5 acres
Intensive Animal Husbandry	32.6 acres
Dairying	170.0 acres
Horticultural Specialties	93.4 Acres*

*This figure is very skewed by one large farm. The median parcel size in this category is about 20 acres.

	Median Parcel Size
All Farms in the County	60.5 acres

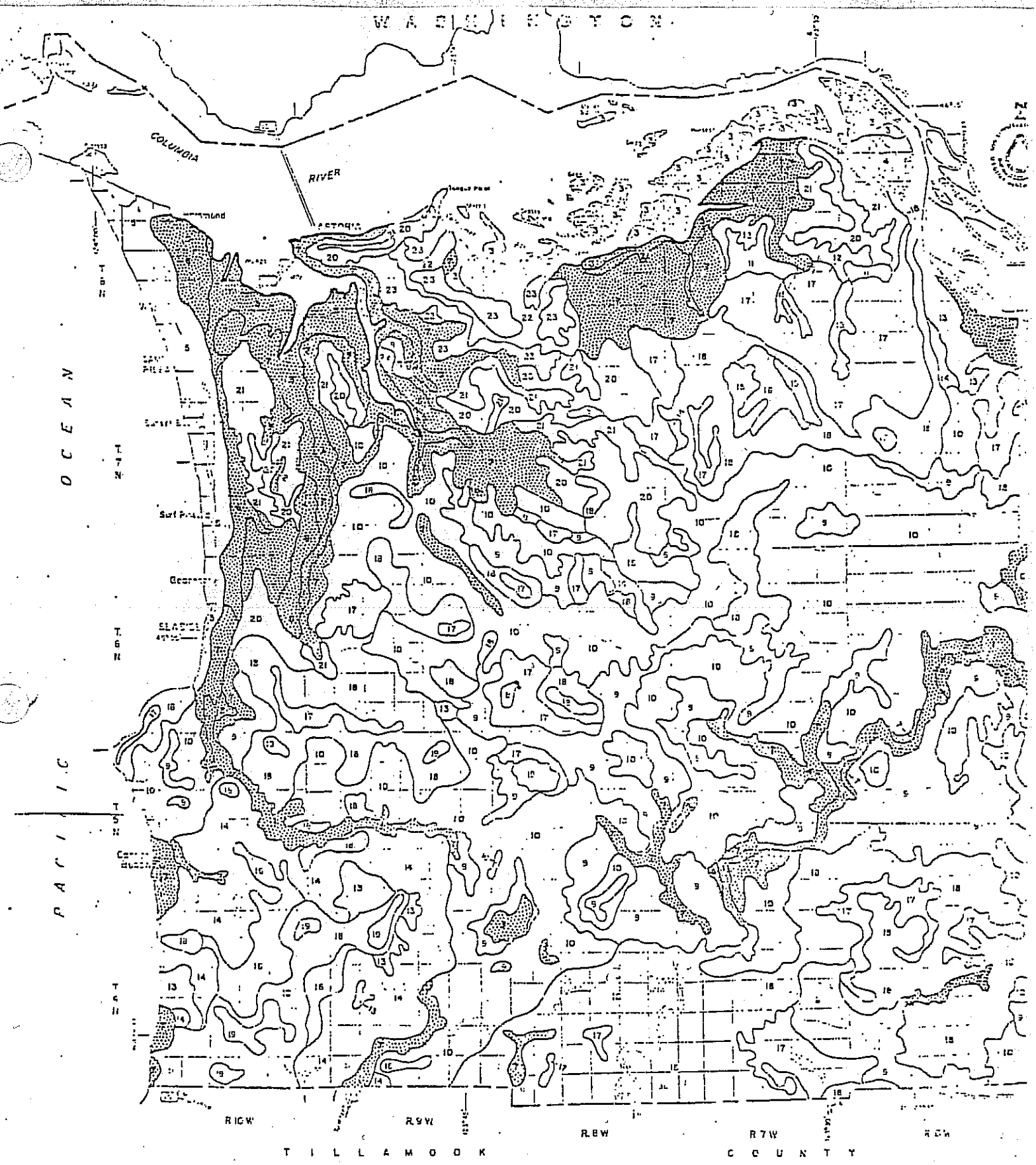
Under Types of Agriculture (page 8), the relative values of the different major agricultural enterprises are discussed. Dairying is the largest percentage of total farm income with 42%. As discussed earlier, 40 acres has been found to be a reasonable minimum parcel size to protect the much larger dairy industry of Tillamook County. Although Tillamook has 10 times the number of dairies of Clatsop County, the other characteristics of the industries are similar. The average size of dairies is somewhat smaller in Clatsop County than Tillamook. In both counties farm acreage is often rented from others and farms commonly include non-contiguous parcels.

In Clatsop County most dairies are farms that have been operated by one family for quite some time. Some processing of milk occurs here but most is marketed through Tillamook County dairy cooperative. That Co-op has limitations on new dairies and on numbers of cows per dairy. This type of limited entry would make it difficult for a new dairy to become established.

Another limitation to dairies is the availability of adjacent land for expansion. The configuration of narrow river valleys with timbered uplands requires that, if more land is needed, it generally must be acquired a distance away from the main farm. A 40 acre parcel size preserves fields of a size necessary to maintain the dairying industry.

For Extensive Animal Grazing, Intensive Animal Husbandry and Horticultural Specialities, most of the farms would not be capable of further division for farm purposes with a 40 acre minimum parcel size. This parcel size will protect those agricultural enterprises.

For certain agricultural lands in the County where a block of parcels all less than 80 acres exist, there is a limited amount of Agriculture-Forestry 20 zoning. Since this zoning category often exists in forest lands or areas of mixed agricultural and forest uses, a discussion of the zone is found in the Forestry Element of the Plan.



SOIL SUITABILITY FOR FARM CROPS

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SOIL SUITABILITY FOR FARM CROPS

CLATSOP COUNTY, OREGON

JANUARY 1973

Good soil suitability for farm crops. These soil associations have over 50 percent of their areas occupied by detailed soil mapping units that are in land capability classes I or II, and less than 50 percent of their areas in classes IV, VI or VII. The soils have slopes of less than 12 percent, good or moderately good drainage, or, if somewhat poor or poor drainage, good response to underground drainage systems, not more than occasional winter overflow, surface layer texture of sandy loam to silty clay loam, and depth to hard bedrock of over 40 inches.

Fair soil suitability for farm crops. (1) These soil associations have less than 50 percent of their areas occupied by detailed soil mapping units that are in land capability classes I or II, and less than 50 percent of their areas in classes IV, VI or VII. Up to 100 percent of their areas may be land capability class III. The soils may have slopes of 12 to 20 percent, good to poor drainage, moderately good response to open ditch or underground drainage systems, occasional to frequent winter overflow, surface texture of silty clay or clay, or depth to hard bedrock of 20 to 40 inches.

Poor soil suitability for farm crops. These soil associations have more than 50 percent of their areas occupied by detailed soil mapping units that are in land capability classes IV, VI or VII. The soils may have slopes steeper than 20 percent, good to poor drainage, with poor response to a drainage system, frequent winter overflow, or depth to hard bedrock of less than 20 inches.

(1) Only soils in soil association 3 that are protected by dikes have fair suitability. Unprotected areas have poor suitability.

CLATSOP COUNTY GENERAL SOIL MAP LEGEND

AREAS DOMINATED BY NEARLY LEVEL, WELL TO POORLY DRAINED SOILS ON STREAM BOTTOM, AND MODERATELY WELL TO VERY POORLY DRAINED SOILS ON TIDE LANDS.

1. Nehalem association
2. Brenner-Nestucca association
3. Coquille-Tidal marsh (fresh)-Clatsop association
4. Sauvie-Peat association

AREAS DOMINATED BY EXCESSIVELY TO VERY POORLY DRAINED SOILS ON THE COASTAL PLAIN.

5. Westport-Gearhart-Dune land association
6. Brallier-Warrenton association

AREAS DOMINATED BY WELL TO POORLY DRAINED, NEARLY LEVEL TO MODERATELY STEEP SOILS ON TERRACES.

7. Walluski-Knappa association
8. Chitwood-Hebo association

AREAS DOMINATED BY WELL DRAINED, GENTLY SLOPING TO VERY STEEP SOI THE COAST RANGE.

9. Astoria-Winema association, 3 to 30 percent slopes
10. Astoria-Winema association, 30 to 60 percent slopes
11. Svensen association, 0 to 30 percent slopes
12. Svensen association, 30 to 60 percent slopes
13. Astoria-Hembre-Klickitat association, 3 to 30 percer slopes
14. Astoria-Hembre-Klickitat association, 30 to 60 perc slopes
15. Hembre association, 3 to 30 percent slopes
16. Hembre association, 30 to 60 percent slopes
17. Hembre-Klickitat association, 3 to 30 percent slopes
18. Hembre-Klickitat association, 30 to 60 percent slope
19. Rock outcrop-Kilchis-Klickitat association, 60 to 9C percent slopes
20. Tolovana association, 3 to 30 percent slopes
21. Tolovana association, 30 to 60 percent slopes
22. Tolovana association, sandstone substratum, 3 to 30 percent slopes
23. Tolovana association, sandstone substratum, 30 to 60 percent slopes

Svensen, Tolovana, and Walluski are tentative names subject to change in correlation.

Goal 4

CLATSOP COUNTY
GOAL 4
COUNTY-WIDE ELEMENT

FOREST LANDS

COUNTY-WIDE ELEMENT

GOAL 4

FOREST LANDS

Adopted September 10, 1980
by the Clatsop County Board of Commissioners

Amended Sept. 1983

Forest Lands in Clatsop County are (1) those lands composed of existing and potential forest lands which are suitable for commercial uses; (2) other forest lands needed for watershed protection, wildlife and fisheries habitat, and recreation; (3) lands where extreme conditions of climate, soil and topography require the maintenance of vegetative cover irrespective of use; and (4) other forested lands in urban and agricultural areas which provide urban buffers, wind breaks, wildlife and fisheries habitat, livestock habitat, scenic corridors and recreational use.

Forest lands contribute in a variety of ways to the quality of life in Clatsop County. The production of timber for utilization in the forest products industry is vital to the County's economy. The forest products industry is the largest dollar generator in Clatsop County. Substantial reductions in citizen's property taxes are realized through the benefits of forest management. Forest lands also contribute to the economy by providing recreational opportunities for out-of-county tourists, hunters and hikers. Forest lands yield non-economic benefits to county residents in the form of clean water, fish and wildlife habitat, outdoor recreational opportunities, and aesthetic resources.

General Findings

Forest lands cover about 90% of the County's land area. The forest land base of Clatsop County comprises a total of about 474,000 acres, of which about 265,000 is commercial timber land in industrial ownership, about 160,000 acres is state-owned timber land, and about 47,000 is in private non-industrial ownership. These lands are designated Conservation-Forest in the County's Comprehensive Plan.

The County's forest lands are highly productive: over 93% of the commercial forest lands consist of site class II and III lands (State Department of Revenue system of classification and State Department of Forestry classification).

Private non-industrial forest lands have received attention recently because of their potential for augmenting existing timber supplies. Educational programs are being utilized to increase understanding of silvaculture and provide technical advice to small woodlot owners. Tax incentive programs, such as the Western Small Tract Optional Tax and the Western Oregon Forest Land and Severance Tax, are also available to encourage sound forest management practices. Despite these programs which encourage small woodlot management, many owners of small forest parcels purchased them for purposes other than silvaculture: thus hundreds of acres of valuable timber land are not currently managed for timber production.

Concern is increasing over the effects of traditional forest management practices such as herbicide spraying, road building and harvesting on watersheds, recreational areas, fish and wildlife habitat and nearby residences. Forest owners are also concerned about these issues and the controversy surrounding them. The Oregon Forest Practices Act protects these forest resources, and many feel that the Act adequately controls the adverse impacts associated with commercial forestry. Other County residents believe the Act is too weak, and advocate greater controls over forest practices.

GOAL

To conserve forest lands for forest uses.

POLICIES

1. Forest lands shall be conserved for forest uses, including the production of trees and the processing of forest products, open space, buffers from noise, visual seperation from conflicting uses, watershed protection, wildlife and fisheries habitat, soils protection from wind and water, maintenance of clean air and water, outdoor recreational activities compatible with these uses, and grazing land for livestock.

2. Forest Lands shall be designated Conservation-Forest in the County's Comprehensive Plan. When considering a zone change to a forest zone, the Planning Commission or other reviewing body shall review the proposal against the acreage, management , and other approval criteria in County-wide Forest Lands Policies #19, #20 and #21.*

3. Forest practices on lands designated Conservation-Forest shall conform to the Oregon Forest Practices Act and Oregon Forest Practice Rules, as revised.

4. Division of forest lands will be permitted only upon a finding that the proposed division meets the following criteria:

   a. the proposed division will not diminish the potential for timber production, watershed protection and fish and wildlife habitat, and
   b. the creation of new parcels will not materially alter the overall stability of the area's land use pattern.

5. The clustering of non-forest residences on forest lands may be permitted in the AF-20 and F-38 zones, subject to non-forest use siting standards. This non-forest development is permitted conditionally because, properly designed and sited, it does not result in the loss of forest lands nor does it diminish or interfere with forest uses.

6. The designation of new park and recreation areas (campgrounds, etc.) on forest lands shall require an assessment of public need for these facilities and their potential impact on adjacent forest lands. The productive capacity of the land shall be evaluated and considered when siting these developments. These developments, if allowed, shall be sited and designed so as not to preclude forest management wherever possible.

7. The County will do the following in order to minimize conflicts between the use of forest land for elk habitat and for commercial timber production.

*Amended 84-9, dated May 23, 1984.

a. Wildlife refuges:

* Existing wildlife refuges which are owned/leased and managed by the Oregon Department of Fish and Wildlife(ODFW) or by the United States Fish and Wildlife Service (USFWS) shall be designated Conservation-Other Resource and zoned Open Space, Parks and Recreation (OPR).

* Proposed wildife management areas which are managed and either owned or leased by the Oregon Department of Fish and Wildlife (ODFW) located in areas designated Conservation Forest or in other lowland areas under any plan designation shall be reviewed by the County for compliance with the approval standards listed below. Such hearings shall be conducted according to a Type IV procedure at a time and place convenient to residents of the affected planning area. ODFW shall provide an evaluation of the economic, social, environmental and energy consequences of the proposal and** information sufficient to support findings with respect to the following approval criteria:

  1. Identification of the need for the proposed new wildlife management area. "Need" means specific problems or conflicts that will be resolved or specific ODFW objectives that will be achieved by establishing the proposed area.
  2. Alternative lands and management actions available to the ODFW, and an analysis of why those alternatives or management actions will not resolve identified problems or achieve objectives.

b. The State Fish and Wildlife Commission shall be officially requested to resolve the existing adverse impacts on forest land resulting from elk browse. The following measures are suggested:

- revision of hunting laws.
- reduce the elk population in Clatsop County to sustained management levels.
- compensate land owners for damage to forest crops resulting from elk.
- where appropriate, provide technical and financial assistance to forest land owners for the instalation of fencing.

c. The County shall take the necessary action through the State Legislative Assembly to revise the laws governing the action of the State Fish and Wildlife Commission for the provision of acceptable methods of relief to property owners from damage due to elk.

10. Forestry activities within watersheds in areas designated Conservation-Forest in the Comprehensive Plan will be conducted in accordance with the Oregon Forest Practices Act and the Oregon Forest Practice Rules, as revised. Additional protective measures negotiated between forest landowners and water users are encouraged.

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*Amended 84-9, dated May 23, 1984.
**Amended 84-10, dated June 27, 1984.

11. The productive capacity of the land will be considered before land designated Conservation-Forest is changed to another plan designation. The impact of the proposed new use on adjacent lands shall also be evaluated and considered before such a plan change is made.

12. Off-road vehicles (ORVs) shall be strictly confined to established rock roads in order to prevent erosion, stream degredation, damage to young trees and seedlings, and disturbance of wildlife and its habitat.

13. Existing utility right-of-ways shall be utilized to the maximum extent possible before new right-of-ways are created.

14. Roads in forest areas shall be limited to the minimum width necessary for traffic management and safety.

15. Forest land owners shall be encouraged to actively pursue methods of complete utilization of wood fiber left on the ground after harvesting.

16. Where forest lands of suitable management size occur in the interior of rural residential areas, or are completely surrounded by residential development, small woodland management and farming is encouraged. Over time these areas may be needed for housing and in future comprehensive plan updates shall be considered ideally situated for conversion to residential uses prior to conversion of other forest lands.

17. Expansion of existing non-forest developments and uses in forest zones may be permitted under a Type II procedure only when such expansion is substantially confined to the existing site.

18. Partitioning of forest lands under the provisions of Clatsop County's forest zones which serve to increase forest management efficiency by allowing one or more forest owners to consolidate their land holdings is encourged.

19. Clatsop County will rely on the following acreage criteria when reviewing a proposed zone change to a forest zone:

    AF-20: Lands in the AF-20 zone shall be comprised predominantly of ownerships smaller than 40 acres. Ownerships 40 acres and larger may also be placed in an AF-20 zone if they are generally surrounded by ownerships smaller than 40 acres.

    F-38: Lands in the F-38 zone shall be comprised predominantly of ownerships smaller than 76 acres. Ownerships 76 acres and larger may also be placed in an F-38 zone if they are generally surrounded by ownerships smaller than 76 acres.

    F-80: Lands in the F-80 zone shall be comprised predominantly of ownerships 76 acres and larger.*

*Amended 84-9, dated May 23, 1984.

20. Clatsop County will rely on the following management criteria when reviewing a proposed zone change to a forest zone:

    AF-20 and F-38: lands in these forest zones are characterized by both agricultural and forest land uses. Management of these lands is often done on a low-intensity, part-time basis.

    F-80: Forest lands in the F-80 zone include areas where timber production is the primary land use. These lands are often intensively managed by full time professional foresters.*

21. A zone change from the F-80 zone to any other zone, including the AF-20 or F-38 zone, shall require a plan amendment. The purpose for such a plan change is to assure that primary forest lands in the F-80 zone are not converted to mixed use forest lands in the F-38 or AF-20 zones, or to any other plan designation without appropriate review by the County.*

22. Partitioning of land in the AF-20 zone and F-38 zone shall be approved only upon a finding that such newly created parcels shall be used only for forest uses. This policy does not apply to the small lots resulting from a cluster partition.*

23. In land use changes involving a change from Conservation-Forest Lands or Rural Agricultural Lands to Rural Lands or Development designations an Exception to the Agricultural Lands or Forest Lands Goals must be taken.*

*Amended 84-9, dated May 23, 1984.

FOREST LANDS

BACKGROUND REPORT

May 1980

By

Brook Robin, Consultant, and
Curtis J. Schneider
Gail Hochhalter
Clatsop County Department of Planning and Development

Adopted September 10 1980
Revised September 30 1980

by the Clatsop County Board of Commissioners

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PREFACE

Clatsop County has been involved in the process of updating the County Comprehensive Plan in order to comply with the Statewide Goals and Guidelines, and to develop sound comprehensive planning in the best interests of the area. This task has been undertaken incrementally, resulting in several informative and technical background reports to be used as the basis for policy formulation. These background reports include the environmental plans for the various planning areas, Agricultural Lands, Forest Lands, Housing, Transportation, Public Facilities and Services, Economy, Energy Conservation, Estuarine Resources, Coastal Shorelands, Beaches and Dunes, Air, Water and Land Quality, Hazards, and Recreation.

The Planning staff has attempted to provide a clear, complete and accurate accounting of current circumstances in Clatsop County. Your comments are encouraged to assist in the maintenance and periodic update of the Clatsop County Comprehensive Plan.

INTRODUCTION

Clatsop County is located at the extreme northwestern corner of Oregon where the Columbia River joins the Pacific Ocean. The County has a total area of 820 square miles of land and 101 square miles of water for a total of 921 square miles.

Elevations in the County range from sea level to 3,000 feet or more at the crest of the Coast Range. The land is largely rough, broken mountainous terrain with low-lying level alluvial plains bordering the Columbia River Estuary, and rocky headlands, marine terraces, and an extensive coastal plain of partially stabilized sand dunes along the Pacific Coast.

The climate of the County is of the humid , marine temperate type characterized by cool summers and rainy winters with light to moderate snowfall on the higher elevations. Precipitation falls mostly from October through April and varies from 70 to 100 inches along the coast to over 120 inches at the crest of the Coast Range. Temperatures seldom rise above 85 degrees F. in the summer or below 20 degrees F. in the winter.

Timber, the major land use of the County, comprises roughly 90% (474,000 acres) of the total land area of the county (Clatsop County Plan Phase I). These forests are the source of raw materials for the County's lumber and wood products industry. Most streams of the County head in forest lands. Forest lands also provide wildlife habitat, and are utilized for several forms of outdoor recreation.

Clatsop County's environment is favorable for the growth of dense and productive forests. The effects of topography, proximity to the moist humid winds of the Pacific Ocean, and large amounts of percipitation in the County is reflected in the type of forest cover present.

Forests in Clatsop County fall into two major zones determined by the distribution of the principle species. The Sitka Spruce zone occurs generally in the western half of the County, and the Western Hemlock zone is found mostly in the eastern half. The major tree species in these zones include Sitka Spruce, Western Hemlock, Western Red Cedar and Douglas Fir. Other prominent species include Red Alder, Big Leaf Maple and some true firs (the Pacific Silver Fir and Noble Fir) at the higher elevations.

Six of the largest trees in the United States are located in Clatsop County. These trees, together with their locations, are listed in Table 1.

TABLE 1

OREGON NATIONAL TREE CHAMPIONS LOCATED IN CLATSOP COUNTY

NAME	LOCATION
1. Hooker Willow	Warrenton
2. Sitka Spruce	Klootchie Creek Park
3. Sitke Alder	Saddle Mountain State Park
4. Red Alder	About 15 miles SE of Astoria near Highway 202
5. Big Leaf Maple	Jewell
6. Buckthorn Cascara	Near Hamlet

The Nature Conservancy's Natural Area Study for Clatsop County and the Open Space, Scenic and Historic Areas and Natural Resources section of the Clatsop County Comprehensive Plan list other notable stands of timber.

FOREST CLASIFICATION AND INVENTORY

1. Classification.

Forest land means land for which a primary use is the growing and harvesting of trees. The Oregon Department of Land Conservation and Development defines forest lands as:

(1) lands composed of existing and potential forest lands which are suitable for forest uses,
(2) other forested lands needed for watershed protection, wildlife and fisheries habitat and recreation,
(3) lands where extreme conditions of climate, topography and soil require the maintenance of vegetative cover irrespective of use, and
(4) other forested lands in urban and agricultural areas which provide urban buffers, windbreaks, wildlife and fisheries habitat, livestock habitat, scenic corridors and recreational use.

Forest lands are classified according to their productivity through a forest site classification system. A site classification system is a measure of the land's potential for producing a quantity of timber over time. It is not a measure of the existing stock. The State Department of Revenue classifies all private forest land using the Forest Service's site classification system, sometimes called the King-Weyerhauser system. About 93% of County commercial forest lands are site class II and III under this system. These site class categories and ratings are shown in Table 2.

TABLE 2

COMPARISON OF SITE CLASS INDEX SYSTEMS

RATING	PRODUCTIVITY CLASS	CUBIC FOOT SITE CLASS
Excellent	FA	II
Very Good	FB	II
Good	FC	III
Fair	FD	III
Poor	FE	III and IV
Very Poor	FF	IV and V

Table 3 shows the acreages of forest land in Clatsop County by productivity class. This is also shown on Map 2.

State forest lands, however, are classified according to the State Forest Land Use Classification System. There are three general categories under this system: Production, Use and Conservancy. The overwhelming majority of State Forest lands (about 97%) are classified as Production. Minor portions are classified as Use (1.8%) and Conservancy (1.2%) and are not used for calculating the annual allowable cut by the State Department of Forestry.

Production lands are those on which timber production is a primary use. Production lands are subdivided into top production, regular production, scenic production and limited production classifications. Use lands are those on which special uses may preempt other uses. Such uses include watersheds, recreation, services, rangelands, transmission right-of-ways and quarry sites. Conservancy lands are those on which a special need for protection of exceptional scenic values or fragile sites preempts timber production.

2. Inventory

Clatsop County has mapped its forest lands utilizing the following systems:

* The State of Oregon Department of Revenue system for all private forest lands as to production potential (not cubic foot site class).

* The State Forest Land Use Classification system for all State Board of Forestry lands.

These maps are not included in this report due to their size, and are located in the Clatsop County Department of Planning and Development, the State Revenue Department and the Astoria office of the State Department of Forestry.

It should be noted that the Land Conservation and Development Commission has adopted a Forest Lands Policy requiring local jurisdictions to map forest lands according to cubic foot site class. Clatsop County has utilized the State Department of Revenue Classification which is not calculated into cubic foot site class at this time. Clatsop County will convert to the cubic foot site classification at a later date.

FOREST LAND OWNERSHIP

1. History

Forests in Clatsop County were once known for their large stands of Douglas Fir and other important softwood species. Most of the old growth Douglas Fir was harvested over a relatively short time.

Early hand, horse and ox team logging along the slopes above the Columbia River and other navigable waterways gave way to steam donkeys and railroads, which enabled logging to be extanded back into much of the county by 1910 to 1925. In 1926, the peak production year, Clatsop County forest yielded 572 million board feet of timber.

Logging operations and sawmills in Clatsop County were among the first in Oregon. Lumber produced in large sawmills along the Columbia River was primarily from Douglas Fir. Mills in the County also produced cedar for boat building, posts, shakes and shingles, hemlock for pulp and trim lumber, spruce for pulp and airplanes, and alder for furniture.

Lumber production closely followed the trend in log production until about 1945, when sawmill demand exceeded log supply. Mills designed for old-growth logs were also finding it uneconomical to operate with smaller second growth logs. Large lumber mills were still operating in 1950 in Westport, Wauna, Bradwood and Warrenton. A plywood mill, two stud mills, and a pulp and paper mill were all that remained by 1968.

Forest ownership has changed dramatically over the few decades of timber harvesting. The Great Depression, on top of heavy investment in logging equipment and poor market conditions, caused widespread financial hardship which lead to the cut-and-run logging philosophy of the time. Also, the higher taxes of what had been a boom economy had encouraged owners of forest lands that could not be logged economically, as well as owners of logged-off forest lands, to let

thousands of acres default for taxes and revert to County ownership. The County had acquired over 100,000 acres of foreclosed lands by 1932.

About this time State forestry laws proved timely by facilitating purchase of land for management by the State Forestry Department, with 75% of the harvest value going to the County. An experimental area was started near Hamlet for this program and became the forerunner of the present program.

World War II brought new markets and value to second growth stands and additional areas became accessible with modern equipment. The preasure to sell County forest lands back to private loggers was back, but the County Commissioners were more interested in the future growth and tax base of forest lands than in short-term gain. As a result, the County had deeded over 90,000 acres to the State Forestry Department and the Department had purchased another 15,000 acres by 1945.

By this time, the Crown Zellerbach Corporation (formerly Crown-Willamette) was taking advantage of the opportunity to acquire sizeable acreages of hemlock and spruce stands along the coastal slopes as well as logged-off but potentially high-yielding properties for their sustained-yield tree farming operation. Areas near Cannon Beach and in the Youngs River valley were planted by their foresters in the 1920s and 1930s and are now visible evidence of their early forest management activities.

Ownership patterns for both private and public forest lands are shown on Map 2 and further described in Table 4.

TABLE 4

COUNTY FOREST LAND OWNERSHIP AND ACREAGE

	Acres	% of Forest Land
Private Industrial	264,565	55.8
Private Non-industrial	46,887	9.9
Public	160,097	33.7
TOTAL FOREST LANDS	474,000	99.4

Total does not equal 100% due to rounding.

Source: Allan Shiller. Survey of The Natural Economy in District One. August 1973; State Department of Forestry Records; Clatsop County Assessor's Records.

2. Private Non-Industrial (Small Woodland Owners)

Private non-industrial forest land ownerships in Clatsop County are generally found on the fringes of the larger public and corporate holdings. These holdings promise to become increasingly important as a source of timber.

The North Coast region of the state has been identified as capable of continuing present annual harvest levels to the year 2000 (Timber for Oregon's Tomorrow, John Beuter, et all). The report also predicts up to a 20% increase in harvest levels over the next 10 years if small woodland owners could manage their resource more intensively. Non-industrial private landowners have a variety of reasons for owning or managing forest land. The most common appear to be residential purposes, recreation, aesthetics, grazing, or for eventual timber harvest.

The approximately 47,000 acres of private non-industrial forest land shown in Table 4 represent only 10% of the county's total forest land, and considerably less of a percentage of forest lands managed for timber production. Table 5 indicates the range and size of private non-industrial forest land holdings in Clatsop County. The ownership pattern strongly influences how these lands are utilized. Although a growing number of small woodlot owners are engaged in intensive forest management of their land, most of the acreage in small forest parcels is poorly managed or not managed at all. Generally, larger timber owners are engaged in more intensive forestry for the production of income while owners of smaller tracts (10 to 100 acres) have other objectives.

TABLE 5

NONINDUSTRIAL PRIVATE FOREST LAND OWNERSHIP

Size Class (Acres)	Acres	Number of Owners
10 - 100	24,733	602
100 - 500	20,103	106
500 +	2,051	3
	46,887	711

Source: State Department of Forestry, 1977.

There is a great deal of help, both public and private, available to the small woodlot owner. There are programs designed to help bear the cost of management practices and to provide technical, financial and educational assistance. Many landowners, however, are either unaware of the kinds of services available or unaware of who offers them.

Technical assistance to the small woodlot owner in Clatsop County is provided by the following agencies: Oregon State University Extension Service, Oregon State Department of Forestry, the Soil Conservation Service and Clatsop Community College. The Extension Service offers assistance in explaining forest management techniques and sponsors periodic field trips to show actual practices. Larger timber companies will occassionally provide forester's services to manage small woodlots, often in exchange for first option on timber harvested. Clatsop Community College offers courses in forestry. There are also many forestry consultants available who specialize in various aspects of management and production.

The State Department of Forestry is the largest provider of assistance to the non-industrial private forest landowner. The Department's Service Forestry Program offers six services to woodland owners wishing to manage their forest properties. These services include designing management plans, acting as advisors for the federal cost share programs, providing technical advise, coordinating available services, and administering the Western Oregon Small Tract Optional Tax. Service foresters also assist landowners in forming cooperatives to secure nursery stock or perform project work, such as aerial fertilization or chemical brush control. The Department has published two catalogs: Woodlands Assistance In Oregon: A Catalog Of Technical, Financial And Educational Assistance and Woodlands Assistance In Oregon: A Directory Of Young Growth Management Contractors. The first catalog provides a summary of available services to woodland owners from a variety of sources. The second catalog lists contractors willing to help landowners carry out young growth management programs such as tree planting or site preparation. (DOF, March, 1978).

3. Private Industrial (Corporate)

The primary purpose of these large owners is the production of lumber and other wood products, the number one industry in the County. The economic impact of this industry is discussed in the background report on Economy.

As shown in Table 6, the largest corporate timber land owner in Clatsop County is the Crown Zellerbach Corporation. Close examination of Map 2 shows that their holdings are concentrated generally in the western half of the County. The Boise Cascade Corporation owns a large block in the northern half of the County plus substantial holdings along the Nehalem River in southern Clatsop County. Other forest products companies own land generally in the southeastern portion of Clatsop County.

TABLE 6

PRIVATE INDUSTRIAL HOLDINGS

	Acres	% of Forest Lands
Crown Zellerbach	169,000	35.7
Boise Cascade	49,845	10.5
Publisher's Paper	6,068	1.3
International Paper	15,282	3.2
Longview Fibre	5,100	1.1
TOTAL FOREST INDUSTRY	264,565	55.8

source: Alan Shiller. Survey of the Natural Resource Economy in District One, Oregon. August 1973; State Department of Forestry Records; Clatsop County Assessor's Records.

Large firms, unlike small woodlot owners, are more likely to find that a relatively low rate of return on timber production does not greatly effect long-term overall productivity. The large firm is more capable of realizing its profits in the manufacturing stage of production because intensive forest management affords the protection of a permanent timber supply which in turn protects the heavy investment in plant and equipment.

4. Public Forest Lands

As shown in Table 7, public forest lands in Clatsop County are almost entirely owned and managed by the State Department of Forestry. Most of the State-owned timber land is in the east, southeast and southcentral portions of the County, including other large tract in and adjacent to Astoria and southeast of Olney along State Highway 202.

TABLE 7

PUBLIC FOREST LAND

	Acres	% of Forest Lands
State Lands	154,998	32.7
(DOF)	(145,158)	
(DSL)	(2,237)	
(State Parks)	(6,804)	
(Right-of-ways)	(242)	
(DFW)	(558)	
Federal Lands	43	0.0
County Lands	722	0.1
City Lands	4,333	0.9
TOTAL PUBLIC LANDS	160,097	33.7

Source: Allan Shiller. Survey of the Natural Resource Economy in District One, Oregon. August 1973; State Department of Forestry Records; Clatsop County Assessor's Records.

About two-thirds of the proceeds from the sale of timber on State forest lands goes to the counties in which the timber is located. These proceeds reduce the property tax burden for County residents. Clatsop County recieved about 10 million dollars from the sale of timber on state forest lands located in the County during the 1981-1982 fiscal year. These funds are channeled back into the school and other districts in which the timber was cut. Every $1,000 received amounts to an average of about a one cent tax reduction on a property owner's tax statement. State forests are managed for sustained-yield timber production, consistent with the financial resources available and the need to protect soils, streams, wildlife habitat, recreational opportunities and other environmental values.

One of the state's largest roles in terms of forest lands are in the areas of fire prevention and protection and administration of the Oregon Forest Practices Act. Professional forestry services are also provided by the state to the public in three areas: woodland assistance, forest practices and forest resource studies. Through woodland assistance owners are advised on reforestation, stand improvement, forest protection, marketing and other activities.

Clatsop County owns about 720 acres of forest land. These lands are actually part of the County park system and are not held by the County for timber production. They are not considered forest lands for purposes of this comprehensive plan, and are addressed in the Open Space, Scenic and Historic Resources and Natural Areas plan element.

The County through foreclosure proceedings also owns numerous parcels of potentially productive timber lands. Clatsop County has inventoried these lands and is trying to develop a "block" through trading. The State has approached the County about management of these lands but an agreement has not yet been reached.

FOREST MANAGEMENT PRACTICES

1. Forest Practices Act.

The Oregon Forest Practices Act (ORS 527.610 to 527.990) was the first of its kind in the United States to set forth procedures and methods to insure protection of a wide range of forest-related values including water quality, reforestation and wildlife protection. The Act has been in effect since 1972 and is administered and enforced by the Oregon Department of Forestry. A major aim of the Act is to ensure water quality.

Forest practices have many potential impacts on water quality. Turbidity is probably the most important water quality problem created by forest operations. Harvest methods which disturb or compact soils the most have the greatest potential for producing erosion and increasing turbidity in forest streams. Generally, = tractors disturb and compact soils the most, followed by high-lead, skyline and ballon harvesting. Preventing sedimentation requires minimizing soil disturbance, planning harvest operations to protect streams and sensitive areas, and protecting stream channels during and after harvest.

There are seven categories of forest practices that relate to water quality protection. These include harvesting, road construction and maintenance, site preparation, application of chemicals, rock pits and surface mining, petroleum leakage and stream channel changes. The purpose of the harvesting rules is to "establish minimum standards for forest practices that will maintain the productivity of the forest land, and minimize soil and debris entering streams and protect fish and wildlife habitat". Stream protection requirements comprize a large portion of the harvesting rules, emphasis being given to the protection of stream beds and banks and preservation of streamside vegetation.

The purpose of the road construction and maintenance rules is to "establish minimum standards for forest practices that will provide the maximum protection to maintain forest productivity ,water quality and fish and wildlife habitat during road construction and maintenance". The general objective of these rules is to design roads that fit the terrain, that minimize soil disturbance and that provide for adequate drainage.

Site preparation rules set out details for precautions to be taken during site preparation to ensure protection of water quality. Reforestation rules give further emphasis to soils protection and stabilization. Reforestation following harvest is required, ensuring that vegetation is returned to protect the soil.

The purpose of the rules regarding application of chemicals is "to regulate the handling, storage and application of chemicals in such a way that the public health and aquatic habitat will not be endangered by contamination of the waters of the State." Included are sections requiring maintenance of equipment in leakproof condition, protection of water quality during mixing of chemicals, protection of open water when spraying, location of mixing and landing areas away from water bodies, and monitoring streams by landowners using chemicals.

The purpose of the rockpit mining rules is to insure protection of water quality and soil stability and to provide for safety during and after mining operations. Quary sites are required to be kept out of streambeds and to be stabilized to prevent erosion or mass movement. The rules on petroleum leakage require the operator to "take adequate precautions to prevent leakage or accidental spillage of any petroleum products in such a location that they will enter any stream course or area of open water." The stream channel change rules state that "changes shall not be made in any natural fish bearing stream course either by crowding (filling along one bank) or by relocation of the channel, except by written approval of the State Forester."

The Oregon Forest Practices Act has been helpful in rducing the impact of forest practices on water quality. This is the concensus of a selct group of specialists in forestry, water quality, fisheries and soils which recently prepared an evaluation for the State Department of Forestry. Dr. George Brown, head of the Oregon State University Department of Forest Engineering, served as chairman of the work group. This group recommended improvement in the following areas:

1. Additional training of forest practice officers and industry personel concerning soils, road construction and timber harvesting systems.

2. Improved supervision of forest operations at all levels.

3. More uniform enforcement procedures and recommendations to timber operators throughout each operating region to avoid confussion on the requirements for water quality protection.

4. Developing a better knowledge base through research concerning the effects of some forest practices on water quality.

The Oregon Forest Practices Act requires operators to notify the State Department of Forestry at least 15 days prior to begining an operation. This advance notice is required to give Oregon Forest Practice officers a chance to make an inspection of the site where there is a risk of environmental dammage.

Some citizens are voicing their concerns (at this writing) over the adequacy of the Forest Practice Rules and lack of notification procedures to affected citizens. The outcry appears to stem from a nationwide concern over herbicide spraying and other environmental issues.

VEGETATION MANAGEMENT

Forest resource production and protection often requires vegetation control or manipulation directed toward plant species which interfere or compete with the growth of desired tree species. A major forest management objective is regeneration of desired timber species. This can be difficult because many species grow very slowly during their juvenile state. Other undesired plant species grow rapidly and are better able to compete for available moisture, light and nutrients. This competition can retard or prevent the growth of the desired species. Vegetation management is used at different times to retard other species and permit the establishment of desired seedlings. Major competitive plant species in Clatsop County include Salmonberry and Red Alder.

Fire has been used for centuries to manipulate vegetation. As other techniques such as herbicides and mechanical treatment become limited, fire becomes a more viable option. The Department of Forestry has administered a smoke management program since the mid 1970s which utilizes weather forecasting and pre-burn planning to minimize smoke polution problems in designated population centers.

The use of mechanical devices such as bulldozers, plowing, brush cutters, etc. also reduces unwanted vegetation. Reforestation can be immediately undertaken. Mechanical operations, however, often disturb the topsoil, increasing chances for soil erosion, stream sedimentation and loss of site productivity.

Manual control methods are often used in areas requiring selective treatment. This type of vegetation control can also be used near water courses, critical boundaries and recreation sites. Labor costs are generally higher than for spraying and it may not be as effective as chemical treatment.

The most widely utilized method of removing undesirable vegetation is the use of herbicides. The future role of herbicides in forestry is currently clouded: recent legal action in the Federal Courts has caused the temporary suspension of herbicide use in some National Forests, pending further investigation into the possible health effects of herbicides on humans. Although this litigation does not directly affect herbicide use in Clatsop County, it is an indication of the larger controversy surrounding herbicides.

TIMBER TAXATION

Timber harvesting and processing support the economy of many communities and even the County as a whole. Public investments are made in schools and other facilities and services where forest

industries locate. Individuals build homes and establish businesses. The people and the local economy benefit if the forest resource is managed to provide a relatively stable timber supply.

Since timber tax payments are a relatively substantial cost factor in the holding or harvesting of timber, timber taxes tend to influence the forest management practices of private forest land owners. The laws which provide for taxation of privately owned timber and timber lands are an example of an attempt to link taxation and land use policy. The laws are designed to encourage good timber conservation practices during harvesting, to prevent the rapid depletion of our forests, and to encourage sustained yield management.

In 1951 the State of Oregon embarked on an ambitious program to reappraise all property in the state subject to ad-valorem taxation, and reappraisal of timber land was an important part of that program. In conjunction with that program, responsibility for timber evaluation was centralized as a function of the Oregon State Tax Commsssion. In 1961 the State Legislative Assembly enacted a new valuation for Western Oregon timber, placing it at 25% or 30% of its immediate harvest value. Timber smaller than 12 inches diameter at breast height was exempted from the taxation.

The 1977 session of the Oregon State Legislature adopted a new form of timber taxation in an effort to simplify the complex tax system that was in effect west of the Cascades. Under the old ad-valorem system, taxes were paid only on the land and not on the trees until the trees grew large enough to be commercially valuable. Once the trees were 12 inches dbh, they were taxed. If the trees were harvested prior to that point, the timber owner paid an ad-valorem tax on its harvest value for the single year of the harvest. Some owners were cutting trees before they were large enough to tax, consequently hurting timber production.

TABLE 8

True Cash Value Of Forest Land
As Of January 1983

Land Class	Land Value Zones		
	A	B	C
FA	$393	$349	$337
FB	324	282	247
FC	267	223	195
FD	232	185	161
FE	168	132	108
FF	115	88	73
FG	57	43	43
FX	33	33	33

Source: Clatsop County Assessor's Office.

The Forest Fee and Yield Tax had been applied to cut-over timberland. This was a special tax available to owners as an option to the ad-valorem system, designed to keep on the tax rolls land that would otherwise be allowed to revert to the County for non-payment of taxes after the timber had been harvested. Upon application by the owner and concurrence of the State Forester, such lands could be classified as "reforestation lands". Once lands were classified for this tax they were subject to an annual tax of ten cents per acre. The owner paid a yield tax of 12.5 % of the stumpage value immediately after harvesting.

The Western Oregon Severence Tax (1977 House Bill 3274) changed these systems of taxation to one that taxes timber after it is cut. This new tax, effective January 1978, is 6.5% of the value of the timber and applies to all timber cut on privately-owned forest land in Western Oregon. The land on which the timber is grown will be taxed annually using base values determined by the State Department of Revenue. The base values for 1983 are shown in Table 8. This tax yielded about 2.7 million dollars in revenue for Clatsop County in FY81-82. Both the ad-valorem tax system and the Forest Fee and Yield Tax will be phased out over a 20 year period until the 6.5% severance tax rate is reached.

Requirements for the new tax law are:

1. Timber owners must pay a 6.5% severance tax on all timber cut after December 31, 1977 on privately owned land in Western Oregon. Excepted from this requirement is privately owned land subject to the Western Oregon Small Tract Optional Tax. Reforestation land is subject to a 12.5% tax in 1978. This percentage will be gradually reduced to 6.5% in the year 2002.

2. All timber owners who receive notification of harvest from the Oregon Department of Forestry must file a tax return, even if no harvest was made. Owners owing less than ten dollars in taxes do not have to pay them. Timber taxes are paid quarterly to the Oregon Department of Revenue.

3. Timber owners must keep careful records of how much timber they cut and what species and grades they cut in order to calculate their taxes. Small owners who qualify for an option, which is explained below, must also keep records of how much money they received from the sale of their timber.

4. Small owners have an option. A small owner is one who owns less than 2000 acres of forest land and who owns less than 10% of a timber processing business. Instead of using timber values set by the Department to calculate their taxes, small owners may use the actual sale price they receive for their timber.

Conditions to which the Western Oregon Severance Tax does not apply:

1. Christmas trees grown on cultivated land where other vegetation is continuously eliminated.

2. Timber on land already exempt from property taxes, such as federal land.

3. Timber an land classified under the Small Tract Optional Tax program.

4. Timber and land assessed under the utilities section of the State Department of Revenue.

The new law provides that severance tax revenue collection in 19 Western Oregon counties will be returned to various taxing districts according to a distribution formula. Revenue will be sent to each district according to the 1977 assessed value of the timber in the district and the district's 1977-1978 tax rate. The effect of this formula was to return revenue to each district according to the amount of tax that would have been paid by timber owners had the property remained on tax rolls during 1977-1978.

Large timber companies with old growth timber ready to harvest paid heavily at the begining under the new tax law. Companies with immature timber will profit as they no longer have to pay a tax each year, but only at harvest, about 50 years after tree planting. Taxes can be paid from harvest profits, thus encouraging further production.

The Western Oregon Small Tract Optional Tax exempts those who qualify from the new severance tax. This tax is based on the ability of forest land to produce an income from the sale of timber. Only the land is taxed: trees are exempt, whether harvested or not. The Small Tract Optional Tax law allows owners with at least 10 acres but not more than 2,000 acres of forest land primarily in timber production and with trees averaging less than 60 years old to pay taxes based on a flat rate per acre based on the timber-growing quality of the land. Upon application, the tract is classified in one of five site classes according to the capability of the land to grow trees. The property's assessed value is then fixed at per acre values (as of January 1979, 80% of true cash value) of $16, $85, $194, $291 or $468 according to its site classification. The optional tax is designed as an incentive for good management. The forest land owner is taxed only at a flat rate per acre. Additional production is not taxed. About 2,800 acres of timberland in Clatsop County is in the Small Tract Optional program as of January 1983.

Land that had been classified as Reforestation Land automatically became Designated Forest Land as of January 1978. Designated Forest Land is valued and taxed at its true cash value as forest land rather than its potential market value. Owners of Reforestation Land in Western Oregon previously paid a fee of ten cents per acre

each year, plus a 12.5% yield tax when timber was harvested. Under the new law, they will pay a severence tax on timber in 1978 at the rate of 12.5%. This rate will be reduced each year until it reaches 6.5% in the year 2002. Owners also will pay property taxes on their land in 1978 at 5% of its true cash value. This rate will increase 5% each year until the land is taxed at 100% of its true cash value.

Forest landowners who do not classify their land as forest land with the County Assessor's Office will not come under any of these tax systems and will most likely pay a higher tax based on true market value.

Estate taxes are often mentioned by forest landowners as a problem, especially on family tree farms. Oregon recognized this problem in 1975 when it raised the deductible ceiling from $75,000 per individual to $300,000 for the surviving spouse and minor or incompetent children. Most landowners still consider this amount too restrictive. Unless a landowner's circumstances fit these narrow owner and dollar constraints, he or she may decide not to grow timber as a business when transfer of property to heirs is imminent. This land might then become a less-intensively managed part of the forest base. The federal estate tax deductible allowance on net estate values is $250,000. It does not take much of a tract of timber to exceed this value. Many landowners feel compeled to convert their timber to liquid assets that enjoy more shelter from taxation for inheritance purposes. At any rate, the combination of tax liabilities facing the forest landowner is not always conducive to holding the timber to maturity or increasing the value of the tract through intensive msnsgement.

OTHER FOREST USES - BENEFITS AND IMPACTS

The forest lands of Clatsop County, relied upon for a diverrsity of uses, are important to the people of the County and the State. The forested slopes of the Coast Range are the source of much of the water consumed within the County. Fish and wildlife are integral parts of the forest environment and are basic resources upon which much of the recreational value of the forest depends.

1. Watersheds

The cities of Clatsop County rely upon designated watersheds for their domestic water supply. The Forest Practices Act is designed to protect water quality from the potentially adverse impacts of forest management. Watersheds are further discussed in the Open Space, Scenic and Historic Areas and Natural Resources plan element.

2. Recreation

Forest lands are a source of recreational enjoyment. The mountain peaks and valleys, lakes and streams in forest lands provide for such activities as hiking, hunting, fishing, picnicking and camping.

Timber haul roads provide access to forest land. Relatively few areas of Clatsop County's forest lands are inaccessible. Unsurfaced

roads, temporary spurs and fire lines which are impassable to most vehicles are utilized by off-road vehicles (ORVs). The use of ORVs for recreational use in forest lands has become an increasing concern for both forest landowners and other users of the forest. When used off of the road, ORVs cause damage to tree plantings, wildlife, waterways and unstable slopes. Efforts should be made to limit the use of ORVs to designated recreational areas where their use can be controled.

Forest practices may conflict with recreational uses, alter stream flow or affect the production of fish in mountain streams. Logging practices, such as burning, spraying and clearcutting may also infringe upon the amenities of living and recreating in the forest.

The forest landowner is also concerned about increased recreational use of these lands and the controversy arising over logging practices. The county can minimize these conflicts through close cooperation with forest managers and controls on the location of other uses. Additional information on recreation lands can be found in the Recreational Needs plan element.

3. Fish and Wildlife

Forest lands comprise an important segment of the land needed to provide a suitable environment for fish and wildlife populations. (See the Oregon Fish and Wildlife Habitat Protection Plan).

The basic habitat for big game animals is found in and adjacent to the forested areas of the County where logging has created mixed stands of mature forests, brushlands and clearcuts. These resultant open forest areas produce abundant wildlife food in the form of berries, forbs, shrubs and grasses.

Big game animals, primarily Elk, also feed on tree seedlings. In some areas of the County, especially near the refuge areas, they have caused considerable damage to planting efforts. Forest managers have tried to reduce losses by protecting seedlings with mesh screens or similar deterents. Replanting is often necessary to increase chances for survival. The problem becomes more intense as the Elk herds increase at a rapid rate.

Many of the County's forest lands are habitat for plant and animal species facing extinction. The 1973 Endangered Species Act, The Bald Eagle Act and various state laws regarding endangered or threatened species discourage activities which may threaten the survival of these species.

Considerable research has been done on the bald eagle and the U.S. Fish and Wildlife Service has drafted guidelines for their protection. These guidelines can be applied in some detail when an eagle nest or roost site is encountered in the forest.

Most streams in the County's forest lands have some species of anadromous fish. Anadromous fish are those that start life in freshwater, rear in the ocean and, when mature, return to freshwater

for spawning. Anadromous fish hatcheries within forest lands are located on Big Creek, Gnat Creek and the North Fork of the Nehalem River.

Poor logging practices and streamside road construction have had a detrimental effect on spawning fish and their food supply. Logging across and through streams can eliminate the shade, create excessive silt and reduce the available oxygen necessary for good egg survival. The Oregon Forest Practices Act is intended to reduce the adverse impacts on stream quality and fish habitat. Additional discussion of fish and wildlife habitat may be found in the Open Spaces, Scenic and Historic Areas, and Natural Resources plan element.

4.Fire Protection

An important part of timber management is the protection of existing forest resources. Losses from fire can impact the current and future timber supply and destroy other forest benefits such as recreation, fish and wildlife habitat soils, water and air quality.

Oreogn's forest fire protection system is recognized as one of the most efficient in the United States despite difficult protection problems. These problems are due to a combination of forest types, topography, local weather, environmental sensitivity and protection standards. Fire protection for the County's forest land is provided through contracts with the State Department of Forestry. The Department does not handle structural fires. Fire protection assessments are administered through the County Assessor's office at a rate of approximately 40 to 50 cents per acre per year. When negligence on the part of the owner is a factor, however, the costs for fire suppression are billed seperately. The controled use of fire is a useful tool for forest management.

The local district of the State Forestry Department is well equiped to handle most forest fires. About 10 - 12 fire fighters are on duty during the dry season and many others can be called in case of an emergency. Advanced technology and equipment have made rapid, efficient initial attack and suppression possible. Fire prevention also plays an important role. As operations and activities in the forest increase, however, more unwanted fires are likely to start.

As the population and recreational use of forest lands increases, so does the potential for unwanted fire. The number and density of residential structures allowed in and adjacent to forested areas may also increase the potential for forest fires unless preventive measures are enforced.

Very little consideration for fire protection has been given so far in the land use planning process. One major concern is density provisions. Homes too close together on steep slopes are nearly impossible to protect from fire. Additional fire safety provisions for land use planning can be found in Fire Safety Considerations for Developments in Forested Areas prepared by the Oregon Department of Forestry.

5. Scenic Preservation

Scenic preservation is one of the benefits of forest management. It is also a major source of controversy at harvest time. Scenic resources in forested areas are covered in the Open Spaces, Scenic and Historic Areas, and Natural Resources plan element.

5. Energy

Forest land is a source of fuel to heat many residences in the County. The forests are expected to become an important source of fuel in the future. Waste wood after harvesting can be converted to electric energy or liquid fuels. Additional information on energy can be obtained in the Energy Conservation Element of this Comprehensive Plan.

6. Livestock Grazing.

Livestock grazing is a common use of forest lands which have not been replanted. Grazing is seldom permitted on land owned by the State or large corporate owners. The use of forest land for livestock grazing purposes is a relatively good way to preserve forest land resources and generally does not conflict with forest management practices on adjacent forest lands. Such conflicts do arise when elk frequent the area, however. Elk may reduce livestock production by competing for forage. Proper numbers and management of both types of animals can minimize these problems.

DESIGNATION

Clatsop County's inventory of forest lands utilized the State Department of Revenue Classification system for all private land and the State Forest Land Use Class system for public lands. Because the system utilized by the State Department of Revenue is on a 40 acre grid, lands already committed to non-forest uses may be included in the mapping. Clatsop County used the "built upon or committed" criteria in OAR 660-04-025(3) to determine which forest areas were committed to non-forest uses. Also excluded from the Conservation-Forest plan designation are:

1. Forest products manufacturing sites, given Development plan designation and industrial zoning.

2. Lands which meet Agricultural criteria and are zoned for Exclusive Farm Use.

3. Areas determined to be natural, given a Natural plan designation.

Clatsop County has inventoried and mapped its forest lands and is zoning these lands for forest uses. The Forest 80 acre zone is intended to conserve large, generally contiguous areas of forest land and to encourage forestry and other forest uses as the primary uses of such lands. Uses of land and water not compatible with

forestry shall be prohibited. For the purposes of this zone, uses compatible with forestry include uses which promote a sustained yield of forest products, uses which provide grazing for domestic livestock and habitat for wildlife, uses which promote the protection of forest cover, soils and watersheds, and uses which promote the preservation of recreational and scenic opportunities. The remaining areas designated Conservation-Forest on the Comprehensive Plan map are zoned F-38 or AF-20, depending on parcel sizes and location.

The F-38 and AF-20 zones are intended to provide for small scale forest management and mixed farm/forest management.*

Clustering of non-forest residences on small lots (1 - 2 acres) along improved roads in the AF-20 and F-38 zones will not only allow forest management to occur on larger tracts but will also assist the forest landowner in obtaining the capital needed to undertake forest management activities.

IMPLEMENTATION

The primary instrument for implementing Clatsop County's forest lands policies and state-wide planning goal 4 is the County's Land and Water Development and Use Ordinance (LWDUO). Lands designated Conservation-Forest have been placed in one of three forest zones. These three forest zones, the uses allowed and their minimum parcel sizes are discussed in the this section.

1. Application

The Agriculture-Forestry-20 acre zone (AF-20) is intended to provide for and encourage small-scale forest management either as the principle land use or in conjunction with agricultural land uses. Accordingly, the AF-20 zone is used in areas where forest and agricultural land uses are generally intermingled, and where parcel sizes are predominantly smaller than 40 acres.*

The Forest-38 acre zone (F-38) is designed for forest areas that can support small scale silvaculture. The F-38 zone is used in forest areas where parcel sizes are generally in the 40 to 80 acre range.

The Forest-80 acre zone (F-80) is intended for use on forest lands where commercial/industrial forest management techniques can be used effectively and efficiently to produce forest products. The F-80 zone is applied in forest areas where parcel sizes are generally larger than 80 acres.

2. Uses

A. Primary Forest Uses. The following forest uses are permitted under a Type I procedure in all three of the County's forest zones.

* Amended 84-9 dated May 23, 1984

(1) Forestry. Ordinance 80-14 of the LWDUO defines forestry as:

"Activities needed to grow, manage and harvest trees and minor forest products and to transport them to processing and manufacturing locations. Such activities include, but are not limited to planting, fertilizing, pre-commercial thinning, use of herbicides, timber harvesting, reforesting, logging, site or stand improvement and disposal of unused portions of trees by such practices as burning slash, and operating temporary portable chippers that are necessary for processing forest products at the harvest site enabling shipment to processing or manufacturing locations."

A development permit is not required for forestry under section 1.062(b) of the LWDUO. Clatsop County relies entirely on strict enforcement of the Oregon Forest Practices Act to assure that the practice of forestry does not result in the loss of forest land.

(2) Office, maintenance and storage facilities necessary for the management and protection of forest land. These facilities are occasionally needed on forest lands to accomplish the goal 4 objective of conserving forest lands for forest uses. Storage facilities are needed to protect equipment used during forest management operations from vandalism and the effects of adverse weather. Forestry equipment would either be left unprotected on the site, or would need to be stored in an off-site storage facility in a General Commercial or Industrial zone if storage facilities were not permitted on the forest site. On-site storage of forest equipment also allows for a rapid response to emergency situations such as fires, slides and road wash-outs. Maintenance facilities are closely tied to storage facilities: operating efficiency would be sacrificed if these facilities were not allowed on-site. Offices neede to coordinate forest management activities will sometimes be located off-site, but an on-site location will in many cases make for more efficient and effective forest management. These developments are only permitted when necessary for the maintenance and protection of forest lands. Non-forest offices, storage and maintenance facilities are not permitted on forest lands.

(3) Forest Processing. Forest processing is defined by Ordinance 80-14 of the LWDUO as:

"those activities, occuring at places other than timber harvest locations, which prepare forest products for shipment to manufacturing locations. Such activities include, but are not limited to dry log sorting, rafting, temporary storage, bucking and chipping. Excluded are activities included in the definition of 'forestry' which occur at the timber harvest site."

(4) Surface and Subsurface mining when at least 75% of mined materials are for use on forest lands in forest zones. Logging roads in forest areas must be well made and properly surfaced to prevent loss of soil and damage to streams. The use of on-site materials for forest road construction is prefered when such material is available because of the high cost of transporting materials from an off-site location. Permitting forest land owners to use on-site material for road building helps minimize the cost of constructing and maintaining these roads. Logging roads are more likely to be kept in good repair if the use of on-site material is permitted.

(5) Oil and Gas exploration, subject to Section S4.311 and S4.312. Oil and gas exploration is a temporary use which does not result in the loss of any forest land. Degredation or loss of forest land is minimal or temporary when properly conducted under the exploration standards cited above and applicable DEQ and DOGMI regulations.

(6) Low Intensity Recreation. This use is defined in Ordinance 80-14 of the LWDUO as:

" Recreation that does not require developed facilities and can be acommodated without change to the area or resource except for small improvements involving relatively minimal capital investment and no structures over 500 square feet in size. Examples of the types of small-scale facilities involved are trails, picnic tables or shelters, restrooms and viewing platforms."

(7) Utilities in conjunction with a permitted development. This use is exempt from the requirement of a development permit under Section 1.062(10) of the LWDUO. Permitted developments could not effectively function without utilities.

(8) Maintenance of Clean Air and Water. This is a forest use under goal 4. Maintenance of clean air and water is defined by Ordinance _____ of the LWDUO as :

"Uses and activities which (1) aid in the prevention of groundwater or surface water pollution, (2) aid in the growth and maintenance of healthy trees, shrubs, grasses and other vegetation contributing to air or water quality, or (3) aid in the prevention and suppression of uncontroled fires."

(9) Watershed Manacement. This use or activity is the same as "watershed protection", which is a permitted forest use under goal 4. Although not defined in the County's LWDUO, watershed management means the manipulation and control of vegetation types and densities, human activity, and other

activity influencing water quality and quantity, with the goal of maintaining or improving the quantity or quality of water from a watershed.

(10) Fisheries and wildlife habitat management, including aquaculture not involving the development and use of buildings, tanks or other permanent artificial structures. This activity is a permitted forest use under goal 4. This use is not defined by the County's LWDUO, but includes the manipulation and control of vegetation types and densities, animal species and populations, human activity and other factors influencing fish and wildlife habitat.

(11) Home Occupation. Home occupation is defined by the County's LWDUO as:

"Any lawful activity commonly carried on within a dwelling by a mamber or members of a family, no employee or other person being engaged and in which said activity is secondary to the use of the dwelling for living purposes, provided that the home occupation:

a. Be operated in its entirety within the principle dwelling;

b. Not have a seperate entrance from outside the building;

c. Not involve alteration or construction not customarily found in dwellings;

d. Not using any mechanical equipment except that which is used normaly for purely domestic or household purposes;

e. Not using more than 25% of the total actual floor area of the dwelling;

f. Not display or create outside the structure any external evidence of the operation of a home occupation except for one unanimated, non-illuminated wall sign having an area of not more than one (1) square foot."

A home occupation can only be conducted in an existing residence or approved forest residence. Because of this requirement home occupations will not result in the loss of any forest land beyond that already occupied by the residence.

A home occupation can be an important adjunct to a forest residence, particularly on smaller forest parcels, as forest management tasks will generally not require the owner's full-time attention. A home occupation would allow a forest landowner the opportunity to pursue a non-forest occupation at home during those times when forestry does not demand his or her full time attention, while at

the same allowing the forest landowner to be present to guard against vandalism, theft and fire.

B. Other Forest Uses. The following forest uses are permitted in one or more of the County's forest zones.

(1) Farm Use. Ordinance 80-14 of the LWDUO describes farm use in substantially the same language as ORS 215.213(2)(a). Farm use is permitted in the AF-20 and F-38 zones subject to a Type I procedure. "Farming" is exempt from the requirement of a development permit under LWDUO Section 1.062(5). Forest and farm uses are generally compatible with each other. Forest land is sometimes converted to farm land. Much of the County's farm land is adjacent to forest lands in the AF-20 and F-38 zones. Any expansion of these farms is likely to occur onto these small and medium sized forest parcels. The predominant farm use in Clatsop County — grazing of livestock — is a permitted forest use under goal 4.

(2) Grazing of Livestock. This use is permitted in the F-80 zone under a Type I procedure. It is exempt from the requirement of a development permit under LWDUO Section 1.062(5). "Grazing land for livestock" is a permitted forest use under goal 4. Grazing is also permitted in the AF-20 and F-38 zones under "farm use".

(3) Production of Christmas Trees. This use, defined by ORS 215.203(5), is permitted in the F-80 zone subject to a Type I procedure. It is exempt from the requirement of a development permit under LWDUO Section1.062(5 and 6). Production of Christmas trees is also permitted in the AF-20 and F-38 zones under "farm use".

(4) Roadside stand for farm products grown on premises. This use is permitted subject to a Type I procedure in the AF-20 zone. It is not permitted in the F-38 or F-80 zones. The AF-20 zone includes a number of parcels capable of yielding farm products suitable for roadside sale. These stands are small, often temporary structures which do not result in the loss of forest land or detract from forest uses.

(5) The Boarding of Horses for Profit, Including a Riding Stable. This use is permitted conditionally in the AF-20 and F-38 zones subject to a Type II procedure. Horseback riding is a popular recreational activity in forest areas. This is a permitted forest use under goal 4: "outdoor recreational activities and related support services..." (emphasis added).

C. Residences. Residences may be permitted in forest zones under the following provisions.

(1) Forest Residence. A forest residence may be permitted under a Type II procedure as a review use in the F-80 and F-38 zones and as a conditional use in the AF-20 zone. Forest residences are subject to the approval standards in Section S3.512 and S3.514. These standards assure that the forest residence is needed for the forest use of the parcel. The burden of proof is on the applicant. These standards further assure that various goal 5 resources found on forest lands are protected. A more thorough discussion of these standards is found later in this background report.

(2) Farm Residence. A farm residence may be permitted conditionally in the AF-20 zone and as a review use in the F-38 zone under a Type II procedure subject to the standards in Section S3.508 and S3.512. These standards assure that the proposed residence is necessary for the farm use of the parcel, and that the residence is sited in a manner consistent with the protection of forest resources and various goal 5 resources.

(3) Temporary mobile home for a period not to exceed one year used during the construction of a residence for which a building permit has been issued, and when located at the construction site. This use is permitted only in conjunction with the approval of a permanent residence. No additional forest land would be lost beyond that required for the construction of the residence itself, since this use is permitted only at the construction site. A temporary mobile home is often necessary to prevent vandalism and theft of construction materials and equipment which would otherwise be left unprotected in a remote area. This use may be permitted conditionally subject to a Type II procedure in the AF-20 zone, and as a review use subject to a Type II procedure in the F-38 and F-80 zones.

(4) Substandard Parcels. Construction of a single family (non-farm, non-forest) residence may be permitted in all three of the County's forest zones on a legally created substandard lot subject to a Type II procedure and the non-forest use standards in Section S3.510. The owner of a forest parcel which is substandard in terms of lot size would be able to apply for a development permit for construction of a single family residence under this provision. The owner of a substandard lot smaller than, say, 3 or 4 acres would have to proceed under this provision, as it would be difficult to show that a residence is necessary for the management of such a small parcel. The owner of a sunstandard parcel large enough to be managed for timber production — say a 40 acre parcel

could apply for a residence under either the forest dwelling or the lot of record provision. Since the non-forest residence provision is generally more difficult than the forest residence provision, only very small parcels would fall under the non-forest, non-farm residence clause.

(5) Clustering of non-farm, non-forest residences, subject to Section S3.154. This development may be permitted conditionally in the AF-20 and F-38 zones. Because these non-forest residences are permitted at an overall density equivalent to the zone's minimum lot size, there is no loss of forest land other than would occur under "normal" development of the forest parcel.

Clustering benefits the forest landowner in several important ways. It allows him or her to raise working capital by selling a small homesite, as opposed to partitioning off a larger 20 or 40 acre parcel. The parent forest parcel is thus left intact, providing for more efficient forest management.

Clustering also provides more effective conservation of forest lands. An example is appropriate here. Given a 40 acre parcel in the AF-20 zone, the forest landowner would have two options for raising cash by selling land. One option would be to partition off a 20 acre parcel, thus raising a considerable amount of cash but diminishing the size of the remaining forest parcel by 50%. Under a clustering provision the owner of such a parcel could raise cash by selling a one acre homesite and only diminish the size of the parent parcel by 3%. Actually, the effective forest potential of the parent parcel is not reduced at all, because of the "generally unsuitable" criterion in the clustering standards.

CLatsop County wishes to leave both of these options open to the small woodlot owner. This allows her or him greater flexibility in managing the forest parcel, particularly with regard to raising the cash necessary to undertake forest management operations.

D. Non-Forest Uses. The following non-forest uses may be permitted conditionally in one or more of the County's forest zones subject to a Type II procedure and applicable criteria, development standards and site plan review.

(1) Cottage Industry subject to the standards in Section S3.450, and when located within 500 feet of an existing residence, and when such cottage industry is not located within the Coastal Shorelands Boundary. A cottage industry is defined by Ordinance 80-14 of the LWDUO as:

" A small scale business activity which may involve the provision of services or the manufacture or sale of

products; is carried on by a member of the family living on the premises and persons employed by the family member; and is not detrimental to the overall character of the neighborhood."

The standards for cottage industries in Section S3.450 of the LWDUO assure that the cottage industry has no adverse impacts on surrounding properties and does not become a full-scale commercial or industrial operation. These standards also assure that the cottage industry does not result in the loss of forest land. The standards in S3.450 restrict a cottage industry to existing or approved residences, so there is no additional impact on the forest resource beyond that of the existing residence. This use may be permitted conditionally subject to a Type II procedure in all three of the County's forest zones.

(2) Portable concrete, ready-mix or asphalt batching plant accessory to and on the same site as an existing or approved surface or subsurface mining operation, and subject to the Standards in Section 3.448(3) of the Light Industry (LI) zone. These temporary developments are typically used in conjunction with the quarrying operations discussed above. The standards cited refer to air quality, noise, storage, fencing, buffer areas, vibration, heat and glare, and lighting. Because these activities occur at quarry sites, the combined impact of the quarry and this development on forest resources is no greater than the impact of the quarry alone. This use may be permitted conditionally in all three of the County's forest zones subject to a Type II procedure.

D. Other Non-Forest Uses. The following non-forest uses may be permitted in one or more of the County's forest zones under either the non-forest use standards in Section S3.510 or under an exception to the forest lands goal.

(1) Utilities necessary for public service. This use may be permitted in all three of the County's forest zones and is defined by Ordinance 80-14 of the LWDUO as:

" A major structure owned or operated by a public, private or cooperative electric, fuel, communication, sewage or water company for the treatment, storage, transmission, distribution or processing of its products, including sewage treatment plants, solid waste disposal sites and transfer stations, dams and reservoirs for community water systems, water treatment plants, sanitary landfill or utility substation."

(2) Solid waste disposal site approved by the Oregon Department of Environmental Quality. This use may be permitted in all three of the County's forest zones. It results in a temporary loss of forest land. DEQ regulations require that the site be restored when full.

(3) Kennel. This use, which may be permitted in the AF-20 and F-38 zones, is defined by the County's LWDUO as "any lot or premises on which four(4) or more dogs (more than four (4)months of age) or ten (10) or more cats are kept for breeding, training or sales."

(4) Veterinary Clinic. This development may be permitted in the AF-20 and F-38 zones, and is defined by Ordinance 80-14 of the County's LWDUO as "any building or portion thereof designed or used for the care, observation or treatment of animals".

(5) Surface or subsurface mining when less than 75% of mined materials are for use on forest lands in forest zones. This use may be permitted in all three of the County's forest zones. A 500 foot setback from residences and from adjecent residential lands is required. This setback is adequate to minimize the adverse impacts which this activity typically generates.

(6) Aquaculture involving the development and use of buildings, tanks or other artificial and permanent structures, subject to the standards in S4.206. Aquaculture is defined as "the raising, feeding, planting and harvesting of fish and shellfish, including associated facilities necessary to engage in the use". All three of the County's forest zones may permit this activity. The standards cited are designed to minimize or prevent damage to estuarine, riparian and coastal shoreland resources. Aquaculture is a resource use which contributes to the area's economy and generally occurs on forest lands.

(7) Schools, churches and community centers necessary for local public service. These non-forest developments may be permitted in the AF-20 and F-38 zones. They are often necessary in small rural settlements of the County to serve the local population. These are not regional facilities. Their use is generally restricted to certain hours of the day or days of the week, thus minimizing conflicts between adjacent forest uses and these non-forest developments.

3.Minimum Lot Sizes.

The minimum lot sizes for division of land in Conservation-Forest areas are 20, 38 and 80 acres in the AF-20, F-38 and F-80 zones respectively. These minimum lot sizes are an important component of Clatsop County's approach to conserving forest lands for forest uses. But they are not the sole component. Minimum parcel sizes, development and use standards and decision-making criteria all work together to conserve forest lands for forest uses.

AF-20

The agriculture-forest 20 acre zone is applied to parcels in forest areas where the predominant parcel size is genrally smaller than 40 acres. Table 9 summarizes data for data for all parcels in the AF-20 zone. The average parcel size in the AF-20 zone County-wide is about 21 acres. This average parcel size is about the same in each of the six planning areas except for the Clatsop Plains. The average parcel size is somewhat lower in the Clatsop Plains due to wetlands zoning on portions of several parcels which would otherwise be entirely in the AF-20 zone.

Another summary measure of lot size is the median lot size. Median lot sizes range from about 12 acres in the Clatsop Plains planning area to about 19 acres in the Northeast planning area. A weighted average of the median lot size for all six planning areas yields a "pseudo-median" of about 18 acres.

The conclusion that well over half of the parcels in the AF-20 zone are substandard in terms of lot size is inescapable. Table 9 shows that , County-wide, 424 out of 756 AF-20 parcels (56%) are smaller than 20 acres.

As was mentioned previously, the AF-20 zone is applied to forest parcels in areas where the predominant parcel size is generally smaller than 40 acres. This criterion resulted in the inclusion of a few parcels larger than 40 acres in the AF-20 zone. A total of 95 parcels larger than 40 acres are included in the AF-20 zone. These parcels range in size up to about 119 acres. The average size of these oversized parcels County-wide is about 56 acres.

The 20 acre minimum lot size in the AF-20 zone is large enough to conserve forest lands for forest uses in those areas where it is applied. Most of the land in the AF-20 zone, as in all forest zones, is highly productive site class II and III land. For example, a 19 acre site class III parcel (20 acres minus one acre homesite) fully stocked with Douglas Fir could potentially yield 104,500 board feet of timber every ten years (harvest 4.75 acres of 40 year old trees every ten years, trees 7" dbh and larger). The potential yield under this sort of management schedule on site class II land would be higher: about 165,775 board feet every ten years. This is only one example of how a 20 acre forest parcel might be managed: many other management schedules are possible. Several contract logging operators are willing to take on jobs as small as 4.75 acres.

The small woodlot owner has a number of advantages over larger industrial forest owners in terms of management flexibility. Because harvest operations on small forest parcels can be accomplished relatively quickly, small woodlot owners are able to take advantage of ephemeral conditions in the timber market. Because most AF-20 parcels have a great deal of road frontage relative to their total area, extensive logging road construction prior to harvest operations is often unnecessary. Overall, the

owner of a twenty acre forest parcel has a great deal of flexibility with respect to management alternatives. By exercising this inherent flexibility, the small woodlot owner is able to enjoy a relatively high net per acre return from his or her management efforts.

Although it is clear that a 20 acre parcel is potentially manageable for the growing or harvesting of trees, it can not be shown that all or even a large portion of the AF-20 zone is currently managed for the production of forest products. It is difficult to assess the extent of management on 20 acre forest parcels county-wide. Some are intensively managed: of the 32 parcels in Clatsop County under the Western Small Tract Optional Taxprogram, nine are 20 acres and smaller. The requirements of this tax program are such that only actively managed forest parcels benefit from the program. On the other hand, a significant number of forest landowners purchased their property with no intention or interest in forest management.

It is difficult to generalize about the level of forest management on 20 acre forest parcels county-wide. Varying levels are found, from total neglect through intensive, inovative forest management. Clatsop County can not use Goal 4 to enforce forest management on a reluctant landowner. Goal 4 requires that the County's forest zones and plan policies conserve forest lands for forest uses. The County relies on the Oregon Forest Practices Act to assure that forest practices do not result in the loss of forest land. The 20 acre minimum lot size in the AF-20 zone assures that partitioning does not result in the loss of forest land because it assures that any new lots created in this zone are adequately-sized management units. The minimum lot size does not guarantee that management will occur, only that it can occur. Further, about 66% of the land in the AF-20 zone can not be further divided anyway, because it is in parcels smaller than 20 acres. In summary, the 20 acre minimum lot size in the AF-20 zone, together with development and use standards in this ordinance and the forest management rules in OAR 629-24-101 Et. Seq. assure that forest lands in this zone are conserved for forest uses and are not converted to non-forest uses.

F-38

The F-38 zone is applied to parcels in forest areas where the predominant parcel sizes are generally between 40 and 80 acres. Table 10 summarizes data for parcels in the F-38 zone. The average parcel size County-wide in this zone is about 59 acres. The median parcel size ranges from about 33 acres in the Clatsop Plains planning area to 80 acres in the Seaside Rural planning area. The median lot size for all F-38 parcels is 51 acres. The minimum lot size of 38 acres in this zone prevents forest parcels smaller than 76 acres from being divided. Thus well over half of all parcels in the F-38 zone can not be further partitioned, because they are smaller than 76 acres. In terms of acreage, about half of all land in the F-38 zone can not be further divided because it is currently in lots smaller than 80 acres.

About 1/3 of all parcels in the F-38 zone are substandard in terms of the minimum lot size. Further discussion of how these substandard parcels are treated follows in a later section.

The F-38 zone is applied to forest parcels where the predominant parcel size is between 40 and 80 acres, generally. This criterion resulted in the inclusion of a few parcels larger than 80 acres in the F-38 zone. A total of 36 "oversized" parcels are included in the F-38 zone. These parcels range in size from 80 up to 227 acres. The average size of these oversized parcels is about 115 acres. They are located in areas where the predominant parcel size is generally between 40 and 80 acres. These oversized parcels contain about half of the land in the F-38 zone. Full partitioning of these lands could potentially reduce the parcel size in this zone.

The 38 acre minimum lot size is large enough to conserve forest lands for forest uses in this zone. Much of the land in this zone is highly productive site class II and III forest land. For example, a 40 acre site class III forest parcel fully stocked with Douglas Fir could be managed to yield 148,400 board feet of timber every five years (harvest 4 acres every five years, trees 7"dbh and larger, fifty years old at harvest). A 40 acre site class II parcel could yield 220,000 board feet of timber every five years under this sort of management regimen.

As was mentioned previously, the small woodlot owner enjoys substantial flexibility in terms of management options as compared to the owner of a large forest parcel. The ability to take advantage of favorable short term market conditions, for example, allows a small woodlot owner a relatively high rate of return on his or her investment.

Nothing in the F-38 zone text requires that a forest landowner manage his or her land for the production or harvest of trees. The 38 acre minimum lot size for creation of new forest parcels in this zone assures that forest land is not partitioned into parcels too small for forest management, or too small in comparison to adjacent forest parcels. Various use standards, discussed in a later section, assure that the development and use of the parcel does not result in the loss of that parcel from the forest land base of Clatsop County or interfere with forest uses on adjacent parcels.

In summary, the 38 acre minimum lot size assures that new forest parcels created by partitioning in this zone are large enough to be manageable forest units. Because of the way the zone is applied, nearly half of the land in the F-38 zone is in parcels that can not be further divided. The 38 acre minimum lot size, in conjunction with the development and use standards and the forest practice rules under the Oregon Forest Practices Act assure that forest land in the F-38 zone is conserved for forest uses.

F-80

The Forest 80 acre zone is applied to forest parcels in areas where the predominant parcel size is generally 80 acres and larger. Well over 3/4 of the land in Clatsop County is in the F-80 zone. The bulk of this land is in very large parcels owned and managed by various forest products companies or the State Board of Forestry. A small portion of the land in the F-80 zone is managed by individual landowners under various various small woodlot management schedules.

Most of the land in the F-80 zone is in parcels larger than 160 acres, and therefore is available for partitioning. Much of the F-80 zone is in a few very large parcels. Clatsop County's partitioning ordinance permits the creation of no more than three new lots every three years from a single parent parcel. Extensive partitioning activity in the F-80 zone would thus take several years to occur. Many of the sales and exchanges of land in the F-80 zone are executed to consolidate a timber owner's holdings. Clatsop County encourages this practice because it increases management efficiency and minimizes the need to build redundent logging road networks.

Although there are several examples of 80 acre forest parcels in the County which are essentially unmanaged, 80 acres of forest land is potentially manageable on a sustained yield basis. Eighty acres of fully stocked site class III forest land could be managed to yield 296,800 board feet of Douglas Fir every 5 years (cut at 50 years old 8 acres of trees 7" dbh and larger). Eighty acres of site class II land could be managed in a similar fashion to yield 440,000 board feet every five years.

4. Development And Use Standards

a. Farm Residences in Forest Zones. Section S3.508 of the Standards Document includes approval criteria for farm residences in forest zones. The criteria are designed to assure that the farm residence is needed for the farm use of the parcel. The burden of proof is on the applicant. Generally this burden increases as the size of the parcel decreases. These criteria are similar to those required for a farm residence in the EFU zone.

   An applicant for a farm residence in a forest zone is required to show that the residence is necessary for conducting the farm use, that it will not conflict with adjacent farm or forest uses, and that the residence is sited so as to minimize any loss of productive farm or forest land. An applicant for a farm residence in a forest zone must also meet the siting standards in Section S3.512.

b. Forest Land Cluster Development Standards. Section S3.154 applies to clustered lots in forest zones. Partitioning of small lots (one or two acres) may be permitted conditionally in the AF-20 and F-38 zones subject to these standards. These

development standards assure that the clustered residences do not conflict or interfere with forest operations on adjacent forest lands (1, 3, 6, 7), do not result in the loss of productive forest lands (2), and do not impact Major or Peripheral Big Game Range (11).

c. Non-Forest Development And Use Standards. Section S3.510 assures that non-forest uses do not result in the loss of forest land. Standards a., b., c. and e. deal primarily with issues of compatibility. Standard d. assures that the non-forest development is sited on land that is generally unsuitable for forest production. A determination of unsuitability for production and harvest of forest products is based on consideration of the following factors:

terrain	soil type
geological conditions	drainage
competing vegetation	access to public facilities
parcel size	feasibility of building logging roads

These eight factors are to be considered independently and equally in determining suitability for the production and harvest of forest products. No single factor is more important than any other factor.

d. Residence Siting Standards for Forest Zones. Section S3.512 assures that new residences in forest zones are sited so as to protect fish and wildlife habitat, productive farm and forest land, the area's overall land use pattern, and existing public investment in infrastructure.

e. Forest Residence Approval Standards. Section S3.514 provides approval standards to determine whether or not a proposed residence is needed for the forest use of the parcel. This does not necessarily require a forest management plan, though such a plan may be considered in an evaluation of the forest parcel's use and the need for a residence. An applicant must demonstrate that a residence is neede to pursue a forest use on the parcel, or to intensify an existing forest uses.

MAP 2

CUBIC SITE CLASS DATA

CLATSOP COUNTY, OREGON

SCALE IN MILES

5 0 5 10

NORTH

MAP KEY

CUBIC FOOT SITE CLASS II

CUBIC FOOT SITE CLASS III

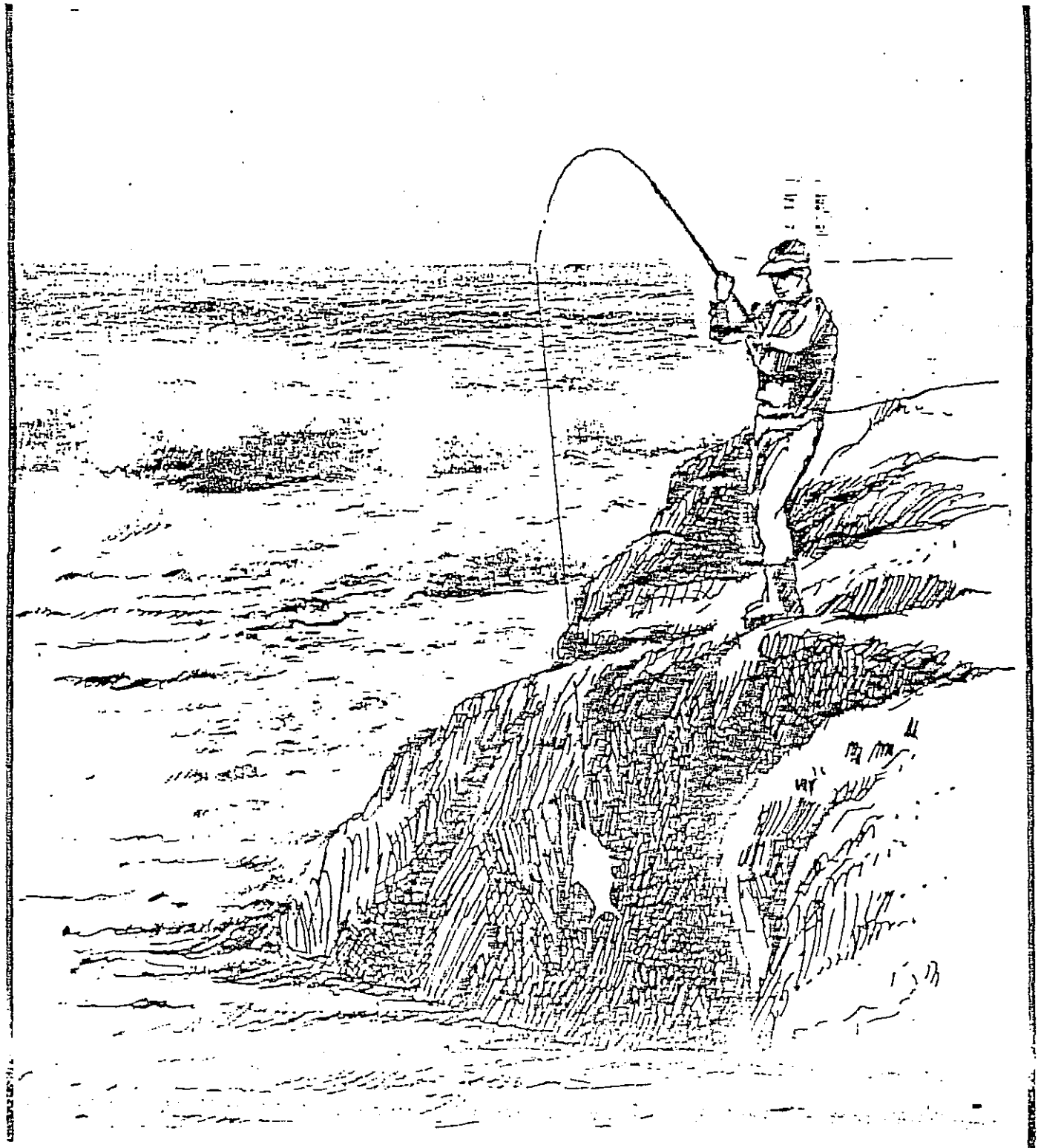
CUBIC FOOT SITE CLASS IV

NOT SUITABLE FOR CLAS

Goal 5

CLATSOP COUNTY
GOAL 5
COUNTY-WIDE ELEMENT

OPEN SPACES, SCENIC/HISTORIC AREAS, AND NATURAL RESOURCES



CLATSOP COUNTY

COUNTY-WIDE ELEMENT

BACKGROUND REPORT
GOAL 5

OPEN SPACES, SCENIC AND HISTORIC AREAS

AND NATURAL RESOURCES

Adoption	Ordinance	80-7	July 23, 1980
Adoption	Ordinance	83-17	September 30, 1983
Amended	Ord	84-5	April 11, 1984
Amended	Ord	84-9	May 23, 1984
Amended	Ord	86-10	April 2, 1986
"	"	[illegible]	Oct 28, 1987
"	"	[illegible]	Dec 23, [illegible]
"	"	[illegible]	[illegible]
"	"	88-2	April [illegible]
"			
"	"	92-16	Nov 23, 1992
		95-[illegible]	

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REQUIREMENTS OF THE STATEWIDE PLANNING GOAL

The overall goal of Statewide Planning Goal #5, Open Space, Scenic and Historic Areas, and Natural Resources, is:

> "To conserve open space and protect natural and scenic resources."

To achieve this goal, Clatsop County is required to undertake an inventory of the following twelve types of resources:

a. Land needed or desirable for open space;
b. Mineral and aggregate resources;
c. Energy sources;
d. Fish and wildlife areas and habitats;
e. Ecologically and scientifically significant natural areas, including desert areas;
f. Outstanding scenic views and sites;
g. Water areas, wetlands, watersheds and groundwater resources;
h. Wilderness areas;
i. Historic areas, sites, structures and objects;
j. Cultural areas;
k. Potential and approved Oregon Recreation trails;
l. Potential and approved federal wild and scenic waterways and state scenic waterways.

These resources are to be inventoried as to their location, quality and quantity.

Upon completion of the resource inventory, a determination is to be made if there are conflicting non-open space uses for these resources or resource areas. Areas or sites for which no conflicting use has been identified are to be protected. Where conflicting uses have been determined to exist, the economic, social, enviromental and energy consequences of the conflicting uses (on the resource) shall be determined.

Based on the inventory and the analysis of conflicting uses, the County is to develop a program that will:

1) insure open space;
2) protect scenic and historic areas and natural resources for future generations; and
3) promote healthy and visually attractive environments in harmony with the natural landscape character.

Requirements of the Administrative Rule on Goal #5, OAR 660-15-000

An administrative rule clarifying the requirements of Statewide Planning Goal #5, Open Spaces, Scenic and Historic Areas, and Natural Resources was adopted by the Land Conservation and Development Commission in June of 1981. The administrative rule establishes a method to be used in applying Goal #5 to resource sites. This procedure addresses the following

elements: what is and is not required to be included in the plan inventory; how to identify conflicting uses for resource sites and determine their implacts on those resource sites; and how to protect resource sites, depending on the degree to which conflicting uses are to be allowed or limited.

The following is an outline of the three-step procedure which the Administrative Rule establishes. The first step is data collection and an evaluation of the quality, quantity, and location of the resource sites identified. Based on the information collected, one of three decisions is made: the resource is determined not to be important enough to warrant inclusion in the inventory; or the available information is inadequate to determine the value of an identified resource (in this case, the County must include policy language in its Comprehensive Plan committing the County to the development of additional information on the resource and an evaluation of the resource within a specific period of time); or there is sufficient information on the resource site's quality, quantity, and the resource site is important enough to include in the inventory.

The second step is the identification of conflicting non-open space uses for a given resource or resource site. If no conflicting uses are identified, the resource must be protected. If conflicting uses are identified, an evaluation of the environmental, social, economic and energy consequences of allowing the conflicting use is required. The level of information that the County must provide concerning possible conflicting uses should be adequate to explain why the County chose to protect, or not protect a given resource.

The third step is the development of a program to achieve the purpose of the Open Space Goal. The type of program to be developed is dependent on whether the resource site is to be protected from all conflicting uses, or identified conflicting uses to be fully allowed, or conflicting uses of the resource site are limited through plan policy and zoning ordinance provisions.

Relationshjip of Goal #5 to the Estuarine Resources Goal #16, and the Coastal Goal #17

Goal #5 lists twelve types of resources that are subject to inventory and possible protection. A number of these resources are also addressed by the Estuarine Resources Goal and the Coastal Shoreland Goal. Thus, when one of the twelve Goal #5 resources is located in either an estuarine or coastal shoreland area, the appropriate resource inventory and protection requirements of the Estuarine Resources Goal or the Coastal Shorelands Goal are applied. Therefore, these resources are not covered by this element of the Comprehensive Plan.

The following describes the scope of the Goal #5 inventory for each of the identified resources:

1) Open Spaces - all land and water areas
2) Mineral/Aggregate - all land and water areas
3) Energy Sources - all land and water areas
4) Fish/Wildlife Habitat - all land outside of the County's estuarine areas

5) Ecologically significant Natural Areas - all land outside the Coastal Shoreland planning area
6) Scientifically significant Natural Areas - all land areas
7) Outstanding Scenic Views - all lands outside of the Coastal Shoreland planning area.
8) Watersheds - all land areas
9) Groundwater resources - all land areas
10) Wetlands - all lands outside of the Coastal Shoreland planning area
11) Historical/Archeological Sites - all areas
12) Wilderness - all land and water areas
13) Oregon Recreation Trails - all land areas
14) Wild and Scenic Waterways - all land areas

Methodology of the Open Space, Scenic and Historic Areas, and Natural Resources Inventory

The following procedure was used in undertaking the Clatsop County Open Space inventory and in the establishment of a program to protect identified open space sites resources:

1) Determination of the elements of each resource category to be inventoried. The completeness of each resource category to be verified with appropriate state agencies.
2) Selection of inventory sources.
3) Development of a preliminary resource list based on the inventory sources.
4) Evaluation of the elements on the preliminary resource list to determine whether their location, quality and quantity warrants inclusion in the Open Space inventory. In general, an attempt was made to gather sufficient information on the resource at this time, rather than deferring the required decisions to a later date.
5) Establishment of the final inventory lists.
6) Determination of conflicting uses, if any, for the resources on the final inventory list. Where conflicting uses were identified, an evaluation of the enviromental, social, energy and economic impacts of allowing these conflicting uses was undertaken.
7) Development of a program to achieve the objective of the Open Space goal. This includes a determination of which resources to protect and the appropriate method of resource protection. Generally, where they were found to be adequate, existing state, or federal programs and regulations were relied on to protect resources. Additional local protection was developed only for those resources for which existing regulation was found to be inadequate to meet the intent of the Goal.

OPEN SPACE

The Goal defines open space to "consist of land used for agriculture or forest uses and any land area that would, if preserved and continued in its present use:

a) Conserve and enhance natural or scenic resources;
b) Protect air or streams or water supply;
c) Promote conservation of soils, wetlands, beaches or tidal marshes;
d) Conserve landscaped areas such as public or private golf courses, that reduce air pollution and enhance the value of abutting or neighboring property;
e) Enhance the value to the public or abutting or neighboring parks, forests, wildlife preserves, nature reservations or sanctuaries or other open space;
f) Promote orderly urban development.

There are three types of open space within Clatsop County. The first, and by far the most extensive, is general open space. This category consists of forest lands, agricultural lands, estuarine areas, the Pacific Ocean and adjacent beaches. Forest and agricultural lands comprise 95% of the County's land areas. The estuarine and ocean beach areas contribute a substantial amount of water area.

The major conflicting uses affecting the open space value of forest and agricultural land are intensive levels of rural residential, commercial, and industrial development. Tourism is an important and expanding segment of Clatsop County's economic base. Although most of the County's tourism is in conjunction with the ocean shore, a segment also occurs in inland portions of the County. The open space character of the County is one of the elements that attracts visitors. A consequence of a loss of open space could be a reduction in the level of tourism, and thus the overall economic base of the County. Almost all of the County's forest and agricultural land has been zoned for Exclusive Farm Use, 38 acre minimum, Forest-80, 80 acre minimum, or Agriculture-Forestry, 20 acre minimum. (For other agricultural and forest land areas, the County has taken exceptions that provide findings that these areas are built and committed to non-resource use. These areas, because of existing rural residential development are not considered to have substantial open space values). Although the primary intent of the resource zones is to protect the resource value of the land, they also protect the land's open space values by limiting the intensity of uses that might conflict with open space values. The zones also incorporate locational criteria for residential, commercial and industrial uses. These criteria insure that the impacts of uses conflicting with open space values are minimized.

The major conflicting use of the open space value in estuarine areas is the loss of estuarine surface area through filling and draining. As with forest and agricultural land, a loss of estuarine area could result in a loss of tourism and recreation activity that is associated with the estuary. The County has developed a comprehensive program for managing its estuaries. Almost all estuarine areas are zoned either natural or conservation. These zones, by restricting the level of estuarine alteration, effectively limit conflicting uses that may reduce the open space values of estuarine areas. Estuarine development zones do allow significant estuarine alterations. However, because less than 1/2% of the County's estuarine areas are so designated, there is a limited affect on the estuary's open space value.

No conflicting uses for the ocean beaches have been identified. The ocean beach, up to the Ocean Shore Zone Line, is in State of Oregon ownership. Activities occurring on the beaches are regulated by the Parks and Recreation Branch of the Oregon Department of Transportation.

The second group of open space consists of site specific resources. This group includes parks, wildlife refuges, natural areas, specific scenic sites, and fresh water wetlands. The location, quality and quantity of these resources as well as possible conflicting uses and the consequences of allowing conflicting uses is discussed in the sections of this report dealing with the particular resource, e.g. natural areas or scenic sites. Parks are inventoried and described in the Plan's recreation element.

The final category of open space consists of areas that are provided in conjunction with a specific development, usually residential. This type of open space can serve a number of purposes: the protection of areas of steep slope, geologic hazard, or flooding hazard; the buffering of conflicting land uses; or the provision of areas for passive and active forms of recreation. The County has adopted Comprehensive Plan policies that encourage cluster development and the retention of open space in residential developments. In the Clatsop Plains sub-area, subdivisions are required to have clustered lots in order to maintain open space values.

In summary, because more than 95% of the County's land and water area is open space, the provision of additional open space is not an issue in the County.

MINERAL AND AGGREGATE RESOURCES

The County's existing mineral and aggregate resources are discussed in the Rock and Mineral Resources element of the Comprehensive Plan. This discussion includes a summary of the location and quantity, where known, of existing gravel and quarry stone sites. Also included are potential conflicting uses for these sites and the environmental, energy, social and economic consequences that permitting these conflicting uses would have.

Detailed information on potential rock and aggregate sites is not available for Clatsop County. The County will cooperate with the Department of Geology and Mineral Industries in investigating the feasibility of undertaking a study to identify valuable sites, should funding be available.

Revise the Rock and Mineral Resources Element of the Background Report to read as follows:

According to Bulletin No. 74, published in 1972 by the Oregon Department of Geology and Mineral Industries (DOGAMI), the major mineral resources of Clatsop County, currently being utilized, are rock and aggregate materials for construction purposes. The largest source of gravel was the Big Creek gravel pit, but the quantity of rock which was produced from that source created some environmental problems. The report also states that two commercial firms provide crushed rock: Sunset Crushed Rock at Astoria, and Howard Johnson and Sons at Seaside. Several other quarries are also available to supply rock to the County Road Department and the State Highway Department.

Intrusive bodies yield the best quarry stone. Several active quarry operations are located near the Big Creek Fish Hatchery along the lower reaches of Big Creek in the Svensen Quadrangle. Generally the rock is of poor quality and, consequently, is used on a very limited basis in logging road construction. The operations are hampered by the steepness of the slopes.

Scattered smaller operations are located on the upper slopes of Wickiup Mountain. These quarries are characterized by low volume, restricted access, and do not represent a future source of significant proportions.

The east face of Nicolai Ridge is composed of excellent quarry rock that, with property engineered procedures, could offer the potential of a large-scale operation.

Several smaller quarries are scattered throughout the northern Saddle Mountain and Birkenfeld Quadrangles. Rock quality is generally good and with adequate economic incentives these quarries could contribute significant resources.

Other excellent future sources of quarry rock could be developed in the vicinity of Humbug Creek and directly south of Humbug Mountain.

Since transportation costs are an important factor in the economics of supplying rock materials, rock sources should ideally be located on good haul roads, not more than 15 or 20 miles from the intended market. Clatsop County, because of the nature of its geologic rock materials, has only limited sources capable of furnishing good construction crushed rock and gravel and gravel aggregates. This is due to the fact that most of the upland areas are composed of marine sedimentary rocks which readily weather and break down into fine grained sands and rock materials of poor quality. The best source of rock in the County, therefore, is the Miocene intrusive rocks which are located within 15 or 20 miles from any major community. In some cases it is not economically feasible to transport these rock materials under normal operating conditions.

In estimating future needs for Clatsop County, the DOGAMI Report stated that the 1970 per capita use of aggregates amounted to 7 1/2 tons per person and that production for the year 1970 was 210,000 tons. If the per capita use of aggregate continues at that amount, it is estimated by the department that the annual production will rise to approximately 238,000 tons per year and that this would amount to, over the period 1970 to 1985, about 3,000,000 tons. The report states that the present quarries, although large, are limited in the amount of rock which can be produced. It is estimated that these quarries will be able to produce only about one-half to two-thirds of the quantities needed in the County by 1985. In order to provide aggregate, additional quarries of large size will have to be developed. It is likely that gravel also will have to be imported by barge from the upper Columbia River or from other sources outside the state. Existing rock and aggregate sources, particularly those which are close to a major area of potential new construction, should be kept available for further use because the rock and aggregate industry is vitally needed for the growth of an expanding community.

Clatsop County is using a list of removal permits compiled by the Department of Geology and Mineral Industries as its inventory of rock and aggregate material sites. The following is a summary of those sites.

The County's gravel and quarry stone sites fall into four zoning categories: Exclusive Farm Use (EFU), Forest -80 (F-80), Agriculture-Forestry 20 (AF-20), and Forest-38 (F-38). The following are the uses permitted in these zones that may conflict with the utilization of the aggregate site. Exclusive Farm Use outright uses are: school, church, utility facilities, single family residence in conjunction with a farm use; and conditional uses are: non-farm single family dwelling; commercial development in conjunction with a farm use; parks, golf course, boarding of horses, airport, and solid waste disposal sites. Forest-80 outright uses are: forestry, mineral extraction for forest purposes at least 500 feet from an existing residential zone or residential structure, forest processing at least 500 feet from an existing residential zone or residential structure, low intensity recreation, grazing, Christmas tree farming, utilities in conjunction with a permitted development, and impoundments necessary for forest management. Agriculture-Forestry 20 outright uses are: facilities in conjunction with a forest use, forest processing facility, single family residence and aquaculture; and conditional uses are: cottage industry, kennel and veterinary clinic, boarding house, and solid waste disposal site. Forest 38 outright uses are: facilities in conjunction with a forest use, forest products processing facility and aquaculture; and conditional uses are single family residence and solid waste disposal site.

Generally, conflicting uses consists of structural improvements that if established would make it difficult, or substantially more expensive, to recover the aggregate material.

The use of land for forest or farm use is not considered to be a conflicting use. The location and operation of aggregate sites on forest lands for forest uses is adequately controlled through the Forest Practices Act.

In addition to the sites listed above, gravel may also be removed from the rivers and streams of the County. Conflicting uses for the removal of gravel from streams are other recognized in-stream water uses such as fish habitat, source of water supply and recreational uses. Generally, other in-water uses of the County's streams and rivers do not conflict with the removal of gravel.

The major economic and social consequence of allowing conflicting uses would be to restrict the available supply of what is already a limited resource in the County. Aggregate materials are vital to the County's construction industry, both infrastructure, such as sewers and roads, and new housing, commercial and industrial uses. Restricting the available supply would likely raise the cost of aggregate materials. Higher prices could affect the level of construction in the County. Restricting the availability of aggregate sources may mean that materials from more distant areas will be required, thus increasing the energy costs of transporting the material. No major environmental consequences of allowing conflicting uses are anticipated.

The consequences of not allowing conflicting uses are restrictions on the use of property for other than aggregate use. This impact is most likely to be felt in the use of areas zoned Rural Residential, since this zone is intended to primarily provide Rural Residential development.

Sand is another of the County's mineral resources. Various sites on the Clatsop Plains have been used as a source of sand. It is anticipated that there may be a demand for additional sites in the future. The Clatsop Plains is zoned Residential-Agriculture 1 (RA-1), Rural Service Area-Single Family Residential Zone (RSA-SFR), Coastal Beach Residential (CBR), Exclusive Farm Use (EFU) and Residential-Agriculture 5 (RA-5).

The following are the uses permitted in these zones that may conflict with the utilization of sand. Residential-Agriculture-1, outright uses are: single family dwelling, utilities, farm use, forestry, park or playground, nursery, duplex; and conditional uses: public/semi-public developmlent, airport, dog kennel, campgrounds, veterinary clinic, cottage industry, public and private recreation and farm uses. Rural Service Area-Single Family Residential zone (RSA-SFR) outright uses are: single family dwelling, utilities, park or playground; and conditional uses are: public and semi-public uses, utilities and duplexes. Exclusive Farm Use Zone outright uses are: school, church, utility facilities, single family residence in conjunction with a farm use, farm use; and conditional uses are: non-farm single family dwelling commercial development in conjunction with a farm use, golf course, boarding of horses, airport and solid waste disposal site.

Generally, conflicting uses consist of structural improvements that if established would make it difficult or substantially more expensive to recover the sand material.

The major economic and social consequence of allowing the conflicting uses would be to restrict the available supply of sand. Sand is an important resource for the County's construction industry. Restricting the sources of supply may increase the cost of sand. Restricting the availability of sand may also mean that materials from more distant areas will be required, thus increasing the energy cost of transporting the material. No major environmental consequences of allowing conflicting uses are anticipated.

The consequences of not allowing conflicting uses are restrictions of the use of property for a range of uses allowed in what are essentially single family residential zones. Allowing sand mining would result in the removal of stabilizing vegetation, thus increasing the risk of wind blown erosion (a serious problem on the Clatsop Plains before a dune stabilization program was instituted).

The County has evaluated the trade-offs among conflicting uses and determined to discourage sand removal. The County's policy states "Extensive modifications of dunes is strongly discouraged because such activities are difficult to stabilize in addition to the fact that the rolling dunes make up the character of the Clatsop Plains."

Black sands are a potential mineral resource. They are located in the estuary near Hammond. Black sands consist primarily of magnetite, ilmenite, zircon and rutile and are considered potential future sources of iron and titanium.

Estuarine areas which only include black sands are designated either Aquatic Conservation (A-3) or Aquatic Natural (A-4). Mining and mineral extraction is not permitted in the Aquatic Natural zone (as required by the Estuarine Resources Goal).

Mining and mineral extraction is a conditional use in the Aquatic Conservation zone. Before mining could proceed, the operation would have to show that it was consistent with the resource capabilities of the area to absorb the activity without significant impact to estuarine habitat qualities.

*Clatsop County's inventory consists of 38 sites, 33 of which have little information known about them. They have not been placed in the Quarry & Mining (QM) zone, but are in other zones. The remaining five are the County's primary sites and are protected by the Quarry & Mining (QM) zone.

23 ~~31~~ 92

DELETE (Ord 92-17)

The County's program for identified mineral and aggregate resources consists of the following elements:

*1. A Quarry & Mining Zone (QM) will be applied to the five sites listed in the inventory as appropriate for a QM zone. The zone will prohibit some conflicting uses and subject others to specific criteria. The County will establish policies and standards to protect adjacent uses from potential impacts from the utilization of aggregate sites.

*2. Clatsop County shall apply the Goal 5 Administrative Rule for the (1B) mineral and aggregate sites considered for QM zoning.

3 ~~2~~. The County will rely on the Division of State Lands permitting process to insure that gravel extraction is consistent with conflicting uses such as fish habitat.

4 ~~3~~. The removal of sand from the Clatsop Plains shall be discouraged. Where considered it shall be subject to conditional use criteria. Particular attention will also be paid to consistency with dune development standards.

5 ~~4~~. The County will rely on its estuarine development standards to insure that the removal of black sands from the estuary is consistent with the resource capabilities of that area.

6 ~~5~~. The County will rely on the Forest Practices Act and the Act's requirements for aggregate extraction for forest road use to insure that such removal is consistent with adjacent uses.

* Amended 84-9 May 23, 1984

EXHIBIT "A" (PART ONE)

ORD 92-17
23 x 192

DELETE EXISTING GOAL & POLICIES AND REPLACE WITH THE FOLLOWING:

BOOK 799 PAGE 982

OCT 1992
RECEIVED
Dept. of Planning & Development

CLATSOP COUNTY

MINERAL AND AGGREGATE RESOURCES

COMPREHENSIVE PLAN POLICIES

Goal

To protect and ensure appropriate use of mineral and aggregate resources of the county, while minimizing any adverse effects of mining and processing upon surrounding land uses.

Policies

1. The county shall protect significant mineral and aggregate resources consistent with Statewide Planning Goal 5 and the process for complying with the Goal specified in Oregon Administrative Rules Chapter 660, Division 16.

2. In making a decision whether to protect a significant mineral or aggregate site from conflicting uses, the county shall recognize that Goal 5 requires the protection of natural resources for future generations, and that the requirements of other applicable Statewide Planning Goals must be considered in any analysis of conflicting uses.

3. The county shall maintain an inventory of mineral and aggregate resources sites. The comprehensive plan inventory shall consist of three parts:

   a. An inventory of "significant sites" identified through the Goal 5 process as important resources that will be protected from conflicting uses;

   b. An inventory of "potential sites" for which sufficient information concerning the location, quality, and quantity of a resource site is not adequate so as to allow the county to make a determination of significance;

   c. An inventory of "other sites" for which available information demonstrates that the site is not a significant resource to be protected.

4. The location of a mineral or aggregate resource shall be identified as the site of a recoverable source of material. A resource site may consist of all or portions of a parcel, and may comprise contiguous parcels in different ownerships. Identification of a resource site need not include mineral and aggregate reserves that are irrevocably committed to other land uses which are incompatible with surface mining.

5. For an aggregate site to be determined significant, the resource must meet Oregon Department of Transportation specifications for concrete aggregate rock. It is the county's policy to protect the highest quality rock for future use.

6. For an aggregate site to be determined significant, the site must possess a minimum of 250K cubic yards of mineable reserves. It is the policy of the county to protect a variety of large reserves in order to serve the regional market.

7. The significance of non-aggregate mineral resources shall be judged on a case by case basis, taking into account information concerning the commercial or industrial use of the resource, as well as the relative quality and relative abundance of the resource within at least the county.

8. Because material source sites owned or controlled by municipal, county or state government agencies have been acquired for the purpose of maintaining the public road system, and collectively form a network of great importance, the county shall deem such sites presumptively significant. Such sites shall be analyzed along with other significant sites to establish the appropriate level of protection from conflicting uses.

9. The county shall recognize existing surface mining operations as significant resources pursuant to Goal 5, and shall allow existing operations to continue for two(2) years without conforming to the performance standards in the zoning ordinance. Expansion beyond the limits of an existing site shall be in accordance with county zoning regulations. D. 23

10. The scope of an existing or "grandfathered" aggregate operations shall be established by:

    a. Authorization by a county land use approval; or

    b. The extent of the area disturbed by mining on the effective date of this ordinance; OR

    c. The continuous pursuit of a specific mining plan by an operator for not less than five years.

11. In order to maintain the right to continue an existing surface mining operation and bring the county's inventory of mineral and aggregate resources into compliance with Goal 5, an analysis of economic, social, environmental and energy (ESEE) consequences performed for an existing site shall only consider the consequences of potential conflicting uses upon current or future operations, and the consequences of mine expansion on existing or potential conflicting uses.

12. Sites on the "other sites" inventory shall not be protected pursuant to Goal 5.

13. For sites on the "potential sites" inventory, the county shall review available information about mineral and aggregate resources, and if the information is sufficient, determine the site to be significant when one of the following conditions exists:

    a. As part of the next scheduled periodic review;

    b. When a landowner or operator submits information concerning the potential significance of a resource site and requests a comprehensive plan amendment;

    c. When resolution of the status of a potential resource is necessary to advance another planning objective.

14. For each site determined to be significant, the county shall complete the remainder of the Goal 5 process of identifying conflicting uses, analyzing the ESEE consequences of the conflicting use(s), and designating a level of protection from conflicting uses. If the final decision concerning the site is to fully preserve or partially protect the resource from conflicting uses, the site shall be zoned with the Mineral and Aggregate Resources Overlay.

15. When analyzing the ESEE consequences of potential conflicts between a significant mineral or aggregate resource and another significant Goal 5 resource, the county shall consider the protection program adopted for the conflicting resource. Conflicts with other natural resources shall not be the basis for mining restrictions unless the county has included the conflicting resource on the inventory of significant Goal 5 resources, and adopted a resource protection program.

16. The county may consider the effects of surface mining operations on public roads and traffic. Consideration may include review of proposed routes, site distances at access points, roadway width and alignment, and level of service. The county may impose conditions or restrictions directly related to the impact created by surface mining; however, any conditions or restrictions shall not be approval criteria, and shall be applied uniformly to all road users in a manner consistent with the county's transportation plan.

17. In order to approve surface mining at a site zoned for exclusive farm or forestry use, the county shall find, as part of the ESEE analysis, that the proposed activity will not: 1) force a significant change in, or significantly increase the cost of, accepted farming or forestry practices on surrounding lands, and 2) will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel.

18. The county shall not independently apply the Mineral and Aggregate Resources Overlay to land within another county, or

within a city or its urban growth boundary. The county shall seek to ensure protection of significant sites where the impact area surrounding the resource extends across jurisdictional boundaries through cooperative agreements with another county or a city.

19. The county shall require increased setbacks, insulation, screening, or similar measures as conditions of approval for any new conflicting use within an impact area surrounding a mineral or aggregate resource site when such measures are deemed necessary to resolve conflicts identified in a site-specific Goal 5 analysis.

20. The county may establish and impose conditions on operation of a surface mine when deemed necessary as a result of a site-specific Goal 5 analysis. Where such conditions conflict with criteria and standards in the Mineral and Aggregate Resources Overlay, the conditions developed through the Goal 5 analysis shall control.

21. As part of the ESEE analysis and decision on the level of protection to be afforded significant mineral and aggregate resource sites, the county shall determine the appropriate post-mining use of the site.

22. The county recognizes the jurisdiction of the Department of Geology and Mineral Industries for the purpose of mined land reclamation pursuant to ORS 517.750 to 517.900 and the rules adopted thereunder.

23. Unless specifically determined on a case by case basis, it shall be the policy of the county, pursuant to ORS 517.830(3), that DOGAMI delay its final decision on approval of a reclamation plan and issuance of an operating permit, as those terms are defined by statute and administrative rule, until all issues concerning local land use approval have been adjudicated by the county.

24. No surface mining or processing activity, as defined by the zoning ordinance, shall commence without land use approval from the county, and approval of a reclamation plan and issuance of an operating permit by DOGAMI.

25. Land shall not be rezoned to remove the Mineral and Aggregate Resources Overlay until the mineral or aggregate resource is depleted, and the site has been reclaimed.

EXHIBIT 'A

ORD 93-17
8-11-93

AMEND GOAL 5 QUARRY & MINING ELEMENT OF THE CLATSOP COUNTY COMPREHENSIVE PLAN. ADD THE FOLLOWING:

CLASSIFICATION OF COUNTY MINERAL & AGGREGATE SITES

Primary Sites Requiring QMO Protection

1)	Clatsop County - Clifton	S17,T8N,R6W	rock
2)	Clatsop County - Big Creek	SW,S29,T8N,R7W	gravel
3)	Howard Johnson - US 101	S4,T5N,R10W	rock
4)	Bayview Transit Mix - US 101	SW4,NW9,T5N,R10W	basalt

Primary Sites Requiring Conditional Use Approval

1)	George Ordway	S14,T5N,R10W	basalt
2)	Teeven Bros. Logging	NW,S27,T8N,R6W	rock
3)	Daren Berg, Humbug Rock	S22,T5N,R8	rock
4)	M. Nygaard Logging	NE,S31,T7N,R9W	rock
5)	A. Riekkola	S18,T7N,R8W	basalt
6)	Tagg	S3,T7N,R10W	sand
7)	Horecny	S23,T5N,R9W	rock

Other Sites

1)	Clatsop County (Anderson Rd-Brownsmead)	SW,S2,T8N,R7W	clay
2)	Howard Johnson	NW,S4,T5N,R10W	rock
3)	Ore State Forestry Dept	NW,S14,23,T4N,R9W	rock
4)	Ore State Hwy Division	S16,17,T5N,R9W	basalt
5)	Ore State Hwy Division	NW,S25,T5N,R8W	basalt
6)	McClean Logging	S28,T7N,R8W	basalt

NAME	DOGAMI PERMIT #	LOCATION (tax lot)	(section)		(township)	(range)	ZONING
Oregon State Forestry Department	04-0001	200	NW¼	16	6N	6W	F-38
Clatsop County	04-0005	900	SW¼	2	8N	7W	EFU
Div. of State Lands Clatsop County	04-0006	3800	NE¼	31	5N	8W	F-38
Boise Cascade	04-0006A	410	NW¼	31	5N	8W	F-38
Crown Zellerbach	04-0007	600	NW¼	4	5N	10W	F-38
Howard Johnson & Sons	04-0011	200	NE¼	4	5N	10W	AF-20
Oregon Portland Cement Company	04-0012	1200	NW¼	19	8N	6W	F-38
State of Oregon Forestry Department	04-0013	1400		14,23	4N	9W	F-38
Oregon State Highway Division	04-0014	200		16,17	5N	9W	F-38
Oregon State Highway Division	04-0015	3300		25	5N	8W	F-38
Archie Riekkola	04-0017	501		18	7N	8W	AF-20
Boise Cascade Corporation	04-0019	100	SE¼	29	8N	7W	F-38
McClean Logging & Construction	04-0020	102		28	7N	8W	F-38
Sunset Crushed Rock Company	04-0021	100	NE¼	29	8N	7W	F-38
Otto Browning	04-0022	100		13	7N	9W	AF-10
Robert J. Tagg	04-0024	200		4	7N	10W	EFU
Clatsop County Road Department	04-0025	200	E½	31	6N	7W	F-38
Clatsop County Road Department	04-0026	1700	E½	17	8N	6W	F-38
Clatsop County Road Department	04-0027	part of road	SW¼	29	8N	7W	F-38

NAME	DOGAMI PERMIT #	LOCATION (tax lot)	(section)		(township)	(range)	ZONING
Crown Zellerbach	04-0028	700	SW¼	9	5N	10W	F-38
Estoos Property	04-0029	900		2	8N	7W	EFU
Allied J & H Lumber	04-0030	1000	SW of SW¼	32	6N	7W	AF-20
Crown Zellerbach	04-0031	702	NE¼	20	8N	6W	F-38
Crown Zellerbach	04-0032	1000		33	6N	10W	F-38
Crown Zellerbach	04-0033	1700	SW¼	17	5N	8W	F-38
Crown Zellerbach	04-0036	700		10	5N	10W	F-38
Oregon State Highway Division	04-0037	600	SE¼	19	4N	6W	F-38
Crown Zellerbach	04-0038	200	SE¼	9	5N	10W	F-38
Crown Zellerbach	04-0039		NE¼ NW¼	27	7N	9W	F-~~38~~ 80
Dave Wullger	04-0043	102	NW¼	28	7N	8W	F-38
Bob McEwan Excavating	04-0048		E½	20	5N	10W	F-38
Robert Stevens	04-0049	100		28	6N	10W	F-38
McClean Logging & Construction Co.	04-0050	2800	NW¼	30	4N	9W	F-38
McClean Logging & Construction Co,	04-0051	2400	NE¼	22	5N	8W	F-38
Mann & Parker	04-0052	100	NW¼ NE¼	12	7N	9W	F-38
J.C. Compton Company	04-0053	300		35	8N	6W	F-38
Oregon State Highway Division	04-0055	500		3	4N	7W	F-38
George Ordway	04-0056	1203		14	5N	10W	AF-20

Wildlife Habitat

Each bird, mammal, reptile and amphibian has its own habitat, a complex set of environmental conditions, to which it is adapted and which it requires for its continued survival. Food, water, vegetative cover and other natural features necessary for shelter, escape, and reproductive needs must be present in the type of quantity and distribution required by a species of animal. Loss of habitat need not be total to exclude an animal from a particular area; at times, the loss of one critical element is sufficient. The key to maintaining a diverse and abundant wildlife is the provision of diverse habitats suited to the needs of a wide variety of species.

All undeveloped land and water areas contribute to the habitat needs of one or more wildlife species. However, certain habitats are of particular importance. This report focuses on those sensitive habitat areas that are important or essential to the maintenance of wildlife populations.

Big Game

"The Fish and Wildlife Habitat Protection Plan for Clatsop County", prepared by the Oregon Department of Fish and Wildlife in 1976, includes the following population estimates for big game in Clatsop County, in 1974: Roosevelt elk, 13,200, Blacktail deer, 30,100; Black bear, 1,600; and Cougar, 50. The Department of Fish and Wildlife estimates that Clatsop County's spring elk population peaked in 1973 with a herd of 13,500 elk. Since that time the population has fluctuated, but gradually declined to a population of approximately 10,500 in 1980. The Oregon Department of Fish and Wildlife's management objective for the County is a spring population of 7,800 elk.

The basic habitat requirements of big game include food, water, cover and freedom from harassment. These requirements are met largely in and adjacent to the forested areas of the County where timber harvest has resulted in mixed stands of mature forest, brushland and clearcuts. Important habitat includes forest opening with a southern exposure and bottom lands where adjacent forest and riparian vegetation provide cover. Generally, clearcuts up to about ten years of age are preferred since forage production in these areas is highest. Due to forest management practices, these areas are always shifting and therefore the pattern of big game use of various areas also shifts. Older conifer stands are important in providing cover for escape and from the extremes of weather. Elk in particular require stands of trees large enough to provide complete concealment.

The Oregon Department of Fish and Wildlife classifies areas within the County as Major Big Game Range, Peripheral Big Game Range, and Excluded Range. Major Big Game Range is defined as that portion of the county which supports the majority of big game. In general, these lands are sparsely developed forest lands. They also provide the majority of big game recreational opportunity. Peripheral Big Game Range is defined as foothill areas of the County, generally located betwen commercial forest lands and productive agricultural lands. These lands support substantial big game populations and serve as wintering area for animals from Major Range Areas in severe winters. Conflicts exist between big game and other uses and these

conflicts limit management options and recreational opportunities. The Peripheral Big Game Ranges were of equally high value as Major Big Game Range areas prior to their more intensive development. Excluded Range areas are developed areas that are only occassionally used by big game.

In Clatsop County, by far the largest of the three types of habitat is the Major Big Game Range. It corresponds very closely with the forest land of the County. The Peripheral Big Game Range includes the floodplains and adjacent foothills along the Necanicum, Nehalem, Lewis and Clark, Youngs and Klaskanine Rivers, the foothills east of the Clatsop Plains, and the agricultural and developed strip along the Columbia River betwen John Day and Wauna-Westport. The Excluded Range includes the area west of Highway 101, excluding Tillamook Head, the agricultural and developed area between the Lewis and Clark and Youngs River, the City of Astoria and the Columbia River Islands.

The Major Big Game Range includes the Jewell Meadows Wildlife Area in the vicinity of Jewell. This 1,200 acre area is managed to provide habitat and winter food supply for Roosevelt elk. The area also includes a refuge buffer under contract with several private and public landowners. The Wilson Farm is another property managed by the Oregon Department of Fish and Wildlife for big game habitat, primarily elk. Also included within the Major Big Game Range are the following areas cited in the Oregon Natural Areas, Clatsop County report as being of importance primarily because of their habitat values: Old Farm on the Middle Fork of the Klatskanine River and Northrup Creek.

A number of conflicting uses exist for both the Major Big Game Range and the Peripheral Big Game Range (the Excluded Range areas are not considered important habitat for the purposes of this analysis). The majority of the Major Big Game Range is designated Conservation in the Comprehensive Plan and is zoned Forest-80 (F-80) or Forest-38 (F-38). Generally, forest practices are considered compatible with big game habitat. However, the Oregon Department of Fish and Wildlife has identified a number of forest practices that may, under certain conditions conflict with big game habitat. The Department of Forestry and the Department of Fish and Wildlife are presently working on a list of problem areas within the Oregon Forest Practices Act. This process may lead to some modification of the Oregon Forest Practices Act.

The Department of Fish and Wildlife recommends that development within the Major Big Game Range be limited to one dwelling units per 80 acres, or one dwelling unit per 40 acres where clustering is required (experience has shown the Department of Fish and Wildlife that locating structures in close proximity will reduce the overall area of impact on big game range). The Forest 80 (F-80) allows forest or farm dwellings at a density of one dwelling per 80 acres. Other uses allowed are required to support forest management operations or are required to be at a density that will not conflict with big game range. Thus the F-80 zone is consistent with the Department of Fish and Wildlife criteria. The F-38 zone permits a number of uses that have the potential to conflict with big game range. However, the zone contains criteria and standards that insure that devedlopment is consistent with the maintenance of big game range. All the permitted uses are either site-specific uses in conjunction with forest mangement or are of a low intensity, non-conflicting nature, e.g. watershed management, low

intensity recreation, or oil and gas exploration. All uses which have the potential to conflict with big game range are either Review or Conditional uses. These uses include: Farm or forest dwelling, schools, churches and community centers, kennel, veterinary clinic, solid waste disposal site,l boarding of horses, portable concrete ready-mix or asphalt batching, and aquaculture. All these uses are subject to review criteria that includes a finding that the use is compatible with the maintenance of big game habitat. Uses that meet this criteria are also subject to siting standards that limit the impact on big game range. Thus the County's F38 zone is also consistent with the Department of Fish and Wildlife guidelines.

The Major Big Game range also includes a limited number of areas that are zoned Agriculture-Forestry 20. The AF-20 zone permits a number of uses that have the potential to conflict with big game range. However, the zone contains criteria and standards that insure that development is consistent with the maintenance of big game range. All the permitted uses are either in conjunction with forest management, or are of a low intensity, non-conflicting nature, le.g. watershed mangement, low intensity recreation or oil and gas exploration. All uses which have the potential to conflict with big game range are either Review or Conditional uses. These uses include: dwellings, schools, churches, community centers, kenlels, veterinary clinic, solid waste disposal site, boarding of horses, portable concrete ready-mix or asphalt batching, and aquaculture. All of these uses are subject to review criteria that includes a finding that the use is compatible with the maintenance of big game habitat. Uses that meet this criteria are also subject to siting standards that limit the impact of uses on big game range. These approaches limit conflicting uses so that the AF-20 is consistent with the maintenance of big game habitat.

The Major Big Game range also includes some areas zoned Rural-Residential. The County has taken "built and committed" exceptions for these areas. These are areas where relatively dense rural residential development already exists. It is assumed that these areas already experience substantial conflicts between residential use and big game range. Because of these existing conflicts, no additional criteria or standards to protect major big game range in areas that are zoned for rural residential use are proposed.

*The majority of Peripheral** Big Game Range is designed Conservation Forest Lands and Rural Agricultural Lands in the Comprehensive Plan and is zoned Forest-80 (F-80), Forest-38 (F-38), Exclusive Farm Use (EFU) and Agriculture-Forestry (AF-20). The remainder is designated Rural Lands in the Comprehensive Plan and zoned Residential-Agriculture, with lot sizes ranging from one to five acres in size.

* Amended 84-9, May 23, 1984
** Amended 84-10, June 27, 1984

* The Department of Fish and Wildlife recommends that Peripheral Big Game Range be developed at densities of one dwelling unit per 40 acres, or one dwelling unit per 20 acres if clustering is required. The Forest-80 (F-80) zone allows forest or farm dwellings at a density of one dwelling per 80 acres. Other uses allowed are required to support forest management operations or required to be at a density that will not conflict with big game range. Thus the F-80 zone is consistent with the Fish and Wildlife criteria. The F-38 permits forest or farm dwellings at a density of one dwelling per 38 acres. Other allowed uses may have the potential to conflict with big game range. However, the zone contains criteria and standards that insure that development is consistent with the maintenance of big game range (see discussion under Major Big Game Range, page 12 & 13). Thus the F-38 zone is consistent with the Fish & Wildlife criteria for Peripheral Big Game Range. The Exclusive Farm Use (EFU) allows farm dwellings at a density of one dwelling unit per 38 acres. This density is consistent with the Fish & Wildlife criteria for Peripheral Big Game Range. As discussed under the Major Big Game Range above, the Agriculture-Forestry 20 (AF-20) zone is subject to review criteria and siting standards that are consistent with the Department of Fish and Wildlife's criteria of one dwelling per 20 acres.

* Areas zoned Residential-Agriculture are committed to rural residential development. These areas already experience substantial conflicts between residential use and big game range. Because of this existing conflict, no additional criteria or standards to protect Peripheral Big Game Range are proposed in these areas. It should be noted that the built and committed rural residential areas form only a portion of the County's entire Peripheral Big Game Range. More intensive rural development in these areas will not significantly interfere with the overall use of peripheral range areas by big game.

* Amended 84-9, dated May 23, 1984

The Peripheral Big Game Range also includes the majority of the County's agricultural land. These areas are zoned Exclusive Farm Use. They are located primarily in the Brownsmead-Youngs River/Lewis and Clark River and Wahalem River area. Conflicts arise in these areas when big game destroy crops or eat forage that is intended for cattle.

If conflicting residential development is allowed at the densities proposed, additional big game habitat will be degraded or destroyed. Big game will be displaced from these areas to other non-impacted areas, thus placing additional pressure on the remaining habitat area. Loss in habitat may result in a decline of big game populations. This in turn may affect the level of hunting permitted. Since big game hunting generates a substantial amount of income within the County, the County's economy would be affected. However, habitat loss is estimated to be relatively small since it will occur almost exclusively in Peripheral Range areas that already experience a degree of habitat degradation. Some negative social and economic consequences may also result from increased damage to gardens and ornamental vegetation caused by big game animals.

The consequences of not allowing additional residential development, particularly in Peripheral Range areas would be substantial. A large percentage of the County's rural population is centered in these areas. Not allowing further development of areas that the County has shown are committed to rural residential use would result in a reduction of rural residential housing opportunities that have traditionally been available to county residents.

In summary, in Major Big Game Range areas, which consists almost entirely of large forest holdings, the County will rely on the Oregon Forest Practices Act to insure that forest management activities are consistent with the maintenance of big game habitat. The F-80 zone density and uses are consistent with the Department of Fish and Wildlife criteria for maintaining Major Big Game Range. Conditional and review uses in the F-38 and AF-20 zones shall be permitted only if they are shown to be consistent with the maintenance of big game habitat values. Such uses shall also be subject to siting criteria to minimize potential conflicts. Because areas zoned for Rural Residential are already committed to intensive rural development, the County will not adopt additional criteria for managing the conflicts between rural residential development and big game range in these areas.

* " Wildlife management areas owned and managed by the Oregon Department of Fish and Wildlife are currently located at Beneke Creek Road north of Jewell, at Jewell Meadows east of Jewell, and on Highway 26 west of Elsie. These areas attract large number and concentrations of Elk. The consequences of allowing expansion of these areas or establishment of new areas include, but are limited to the following:

ECONOMIC - increased reforestation costs around these areas, damage to residential landscaping, loss of farm crops, and increased fencing costs.
SOCIAL - none
ENVIRONMENTAL - meets the ODFW policy of preserving Elk herds.
ENERGY - none.

Existing wildife management areas have been placed in an OPR zone. This action does not resolve the conflicts between wildife management areas and adjacent forest, farm and residential property. The County has adopted a "1(b)" approach with respect to the expansion of existing wildlife management areas and establishment of new management areas. This approach is implemented through County-wide Forest Lands Policy

* Columbian White-tail Deer

There are two populations of Columbian White-tail deer in North America. One population is located in Clatsop and Columbia Counties in Oregon and Wahkiakum County in Washington. The other population is located in Douglas County. The Department of Interior classified the Columbian White-tail deer as an endangered species in 1968.

According to the "Columbia White-tailed Deer Recovery Plan", prepared by U.S. Fish and Wildlife in June, 1983, there are approximately 300-395 deer located along the Columbia River. This population is broken down into 5 subpopulations: Puget Island, 50-75 deer; Tenasillahe Island, 30-40 deer; Mainland Washington, 150-200 deer; Wallace Island-Westport, 70-80 deer; and Karlson Island, 8-12 deer. Two of these subpopulations are located entirely in Clatsop County, Tenasillahe Island and Karlson Island. A portion of the Wallace Island-Westport subpopulation is also located in Clatsop County, though it is primarily in Columbia County; the portion in Clatsop County is adjacent to Westport Slough and the Columbia River (southern 1/2 of Section 25, Township 8N, Range 6W, and the northern 1/2 of Section 36, Township 8N, Range 6W, and the southeast 1/4 of Section 36, Township 8N, Range 6W, and that part of northeast 1/4 of Section 1, Township 7N, Range 6W North of Highway 30). The Recovery Plan states that "there have been reports of occassional sightings of Columbia White-tail deer in other areas along the lower Columbia River, but the locations listed above (subpopulations) are believed to contain the only populations of any consequence" (p.9). The Oregon Department of Fish and Wildlife also considers the entire Dant & Russell site, Wauna Mill site and an area north of the Wauna Mill site as important habitat for the Wallace Island-Westport subpopulation. Clatsop County will use the subpopulations identified by the Columbia White-tail Deer Recovery Plan and the expanded ODFW Wallace Island-Westport subpopulation habitat as its definition of Columbian White-tail deer habitat. There have been sightings of Columbian White-tail deer in Brownsmead. At this time it is not considered essential habitat by ODFW and USF&W.

* Amended 84-9, May 23, 1984

* There are no conflicting uses for the habitat located on Karlson Island. The island is part of the Lewis & Clark National Wildlife Refuge which is managed for the protection of wildlife habitat.

There are no conflicting uses for the following portion of the Wallace Island-Westport subpopulation. The area northwest of the Wauna Mill site is forest uplands and is zoned Natural Uplands and Forest-80. An area to the south of Westport Slough and east of thebuilt upon or irrevocably committed area of Westport is owned by Crown Zellerbach and is part of their experimental cottonwood plantation. The site is zoned Forest-80. The activities permitted in these areas are consistent with the maintenance of the Columbian White-tail deer population.

There are conflicting uses for the portion of the Wallace Island-Westport subpopulation habitat located on: 1) the Dant & Russell site and the Wauna Mill site; both sites are zoned for Heavy Industrial use, HI; 2) the 100 acre River Ranch rural residential development zoned RA-1; and 3) the northerly portion of the community of Westport which is zoned RA-1.

The main consequence of allowing the conflicting residential and industrial development to occur is that white-tail deer habitat may be further degraded or destroyed. White-tail deer may be displaced from these areas to other non-impacted areas, thus placing additional pressure on the remaining habitat area. Loss of habitat may result in a further decline in the population of a species that is already considered endangered. In residential areas, some negative social and economic consequences may result from increased damage to gardens and ornamental vegetation caused by deer.

However, the potential adverse consequences will be substantially less than in other areas because the U.S. Fish & Wildlife Service does not consider these areas to be the most essential for securing the Wallace Island-Westport subpopulation. The Wauna Mill site, most of the Dant & Russell site, and most of the community of Westport are not included within the essential habitat delineated in the recovery plan for the Wallace Island-Westport subarea population. As already indicated, the U.S. Fish & Wildlife Service does not consider the existing and planned rural residential development of River Ranch to be a critical factor in its objective to provide "secure habitat" on the remaining portion of the Magruder Ranch.

The consequences of not allowing additional residential, commercial and industrial development would be substantial. The Westport area is an established community that approaches urban area densities. The County has taken "built and committed" exceptions to allow for the future development oflands already committed to non-resource use. The River Ranch subdivision was approved subject to conditions intended to minimize its impact on the Columbian White-tail deer. Not allowing development in committed areas would effectively preclude any additional residential and commercial development, thus limiting any growth of the community. The Dant & Russell site and the Wauna Mill site

* Amended 84-9, Dated May 23, 1984

* The management objective of the U.S. Fish & Wildlife Services is to protect the remaining Columbian White-tailed Deer habitat and remove the species from the threatened or endangered species list. The U.S. Fish & Wildlife Service has determined that the objective of reducing the status of the deer from endangered to threatened can be achieved by maintaining a minimum population of 400 deer consisting of three viable subpopulations, two of which must be located on secured habitat. The deer could be removed from the threatened and endangered species list if a minimum population of 400 deer, consisting of three viable subpopulations distributed in suitably secure habitat, were maintained. Habitat is considered secure if it is free from adverse human activity in the foreseeable future and relatively safe from natural phenomena that would destroy its value. A viable population is one whose intrinsic probability of extinction is relatively low and whose population is large enough to minimize deterious effects of inbreeding. This population has been determined to be 50 for Columbian White-tail deer.

Three populations are considered viable, Puget Island, Mainland Washington and Wallace Island-Westport. Two populations are considered secure, Tenasillahe Island and Mainland Washington. Therefore, there is only one population that is both viable and secure, the Columbian White-tail Deer Refuge in Washington. The U.S. Fish & Wildlife Service feels that it can expand the population of Tenasillahe Island. When this occurs there will be two viable and secure subpopulations and the classification of the deer can be reduced to threatened. Improving the security of the Puget Island or Wallace Island-Westport subpopulations will be required if the deer are to be taken off the list entirely (Karlson Island is considered to small an area to support a viable population). Efforts are underway to secure habitat in both areas, however the Wallace Island-Westport area presents a better opportunity because it is not intensively managed for farming, or heavily populated.

The bulk of the Wallace Island-Westport substation is located in Columbia County. The majority of the habitat is located on the approximately 1,300 acre Magruder Ranch. The Magruder property consists of two distinct elements. A rural residential area of 35 developed acres and 70 ares of potential development. This area is located in Clatsop County. The second portion of the Magruder Ranch comprises approximately 1,250 acres, most of which is being leased by Crown Zellerbach as part of its experimental cottonwood plantation. Discussions with U.S. Fish & Wildlife indicate that they will focus their efforts in securing the Wallace Island-Westport subpopulation on the portion of the Magruder Ranch in Columbia County. Indications are that a cooperative agreement between U.S. Fish & Wildlife, Oregon Department of Fish and Wildlife, Crown Zellerbach and the Magruder Trust has the potential to make this subarea population secure. The USFW believes it can accomplish the objective of securing this population without the rural residential area in Clatsop County if the cooperative agreement is completed. (conversation with U.S. ish & Wildlife, May 1984).

ere are no conflicting uses for the habitat located on asillahe Island. The island is part of the Columbian White- Deer National Wildlife Refuge which is managed for the ection of Columbian White-tail deer habitat.

ended 84-9, Dated May 23, 1984

* are two of the County's prime industrial sites. Not allowing further development on these sites would have a major impact on the County's employment base and economy. An adequate supply of industrialland is particularly important to Clatsop County because of its need to expand employment opportunities.

The County finds that there are substantial negative economic and social consequences of not allowing conflicting uses. Therefore, the County will allow the identified conflicting uses, but will seek to minimize their impact on Columbian White-tail deer habitat. This objective will be achieved in the following manner. First, proposals with a potential substantial impact on Columbian White-tail deer habitat (e.g. subdivisions, dredge material disposal, industrial development, and land clearing of more than one acre) will be forwarded to the Oregon Department of Fish & Wildlife and the U.S. Fish & WIldlife Service for their determination of potential conflicts and their recommendations for measures to remedy those conflicts. The County will implement recommendations received from the U.S. Fish & Wildlife Service and Oregon Department of Fish & Wildlife to the maximum extent feasible, consistent with other land use planning requirements. Second, the County will require that any additional rural residential development at River Ranch be clustered on the more northerly portion of the site. The County will implement any other measures recommended to it, by the Oregon Department of Fish and Wildlife and U.S. Fish & Wildlife, for minimizing the impact of additional rural residential development on Columbian White-tail deer habitat at River Ranch. Third, the County will regulate development along Driscoll Slough to protect wetland and riparian values. Such a policy will also protect habitat important to the Columbian White-tail deer.

* Amended 84-9, dated May 23, 1984

Upland Game Birds

This group of wildlife includes grouse, mountain quail and pigeons. Clatsop County, like most of western Oregon, has a reduced population of upland game birds. Reasons for this decline are varied and complex, but are believed to include chemical manipulation of insects and vegetation, predator increases and changes in habitat. While upland game birds are a product of forested areas, not a great deal is known about managing habitat to increase populations. However, maintaining a wide variety of vegetation appears to be important. Seed and fruit bearing plants such as elderberry, cascara, bearberry and hawthorne appear to be especially important.

The "Fish and Wildlife Habitat Protection Plan for Clatsop County" has identified two sensitive habitat areas for upland birds. Mineral springs and other watering areas are important to band-tailed pigeons. Riparian vegetation along streams is identified as being important for ruffled grouse.

Generally, upland game habitats occur in areas planned and zoned for agricultural and forest use. Normal forest and agricultural management practices and uses permitted in these zones are compatible with the protection of these habitats. The maintenance of riparian vegetation is of particular concern and is dealt with in the section on fish habitat.

Urban and rural development are potential conflicting uses for general upland bird habitat. The Department of Fish and Wildlife considers residential development below a density of one dwelling unit per 20 acres to conflict with the maintenance of upland game habitat. There is no mapping of upland bird habitat. However, if it is assumed to correspond to Major and Peripheral Big Game Range areas, then areas where conflict occur are: Brownsmead, Knappa-Svensen, Klatskanine River, Lewis and Clark River, Necanicum River and Nehalem River areas.

The main consequence of allowing conflicting urban and rural development is that upland game bird habitat may be reduced. Loss of habitat may result in a decline in species population. This may result in reduced hunting activity with reduction in the amount of income that hunting generates in the County.

ENERGY SOURCES

The County's energy sources are discussed in the Energy Conservation element of the Comprehensive Plan.

The band-tailed pigeon returns annually to certain springs in Western Oregon. A pigeon "spring" may be a mineral spring, seep, mudflat and tidal channel in an estuary, ocean beach or exposed mineral soil near a stream. The birds are attracted to water and soil containing concentrations of soluble salts. Use is concentrated in the months of August and September.

Four mineral springs and other watering areas important to band-tailed pigeons have been identified in Clatsop County. Three of these are located within Clatsop County jurisdiction (the third is located on the south spit of the Necanicum River in the City of Seaside). The first site is located in the NE corner of Section 10, Township 7N, Range 5W on the Jewell Meadows Wildlife area. Because this area is managed for wildlife protection, the site is considered protected. The second site is located in the SW corner of Section 4, Township 6N, Range 5W. The site is located on Department of Forestry land. Forest management practices could conflict with the site if proper precautions are not taken. The third site is located in Section 4, Township 5N, Range 6 W, adjacent to the Nehalem River. The site is in private ownership and is zoned F-38 or F-80. The uses permitted in the AF-20 zone which could conflict with the mineral spring are: forestry, facilities necessary for forest operations, forest processing, utilities, single family dwelling, horticultural nursery and aquaculture. The uses permitted conditionally in the AF-20 zone which could conflict with the mineral spring are: forest processing, public and semi-public development, cottage industry, kennel, veterinary clinic, boarding of horses, solid waste disposal site and utilities. Loss of these sites could have a substantial effect on the County's band-tailed pigeon populations, since there are a limited number of springs.

Where the Plan identifies Band-tailed pigeon mineral springs on Conservation-Forest Lands subject to forest operations governed by the Forest Practices Act, the Act and Forest Practices Rules administered by the Department of Forestry will be used to protect the natural values of the Band-tailed pigeon mineral springs.

The County will adopt a sensitive bird habitat overlay zone to protect the band-tailed pigeon mineral springs.

Waterfowl

"The Fish and Wildlife Habitat Protection Plan for Clatsop County" identifies three areas of Clatsop County as being sensitive habitat for waterfowl. These areas are: the dune lakes of the Clatsop Plains, Youngs Bay and the lower Lewis and Clark River, and most of the Columbia River Islands and adjacent shoreland areas. Only a brief summary of conflicting uses for waterfowl habitat is provided here because the waterfowl habitat of Youngs Bay and the lower Lewis and Clark River, and the Columbia River Islands and adjacent shoreland are covered by the County's Estuarine Resources Element (and are described in the CREST Inventory), and the waterfowl habitat of the dune lakes of Clatsop County are described in the County's Coastal Shoreland element.

The filling of wetlands and estuarine areas, the drainage of estuarine and wetland areas, and the removal of riparian vegetation are the main activities which conflict with the maintenance of waterfowl habitat. The consequence of allowing these activities include a reduction in habitat vital to maintaining viable waterfowl populations and possible reduction of recreation activities associated with observing or hunting waterfowl.

There are numerous state and federal programs which limit conflicting uses in sensitive waterfowl habitat. These include Section 404 of the Clean Water Act, the State Fill and Removal Law, and the estuarine and coastal shoreland management program that Clatsop County has developed to implement the Estuarine Resources and Coastal Shoreland Goals. The County will develop a program for protecting riparian vegetation on lands not covered by the Oregon Forest Practices Act.

Furbearers and Hunted Non-game Wildlife

This category of wildlife includes aquatic species such as beaver, muskrat and mink, and terrestrial species such as skunk, bobcat and coyote. "The Fish and Wildlife Habitat Protection Plan for Clatsop County" estimated the County's 1974 population as follows: Beaver 2,630; Muskrat 7,480; Nutria 15,000; Mink 600; River otter 310; Skunk 2,500; Bobcat 2,100; Raccoon 3,000; Rabbits and hares 100,000; Coyotes 4,600. Department of Fish and Wildlife personnel believe these figures to be reflective of 1982 populations as well. Because of the diversity of the species in this category, these animals have a variety of habitat requirements, including various types of forest land, riaparian vegetation and wetlands. Generally areas considered to be Major and Peripheral Big Game habitat are also important for terrestrial furbearers and hunted non-game wildlife while estuarine and coastal shoreland habitat important for waterfowl is also sensitive habitat for aquatic furbearers and hunted non-game wildlife.

The conflicting uses described for big game and upland game also apply to terrestrial furbearers and nongame wildlife. The conflicting uses described for waterfowl also apoply to aquatic furbearers.

The management programs for limiting conflicting uses in big game, upland game and waterfowl habitats are adequate to resolve co nflicts for furbearer habitat.

Non-game Wildlife

This category of wildlife contains small, significant populations of wildlife that generally need protection because of their limited numbers. In Clatsop County the most important species are eagles, hawks, and herons.

The Northern Bald Eagle is considered by both the U.S. Fish and Wildlife Service and the Oregon Department of Fish and Wildlife as a threatened species. A threatened species is defined as any species which is likely to become an endangered species within the foreseeable future through all or a significant portion of its range. The Oregon Department of Fish and Wildlife has identified 20 bald eagle nesting sites in Clatsop County. (The Tongue Point and the two Mill Creek sites are located within the Astoria Urban Growth Boundary). All bald eagle nests are detailed in this report (Table 1), even though a number are located in the Coastal Shoreland planning area. Five of these sites have produced young since 1973. The most productive nest sites have been: Twilight Creek, Tenasillahe Island Site 1, Clifton Channel, and Aldrich Point. With the exception of the recently discovered nests on Tillamook Head, all the sites are located on Columbia River islands, or in close proximity to the Columbia River. The Oregon Department of Fish and Wildlife is particularly concerned by the high failure rate among nesting bald eagle pairs. For example, in 1981 only one

young was produced on the five sites that were used for nesting purposes. In the same year, the success rate in Tillamook County was five young at six nest sites.

The nest and the area adjacent to the nest is considered the most sensitive habitt for bald eagles. Nests are generally constructed in or near the top of tall conifers that are located near large bodies of water. Because eagles may alternate nest sites from year to year, it is important to provide protection to all known nest sites.

The Northern Bald Eagle nests are located in five zones: Forest-38 (F-38), Forest-80 (F-80), Recreational Management (RM), Aquatic Natural (A-4), and Residential-Agriculture 5 (RA-5).

Specific potential conflicting uses contained in these zones are:

Zone	Permitted Uses	Conditional Uses
F-38	1. Forestry 2. Facilities necessary for forest operation 3. Primary processing 4. Mineral & aggregate extraction & processing 5. Low intensity recreation 6. Farm use 7. Utility 8. Aquaculture	1. Forestry processing 2. Mineral & aggregate extraction & processing 3. Utilities 4. Single family dwelling 5. Solid waste disposal
F-80	1. Forestry 2. Mineral & aggregate extraction & processing for forest uses 3. Primary processing 4. Low intensity recreation 5. Grazing 6. Christmas trees 7. Utilities in conjunction with a permitted development 8. Impoundments necessary for forest management.	1. Mineral & aggregate extraction & processing for non-forest uses, or within 500 feet of a residence or a residential zone. 2. Gas or oil exploration or extraction 3. Horticultural nursery 4. Aquaculture 5. Solid waste disposal site 6. Non-forest impoundments
RM	1. Recreation improvements to serve existing visitor capacity	1. Recreation improvements which increase visitor capacity

S-2	1. Low to moderate intensity recreation	1. New dike construction
	2. Agriculture	2. Restoration/resource enhancement
	3. Aquaculture	3. Marine research & educational facilities
	4. Forestry	4. Land transportation facilities
		5. Utilities
		6. Log storage/sorting yard
RA-5	1. Single family dwelling	1. Public/semi-public development
	2. Minor utilities	2. Utilities
	3. Farm uses	3. Mineral & aggregate extraction & processing
	4. Forestry	4. Kennel
	5. Low intensity recreation	5. Airport
	6. Park or playground	6. Public or private recreational areas
	7. Horticultural nursery	7. Farm uses
	8. Duplex	8. Cottage industry
		9. Veterinary clinic

There are two general types of conflicting uses. First, those that result in the destruction of the nest or roosting site. This activity consists primarily of logging or a development that requires the removal of a nest or roosting site. Second, activities which generate a level of disturbance that is sufficient to cause the abandonment of the nest or roost site. A broad range of uses listed above have this potential.

The primary environmental consequences of allowing conflicting uses is the destruction of nesting or roosting sites and the abandonment of nest sites. Loss of abandonment of nest sites would further threaten the survival of species that are already classified as threatened.

The major social consequences of allowing the conflicting uses would be an increased difficulty in the ability of scientists, naturalists and bird watchers to observe and study these birds.

No significant economic or energy consequences of allowing conflicting uses have been identified.

The major impact of not allowing the conflicting uses would be economic. This impact would be in the form of restrictions that would prevent certain areas from being logged. Removing certain areas from the timber base would adversely affect the income availablel to the property owner and decrese the supply of timber available. A decreased timber supply could in turn affect employment, income and available tax revenue. Other activities and uses that are allowed in the zoning designation could also be restricted or prohibited.

The major social consequences of not allowing conflicting uses would be a reduction in certain recreation uses within the vicinity of identified nest sites. These uses include camping, hunting and the use of off-road vehicles.

SITE #	NEST #1	T	R	SEC.	¼	LOCATION	OWNER	ZONE	1973	1974	1975	1976	1977	1978	1979	1980	1981
302	IS-6	8N	8W	1		Karlson Island	USF&W								I	I	F
302	IS-7	8N	8W			Karlson Island	USF&W								F	I	I
203	CR-6	8N	8W	13	NE	Calendar Slough	P			I					I	I	I
204	CR-7	8N	8W	14	NE	Svensen	P					I		I	I	I	I
205	CR-8	8N	8W	20	SE	Twilight Creek	P					F	2yg	2yg	2yg	F	1yg
207	CR-10	8N	9W	2	NE	Tongue Point	USCG							I	I	I	I
206	CR-9	8N	9W	14	NW	Mill Creek East	DOF			1yg				I	I	I	F
206	CR-12					Mill Creek West	DOF									F	
328	CR-11	8N	9W	16	SW	Brown's Creek	DOF					A	I	I	I	BD	
300	IS-1	9N	6W	28		Tenasillahe	USF&W		1yg	1yg						I	I
300	IS-2	9N	6W			Tenasillahe	USF&W									I	I
300	IS-3	9N	6W			Tenasillahe	USF&W									I	I
301	CR-3	9N	6W	31	NW	Clifton Channel	DOF						1yg	2yg	F	F	F
301	IS-4	9N	7W	24		Quinn's Island	USF&W								I	I	I
301	IS-5	9N	7W	24		Quinn's Island	USF&W								I	I	I
	IS-8	9N	7W.	24		Quinn's Isle	USF&W									F	I

SITE	NEST #1	T	R	SEC.	¼	LOCATION	OWNER	ZONE	1973	1974	1975	1976	1977	1978	1979	1980	1981
202	CR-4	9N	7W	25	SW	Aldrich Point	DOF			I		A	1yg	I	1yg	F	F
202	CR-5	9N	7W	25	SW	Aldrich Point	DOF								I	I	I
231	CO-23					Tillamook Head										I	F
231	CO-34					Tillamook Head											

DEFINITIONS:

A = Active - Eggs were produced (by best estimate)
F = Failed - No young resulted
I = Inactive - No bird used the nest in that particular year
yg = Young - a young bird was produced
BD = Blow down - The nest or nest tree was blown down

USF&W = US Fish and Wildlife Service
P = Private
USCG = US Coast Guard
DOF = Dept. of Forestry

SOURCE: Oregon Department of Fish and Wildlife

Generally, the nests located on Karlson Island, Tenasillahe Island and Quinn's Island can be considered protected because they are located within the Lewis and Clark Wildlife Refuge or the Columbia White-tail Deer National Wildlife Refuge. The sites that are in Ecola State Park are protected because they are located in a portion of Tillamook Head in which the State Parks Division does not plan to allow or develop intensive types of developments.

Clatsop County will protect bald eagle nest and roost sites through an overlay zone that will require the development of bald eagle nest managmenet plan prior to commencement of an activity or use that is determined to have the potential for affecting an identified site. These plans will be prepared by the Oregon Department of Fish and Wildlife in coordination with the property owner(s), Department of Forestry and Clatsop County. In preparing these plans the Department of Fish and Wildlife will use the "Bald Eagle Mangement Guidelines for Oregon and Washington" prepared by the U.S. Fish and Wildlife Service. The purpose of these guidelines is to maintain the environmental conditions that are required for the survival of bald eagles in the Pacific Northwest. The emphasis is on preventing human disturbances to eagles, particularly during the nesting season. Two zones around the nest are established. A primary zone that protects the most critical area immediately around the nest and secondary buffer zone that seeks to further minimize disturbances during the critical nesting season. The guidelines also address feeding and roosting areas.

Where the Plan identifies Northern Bald Eagle nest sites on Conservation-Forest Lands subject to forest operations governed by the Forest Practices Act, the Act and Forest Practice Rules administered by the Department of Forestry will be used to protect the natural values of the Northern Bald Eagle nesting site.

Osprey

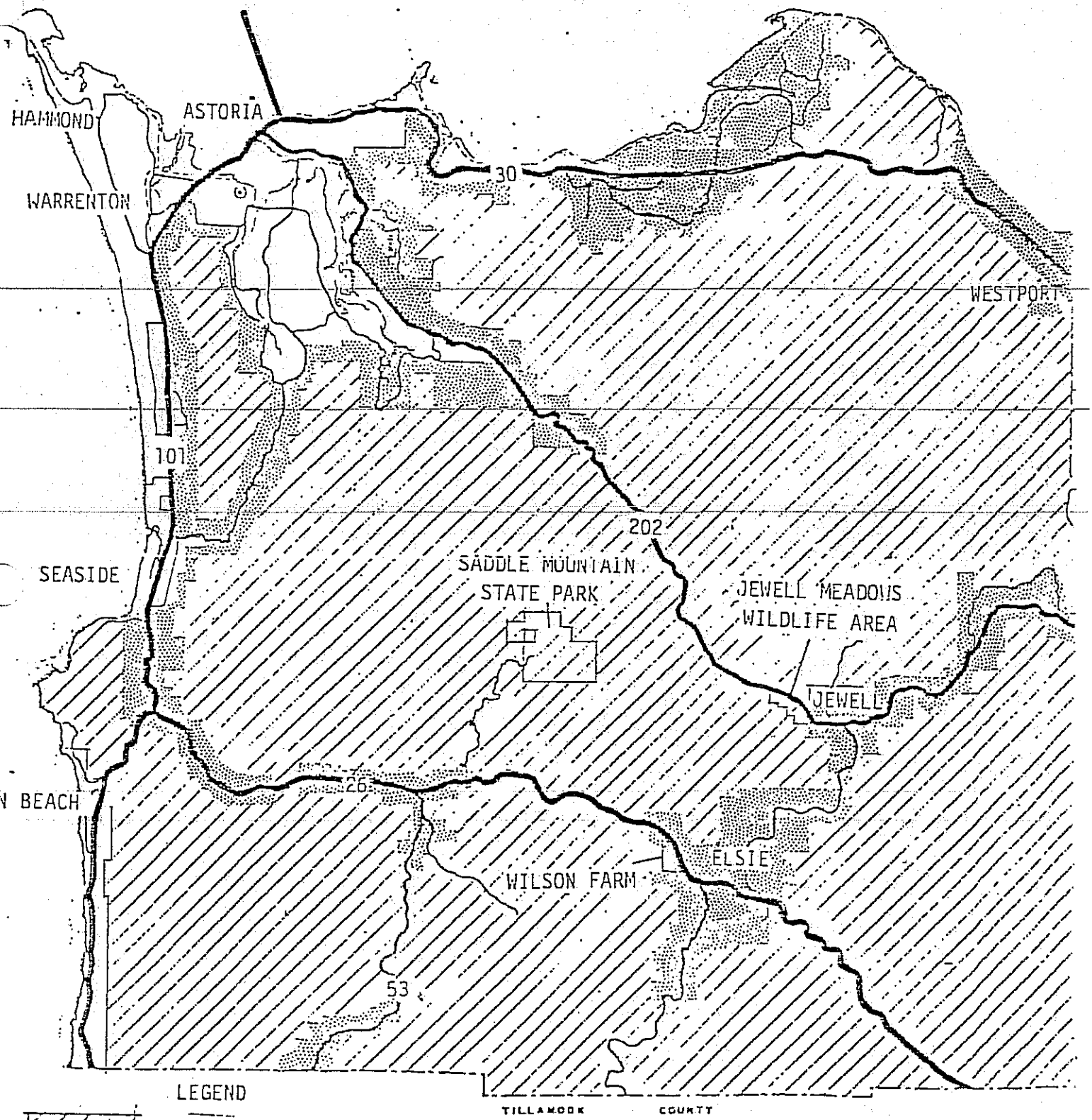
Osprey nests are typically constructed in the tops of dead trees or trees with dead tops. Nests are usually located near large streams, lakes or bays. The nest is usually used for a number of yers. There are two osprey nests in Clatsop County. One is located in the eastern end of 100 acre freshwater wetland that comprises the southern portion of the old Alumax industrial site. The nest is located in the northeast 1/2 of Section 34, Township 8N, Range 10W. Although ospreys are frequent visitors of the area, nesting sites are very rare. Thus it is important to protect the nest site. The nest is located in an area that has been determined to be a significant freshwater wetland. The wetland will be protected through zoning ordinance provisions that will protect the freshwater wetland, as well as the osprey nest. The nest will also be protected through a sensitive bird habitat overlay zone.

The other osprey nest is on private property in the east 1/2 of Section 10, T8, R7, between Ziak Gnat Creek Road and Gnat Creek. The land surrounding the nest is protected by Aquatic Conservation (A-3) zoning. The nest site itself will be protected by a sensitive bird habitat overlay zone.

Herons

Great Blue Herons nest in colonies in tall trees near water, typically a major stream or coastal bay. Colonies can consist of up to 100 nests

Big Game
Habitat Protection
Plan for Clatsop County



LEGEND

MAJOR BIG GAME RANGE

PERIPHERAL BIG GAME RANGE

NON BIG GAME AREAS
(Are not considered important habitat)

constructed near the top of the tallest trees available, but rarely less than 80 to 90 feet in height. The nests are used for many years. If a heron rookery is destroyed, the herons may relocate if suitable large trees are available. However, relocated heron rookeries are seldom as large as the original one, and there is evidence to show that nest success in rookeries decreases with a decrease in the size of the colony. Herons have a low tolerance for harassment or disturbances while nesting and will readily abandon their nests.

There are four known heron rookeries in Clatsop County. Two of these are in the Lewis and Clark Wildlife Refuge (Karlsen Island and Welch Island). One is located at Brown's Creek, located in Section 21, T8, Range 9W and is in State Board of Forestry ownership.. The other is on Clatsop Ridge which is located in Section 23, T6, Range 10W and is in Crown Zellerbach ownership.

A survey of Great Blue Heron rookeries undertaken in the spring and summer of 1980 identified ten nests at the Brown's Creek site and 31 nests at the Clatsop Ridge site. Welch Island was found to be inactive and surveyors were unable to approach the site on Karlson Island. A previous 1971 survey identifies 75 nests on Karlson Island and a 1973 survey located 50 nests on Welch Island.

Although Great Blue Herons are abundant in the estuarine and adjacent areas of Clatsop County, it is important that their nesting sites be protected. No conflicting uses have been identified for the nests on Karlson and Welch Island.

The other two sites are zoned Forest-80 (F-80). The permitted uses that could conflict with the use of the heron rookery are: forestry, facilities necessary for forest opertion, forest processing, mineral and aggregate extraction and processing, low intensity recreation, farm use, utilities and aquaculture. The uses permitted conditionally in the F-80 zone which could conflict with a heron rookery are: forest processing, mineral and aggregate extraction and processing utilities, and solid waste disposal site.

There are two types of conflicting use. First, those that result in the destruction of the rookery. This would be the result of logging. Second, activities which generte a level of disturbance that is sufficient to cause the abandonment of the rookery. A broad range of uses permitted in the F-80 zone have this potential although it is unlikely that any would be located at the two sites containing a heron rookery.

The consequences of permitting logging would be the loss of heron nest sites forcing the herons to find new locations. There may be a limited number of such sites available in the area because of previous logging operations. The inability of herons to find suitable nesting sites could, over a number of years, result in a decreasing heron population. Protection of heron rookery sites would remove some forest land from production.

Existing restrictions only require that heron rookeries not be logged during the nesting season, which is between February 1 and July 31. This does not protect the sites.

Clatsop County will protect heron rookeries through an overlay zone that will require the development of a heron rookery management plan prior to commencement of an activity or use that is determined to have the potential for affecting an identified site. These plans will be prepared by the Oregon Department of Fish and Wildlife in coordination with the property owner, Department of Forestry and Clatsop County. The Karlson Island and Welch Island sites will be protected through a sensitive bid habitat overlay zone. Where the Plan identifies blue heron rookery sites (Brown's Creek and Clatsop Ridge) as Conservation-Forest Lands and that are subject to forest operations governed by the Forest Practices Act, the Act and Forest Practice Rules administered by the Department of Forestry will be used to protect the natural values of the Blue Heron rookery sites.

Snowy Plover

The Snowy Plover is a small shorebird that is considered a threatened species by the Oregon Department of Fish and Wildlife. A threatened species being defined as one which is likely to become an endangered species within the forseeable future through all or a significant portion of its range. The bird's breeding season is in May and June. The preferred nesting habitat is the sparsely vegetated, active dune area just inland from the high tide line. Renesting after a disturbance has not been documented. The beach from the Necanicum River north to the Columbia River is considered potential habitat for Snowy Plover, although most recorded nest sites have occurred in the vicinity of the Columbia River.

Since the Snowy Plover nests in sparsely vegetated, unstable sand, the introduction of European beachgrass and the program to stabilize the dune formations on the Clatsop Plains has substantially reduced nesting habitat. Residential development in adjacent areas and recreational use of the beach and dune areas can result in harassment of birds during nesting season. Off-road vehicle use can be particularly detrimental. The consequence of these conflicting uses could be further reduction in both nesting habitat and the success of breeding activity. Eventually, this may result in the Snowy Plover becoming an endangered species.

The County had adopted policies and standards which prohibit residential, commercial and industrial construction in active dune areas, which are the Snowy Plover's most important nesting area. A policy has also been adopted barring the use of off-terrain vehicles in sand dune areas. Snowy Plover nesting areas will be protected through a sensitive bird habitat overlay zone.

The "Fish and Wildlife Habitat Protection Plan for Clatsop County", prepared by the Oregon Department of Fish and Wildlife has identified four sensitive areas for fish and shellfish production. These areas are: rivers and streams estuaries; lakes and reservoirs; and ocean beaches. The estuarine habitat areas are addressed in the County's plan elements dealing with the Columbia River estuary, the Necanicum River estuary, and the Ecola Creek estuary. The ocean beach habitat areas are covered in the County's area-wide plans that have frontage on the Pacific Ocean. Rivers, streams, lakes and reservoirs that are within the Coastal Shoreland planning area are addressed in the County's Coastal Shoreland element. The following inventory pertains to rivers, streams, lakes, and reservoirs that are located outside of the Coastal Shoreland planning area.

All rivers and streams with a perennial flow are considered to be sensitive fish habitat areas. The most important species that these rivers and streams support are: Coho and Chinook salmon, Steelhead, sea-run Cutthroat and Rainbow trout..

Several important states of a salmon's life cycle occur in freshwater streams. The first is spawning, which occurs primarily between October and January. The next stage, lasting from 90-180 days during the winter months, is egg and larvae incubation. Smolt rearing begins during the spring and summer months. This period lasts between two and four months, with half of that period spent in the non-estuarine portions of the stream. The cycle is completed when the salmon returns to spawn, normally at the age of four.

Steelhead are sea-run trout. Although there are varieties that spawn in both winter and summer, only those that spawn in the winter months are found in Clatsop County. The winter steelhead run begins in November with the most abundant portion of the run occurring between January and February. Returning adults have usually spent two to three years as juveniles in freshwater, and two or three years in the ocean.

Sea-run Cutthroat spawn in the smaller streams between December and February. As with Steelhead, sea-run Cutthroat spend at least half their lives in freshwater streams.

The principal anadromous fish spawning streams and rivers in Clatsop County are: Ecola Creek, Necanicum River, Nehalem River, Lewis and Clark River, Klatskanine River, Youngs River, Bear Creek, Big Creek below the hatchery, Gnat Creek and Rock Creek.

There are a number of factors that can lead to a loss of fish habitat or the deterioration of habitat quality. The most significant of these are: low stream flows, elevated stream temperatures, stream sedimentation, chemical or biological stream pollution, and the blockage of a stream through damming by log or debris jams.

Stream quality, and thus its value as fish habitat, is affected by adjacent land use. For the purpose of this discussion, adjacent land uses that could result in potential loss or degradation of habitat quality are considered conflicting uses.

There are three major adjacent land uses or activities that can affect fish habitat quality. These land uses are forest practices, agricultural practices, and commercial, industrial and residential development. Forest practices can affect stream quality in a number of ways. Logging and road building can increase sedimentation which in turn can result in a loss of gravel areas important for the spawning of anadromous fish. High turbidity also affects resident fish populations. The removal of riparian vegetation can result in elevated stream temperature. This in turn affects fish usage and spawning. Removal of riparian vegetation may also speed erosion of stream banks and adjacent areas. The application of herbicides, if allowed to come in contact with the stream, can kill fish. Logging, through removal of forest cover, can aggrevate low stream flows during the summer months.

Forest practices in Oregon are covered by the Oregon Forest Practices Act. The Environmental Protection Agency, in 1979, certified the Oregon Forest Practices Act as being a Best Management Practices with regard to controlling non-point water quality problems resulting from forest management activities. Clatsop County is relying on strict enforcement of the Oregon Forest Practices Act to control forest activities that may adversely affect the fish habitat value of streams and rivers in the County.

Agricultural practices can affect stream quality in a number of ways. Improper grazing and crop planting techniques can result in increased land erosion and sedimentation of streams. Animal manure can increase the level of bacterial pathogens in a stream. Improper application of pesticides, when allowed to enter streams, can injure or kill fish. Removal of water from streams for irrigation purposes can result in aggravated low flow periods that limit a stream's ability to function as fish habitat.

The State Soil and Water Conservation Commission is the implementing agency for the "208" agricultural non-point source water quality program. Clatsop County is relying on the State Soil and Water Conservation Commission program to address agricultural practices that affect the fish habitat value of streams and rivers in the County.

The State Water Resources Department is responsible for the appropriation of water. The County is relying on coordination between the Water Resources Department and the Department of Fish and Wildlife to insure that water rights granted for agricultural purposes are consistent with stream volume levels necessary to maintain fish populations during low flow periods.

Residential, commercial, industrial and recreational uses can affect stream quality in a number of ways. Removal of riparian vegetation can result in elevated stream temperatures and increased stream bank erosion. Removal of water from a stream can aggrevate low flow periods that limit streams functioning as fish habitat. Improper septic tank placement or maintenance can result in stream pollution.

The Oregon State Department of Environmental Quality Sanitarian has established criteria for the placement of septic tanks to insure that septic tank effluent does not affect stream water quality.

The County will establish a program to protect riparian stream vegetation where it is adjacent to residential, commercial or industrial uses.

The construction of dams, by impeding the passage of anadromous fish, can reduce or destroy a substantial amount of habitat. Clatsop County is relying on state and federal regulatory agencies to insure that the construction of new dams do not significantly affect anadromous fish runs.

Activities that affect a stream directly such as gravel removal, occupation of water surface area or stream channelization can also affect the stream's quality as fish habitat. These activities are subject to Army Corps of Engineers and the Division of State Lands permit regulations. Proposals are fully coordinated with resource management agencies through the permit process. This coordination insures that potential conflicts with fisheries resources are minimized.

In addition to the above environmental consequences, conflicting uses that result in loss or degradation of fish habitat can have important economic consequences. Salmon is an important commercial and sports fish. Steelhead, sea-run Cutthroat, and Rainbow trout are important sports fish. Lost habitat will result in reduced runs and reduced income derived from commercial fishing and sports fishing.

As the above discussion indicates, most land uses that involve activities that could affect stream fish habitat values are subject to a state or federal program that can limit the impact of conflicting activities. The County is relying on these programs. The County will also implement a program to protect riparian stream vegetation in non-forest areas.

The study, "Significant Shoreland and Wetlands Habitat of the Clatsop Plains", prepared for the Coastal Shoreland portion of Clatsop County, established criteria for defining the extent of riparian vegetation along rivers and streams. These criteria are also being used to define the extent of riparian vegetation in other portions of the County.

Riparian vegetation is defined as vegetation situated on the edge of the bank of a river or other body of water. Riparian vegetation performs several important functions: it maintains water temperature and quality and thus enhances fish habitat; it provides bank stabilization and thus reduces the occurrence of stream bank erosion that can result in increased stream sedimentation; it provides habitat for the breeding, feeding and nesting of aquatic and upland wildlife species; and it protects the aquatic ecosystem from unnecessary human disturbances. Riparian vegetation can consist of any of the following plant communities; trees and shrubs growing on uplands adjacent to the river or stream; trees and shrubs growing in a wetland; and an emergent marsh or low shrub wetland, except when this is managed for agricultural use. Riprian vegetation is not agricultural crops, land managed as pasture, horticultural or landscaped areas, or unvegetated areas.

For inventory purposes, the zone of riparian vegetation on rivers or river segments with an average annual flow exceeding 100 cubic feet per second (cfs) is defined as fifty feet on either side of the river. On rivers, river segments, or streams with an average annual flow of less than 100 cfs, the zone of riparian vegetation is defined as 30 feet on either side of the river. (The shoreline being defined as the ordinary high water line on a stream or river). However, where the extent of shrub wetlands or forested wetlands adjacent to a river or stream is greater than thirty or

fifty feet, the zone of riparian vegetation is defined to include all of the shrub or forested wetland. Where there is emergent wetland vegetation adjacent to a river or stream, the zone of riparian vegetation is defined to be fifty feet from the landward extent of the emergent wetlands vegetation.

Within the riparian zone, riparian vegetation may extend for all or only a portion of the maximum zone width. Riparian vegetation ends at one of the following:

(1) the fifty foot or thirty foot boundary described above; or
(2) the extent of shrub or forested wetlands; or
(3) fifty feet from the landward extent of emergent wetland vegetation; or
(4) within the zone, riparian vegetation may end at the boundary with non-riparian vegetation; or
(5) at a man-made obstruction, such as a road or a dike which prevents vegetation on the landward side of the obstruction from fulfilling riparian vegetation functions described above.

The County will develop plan policies and zoning ordinance provisions to protect riparian vegetation within the riparian zones.

The inventory of lakes in Clatsop County shall be those identified in the document titled "Lakes of Oregon, Volume 1, Clatsop, Columbia and Tillamook Counties", prepared by the U.S. Department of Interior, Geologic Survey in 1973. According to this report the following lakes outside the Coastal Shoreland planning area contain rainbow trout or cutthroat trout: Big Creek Pond, Fishhawk Lake, Lost Lake, Lost Lake, Spruce Run Lake, Riverside Lake, Soapstone Lake, Carnahan Lake, and Cullaby Lake.

Generally, the uses or developments that result in, or require occupation of water surface areas, removal of riparian vegetation, filling or removal, increased sedimentation, or chemical or biological pollution may conflict with the protection of fish habitat. This would depend on the characteristics of the area and the design of the development being proposed.

The conflicting uses for lakes that are in forest lands (Lost Lake, Lost Lake, Spruce Run Lake, Quartz Lake, Soapstone Lake and Carnahan Lake) are most likely to be the removal of riparian vegetation and increased sedimentation. Forest management activities are covered by the Oregon Forest Practices Act. Clatsop County is relying on strict enforcement of the Oregon Forest Practices Act to control forest management activities that may adversely affect the fish habitat values of adjacent lakes.

The conflicting uses for Big Creek Pond, Fishhawk Lake,and Riverside Lake and Cullaby Lake are the adjacent residential areas. The most likely conflicts will be construction of docks and floats, filling or dredging, removal of riparian vegetation and chemical or biological water pollution. In the case of Fishhawk Lake, the lake was formed as part of the Fishhawk Lake Development

(it is located in both Clatsop and Columbia Counties). A dam was built across the stream resulting in the formation of Fishhawk Lake. Many lots that were platted abut the lake. The platted lots do not contain any riparian vegetation and in fact many single purpose docks and some riprap are located on the lake. Also many houses are located immediately adjacent to the lake. The County does not intend on requiring setbacks from the lake in that the lake is not a natural lake and was formed as part of the housing development.

Allowing conflicting uses without adequate management could result in a loss of fish habitat with a resultant decrease in recreation fishing activity and a decrease in economic activity that is the result of recreational fishing. Conflicting uses may also be expected to result in decreased water quality affecting such non-fishing recreation as swimming.

The construction of docks and moorages is regulated by the Army Corps of Engineers. The Corps permit review process requires that there be full coordination with agencies charged with managing fish resources. Filling or dredging is regulated by the Army Corps of Engineers and the Division of State Lands. Both agencies' permit review process requires that there be full coordination with agencies charged with managing fisheries resources. Water pollution is most likely to occur as the result of inadequate waste water disposal systems. The Department of Environmental Quality Sanitarian has the responsibility for ensuring that residential developments make adequate provisions for waste water treatment. The protection of riparian vegetation on non-forest lands is presently not adequately addressed by existing programs.

For inventory purposes, riparian vegetation around a lake is defined as fifty feet from the lake's ordinary high water line. However, where there is emergent wetland vegetation adjacent to a lake, the zone of riparian vegetation will be measured fifty feet from the landward extent of the emergent wetlands vegetation. The County will develop plan policies and ordinance provisions to protect riparian vegetation with this zone.

The Goal defines a natural area to "include land and water that has substantially retained its natural character and land and water that, although altered in character, is important as habitat for plant, animal, or marine life, for the study of its natural, historical, scientific, or paleontological features, or for the appreciation of its natural features."

This definition overlaps considerably with a number of other Goal #5 inventory elements. These include fish and wildlife areas and habitats, outstanding scenic views and sites, and wilderness areas. Therefore a more restrictive definition of natural areas has been developed. The definition of natural areas used in this inventory is "areas of the natural landscape that are representative of the full range of natural ecosystem communities and their component native species." A natural area is also defined as "types of geologic features which exist in Oregon and are highly unusual or extraordinary, and especially those which demonstrate particularly well the geologic processes which have formed the present landscape." These two definitions are derived from the Oregon Natural Heritage Plan, prepared by the Natural Heritage Advisory Council of the State Land Board.

The Oregon Natural Heritage Program has been established as a vehicle for identifying and preserving the unique biological and geological features of the State. To carry out this objective, the Natural Heritage Advisory Council of the State Land Board has developed the Oregon Natural Heritage Plan.

The Oregon Natural Heritage Plan seeks to develop a program to assure that examples of the full spectrum of Oregon's natural ecosystems and native species are passed on to future generations. Protected areas are to be used for scientific research, educational purposes and nature interpretation. The natural sites can also serve as environmental reference points.

The key element of the Plan is a list of the ecosystems that characterize the State. These ecosystems are divided into four categories: terrestrial; freshwater aquatic; estuarine aquatic; and marine aquatic. A list of unique geological types is also included. The terrestrial and freshwater aquatic ecosystems are described according to nine physiographic provinces. The estuarine aquatic and marine aquatic ecosystems are described for the State in general, as are the unique geologic features.

Each ecosystem is evaluated in terms of its need for protection. A high, medium, or low priority is then assigned. The primary factor in establishing the priority for protection is the immenence of danger that all examples of the ecosystems will be lost to other uses. This factor includes three considerations:

(1) The variety of known, high quality occurances of the element. Generally, the preservation of now rare, but formerly wide spread or common elements is more important than preserving elements which have always been there.
(2) The threat to the remaining sites.
(3) The degree to which existing protected areas cover the element.

Two criteria were used for establishing the priority of unique geologic types, elements that are easily destructible and elements that are important for educational or nature interpretation. A higher priority was given to elements that are easily destructible.

Clatsop County is located in the Oregon Coast Physiographic Region. Within this area 27 terrestrial and 20 freshwater aquatic ecosystems were identified. A number of these ecosystems are in the estuary or coastal shoreland planning area and are not covered by this report. This is also true of all the marine aquatic and estuarine aquatic ecosystems.

The following are the priorities for protection of the terrestrial ecosystems in the Oregon Coast Range Region.

A. High Priority

(1) Western hemlock/swordfern in northern Coast Range.
(2) Old growth Douglas Fir - Western hemlock.
(3) Old growth Douglas Fir - Western Hemlock/Rhododendron-Oregon Grape in northern Coast Range.

B. Medium Priority

(1) Douglas Fir/Salal, 100-150 year old (old burn).
(2) Red Alder stand with two perennial streams.
(3) Hardwood forest of 3rd-5th order stream as low elevation.

C. Low Priority

(1) Douglas Fir, 25-50 years old (old burn).

D. Adequate Representation if Areas Under Study are Established

(1) Noble Fir - Western Hemlock forest - Saddle Mountain.
(2) Pacific Fir - Western Hemlock forest - Saddle Mountain.
(3) Grassbald on Coast Range Mountains - Saddle Mountain.
(4) "Rock garden" community on Coast Range Mountains - Saddle Mountain and Onion Peak.

The following are the priorities for protection of the freshwater ecosystems, not located within the Coastal Shoreland planning area, in the Oregon Coast Range Region:

A. High Priority

(1) Low elevation lake.
(2) Upland marsh.

B. Medium Priority

(1) Tule/pond lily marsh on lake or pond margin.
(2) Vernal pond.

C. Low Priority

(1) Waterfall/pool system on basalt/sedimentary rocks in the Western hemlock zone.
(2) Mid to high elevation permanent pond.
(3) Coast willow wetland.
(4) Cold springs.

D. Adequate representation if area under study is established.

(1) First to third order stream system originating in the True Fir Zone - Saddle Mountain.

The following are the priorities for protection of unique geologic types that may be found in the Oregon Coast Range Region. (Several of these features are located in the Coastal Shoreland planning area.)

A. High Priority

(1) Cave with cold spring and cave fauna.
(2) Fragile mineral location.
(3) Fragile fossil location.
(4) Fragile type localities of formations.

B. Medium Priority

(1) Marine terrace with fossils.
(2) Sand spit.
(3) Major erosion front.
(4) Late Pleistocene flood deposits.
(5) Wave formed pluvial lake features.
(6) Interior sand dune.

Presently there are three major programs that, in combination, provide for the protection of ecologically significant natural areas. These are the federal government's Research Natural Areas, the state's Natural Heritage Conservation Areas, and the Nature Conservancy's Preserves. Clatsop County contains no areas protected by these three programs.

Two areas are proposed for inclusion in the State's Natural Heritage Conservation Area program, Onion Peak and Saddle Mountain.

Onion Peak is a 3,064 foot isolated basalt capped remnant located four miles from the Pacific Ocean. The area under consideration is located in the west 1/2 of the southwest 1/4 of Section 23, Township 4N, Range 10W

(an adjacent area in Crown Zellerbach ownership is located in the East 1/2 of the southeast 1/4 of Section 22, Township 4N, Range 10W). The parcel in State ownership consists of 18.6 acres of State Board of Forestry land and 51.3 acres of State Land Board Common School Fund land. The Crown Zellerbach parcel consists of approximately 30 acres. The establishment of a Natural Heritage Conservation area would protect the following features: Pacific Silver Fir/Western Hemlock forest; fourteen of twenty-eight rare threatened or endangered plant species listed for the Oregon Coast Range; and a "rock garden" community which is not heavily disturbed and contains the above mentioned plants.

Saddle Mountain is a 3,283 foot peak located about ten miles from the Pacific Ocean. A 1,653 acre tract of State land within Saddle Mountain State Park is proposed for inclusion as a Natural Heritage Conservation Area. The parcel is located in Sections 28, 29, 32, 33, and 34 of Township 6N, Range 8 W. A Natural Heritage Conservation Area would preserve the following features: a Noble Fir/Western Hemlock forest; Pacific Silver Fir/Western Hemlock forest; old growth Sitka Spruce forest near the inland limit of its range in Oregon; six plants on the national list of species proposed for threatened or endangered status; a grassbald on a Coast Range Mountain; "rock garden" community on a Coast Range Mountain; a first to third order stream system originating in the True Fir Zone; and geologic formations both unique and representative of the Coast Range.

The report, Oregon Natural Areas, Clatsop County, prepared by the Oregon Natural Heritge Program for the Department of Land Conservation and Development was used as the source for establishing the preliminary inventory of possible natural areas in Clatsop County. Sites that are located within the Coastal Shoreland planning area and the Estuarine Resources planning area are not included.

1. The following sites were deleted because they are located within the Urban Growth Boundaries of cities in Clatsop County:

   a) Deflation Plains south of Peter Iredale (Warrenton).

   b) Chapman Point (Cannon Beach).
   c) Shag Lake (Warrenton).
   d) Wild Ace Lake (Warrenton).
   e) Tongue Point (Astoria).
   f) Fort Stevens State Park and Peter Iredale (Warrenton).
   g) Mill Creek Old Growth (Astoria).
   h) Astoria Old Growth (Astoria).

2. The following sites were deleted because they are covered by the requirements of either the Estuarine Resources Goal or the Coastal Shorelands Goal:

   a) Knappa Slough.
   b) Big and Little Creek Estuaries.
   c) Lewis and Clark River Marsh.
   d) Necanicum River Estuary.
   e) Walluski River Site.
   f) Cooperage Slough.
   g) Clusher Lake.

h) Ecola State Park.
i) Clatsop Beach.
j) Oswald West State Park (the portion west of Highway 101).
k) Clatsop Spit and Trestle Bay.
l) Russian Point.
m) Sand Island.
n) Tenasillahe Islands.
o) Calendar Slough.
p) Gnat Creek Marsh.
q) Walluskie River Wetlands.
r) Youngs Bay.
s) Tillamook Head Rocks.
t) Unnamed Rocks.
u) Sealion Rocks.
v) Bird Rocks.
w) Haystock Rock.
x) Needles.
y) Unnamed Rock.
z) Jockey Cap.
aa) Lion Rock.
bb) Castle Rock.
cc) Gull Rock.
dd) Lewis and Clark National Wildlife Refuge.
ee) Blind Slough.
ff) Eskeline Creek Marsh.

3. The following sites were deleted because they are covered within the Outstanding Scenic Views and Sites portion of the Open Space Elelment:

a) Box Canyon.
b) Knappa Gorge on Big Creek.
c) Gnat Creek Falls.
d) Fall Creek Falls.
e) Plympton Creek Falls.
f) Youngs River Falls.

4. The following sites were deleted because they are covered within the Fish and Wildlife Areas and Habitats portion of the Open Space Element:

a) Aldrich Point.
b) Sigfridson County Park.
c) Old Farm on Middle Fork of the North Fork of the Klaskanine River.
d) Jewell Wildlife Meadows.
e) Northrup Creek.
f) West of Lewis and Clark River Eagle Nest.
g) John Day River Eagle Nest.
h) John Day River Eagle Nest.
i) Ivy Station Eagle Nest.
j) Twilight Creek Eagle Nest.
k) Mary's Creek Eagle Nest.

5. The following is a brief description of the remaining sites listed in the Oregon Natural Areas, Clatsop County data book:

a) Bradwood Cliffs. This area consists of a small stand of trees along the steep basalt cliffs rising up from the railroad right-of-way along the Columbia River. The stand consists primarily of a remnant 150-180 year old Douglas Fir/Western Hemlock forest. The area on the plateau to the south of the site has been logged within the last five years (approximately 150 acres). The property is in Crown Zellerbach ownership. Because of the site's steep slopes and isolated location, Crown Zellerbach does not intend to log the site. The property is located in Sections 9 and 16 of Township 8 N, Range 6W.

b) Walker Creek Old Growth Forest. At the time of the Nature Conservancy inventory, this site consisted of approximately 600 acres. At that time it was perhaps the most extensive, highest quality remaining stand of old growth Douglas Fir/Western Hemlock forest in the northern Oregon Coast Range. It contained three distinctive types: old growth Douglas Fir/Western Hemlock; mixed conifers with Sitka Spruce along the drainage bottoms (the site is at about the inland limit of the Sitka Spruce zone); and undisturbed riparian Red Alder and Big Leaf Maple on lower stream terraces. As an old growth forest, the site represents potential habitat for the Northern Spotted Owl. However, no owls have been reported on the site. Since the initial Nature Conservancy inventory a substantial portion of the site has been logged. The remaining 215 acres have been roaded, with the largest remaining contiguous parcel being approximately 40 acres. This area is slated for logging in the near future. Approximately 35 acres of riparian alder/Big Leaf Maple remain along a tributary of Walker Creek. This site includes a hardwood forest on a 3rd-5th order stream at low elevation and a red alder stand with two perrenial streams. Fifteen acres of the site are State Board of Forestry land. The remaining acreage is in Longview Fibre ownership. The parcel is located in Sections 7 and 18 of Township 6N, Range 6W.

c) Elsie County Park. The park consists of 80 acres of mature Douglas Fir forest with islands of hardwoods. A thick canopy of hemlock is developing beneath the stand of Douglas Fir, an example of the successional trend in the Western Hemlock zone. The quality of the site is decreased because it is bisected by Highway 26. There is also a pioneer cemetary, Sunnyside Cemetary, on the southest portion of the site. The site is in Clatsop County ownership and is located in Section 32, Township 5N, Range 7W. The deed transferring the property to Clatsop County prohibits logging.

d) Old Growth Forest at Granny Lake Creek and Necanicum Road. An older remnant Sitka Spruce/Western Hemlock forest that has been logged. The site is located in Sections 29-32 of Township 4N, Range 9W.

e) David Douglas County Park. This site is located along Highway 26, east of Saddle Mountain. The site is located in both the Western Hemlock and the Pacific Silver Fir zone. The site has been subject to a variety of disturbances, including some logging (as evidenced by the remains of large stumps). Only a small segment can be considered fairly representative of an old growth forest. These areas consist of stands of 250-400 year old hemlock with an understory of second growth hemlock. The Nature Conservancy evaluation concluded that the area is too small and disturbed to be a quality element. The park is located in Section 21, Township 5N, Range 8W and is in Clatsop County ownership.

f) Onion Peak. This is an isolated basalt capped remnant peak, the highest in the area at 3,064 feet. Near its summit is a small remnant of the original Pacific Silver Fir-Western Hemlock forest. There is also a grassy bald and "rock garden" community at the summit. Fourteen of the twenty-eight rare, threatened, or endangered plant species listed for the Oregon Coast Range are found on the peak. Most of the accessible timber has been cut. The site contains a number of terrestrial ecosystems identified as needing protection in the Oregon Natural Heritage Plan. These are: Pacific Silver Fir-Western Hemlock forest; grassy bald on a Coast Range Mountain; and "rock garden" community on a Coast Range Mountain. Onion Peak is also a unique geologic feature. The site is located in the west 1/2 of the southwest 1/4 of Section 23, Township 4N, Range 10W. The portion located in Section 23 is in State ownership(18.6 acres of State Board of Forestry land and 51.3 acres of State Land Board Common School Fund land). The portion located in Section 22 is in Crown Zellerbach ownership and consists of approximately 30 acres. The Natural Heritage Advisory Council has proposed that the state ownership be designated as a Natural Heritage Conservation Area. The Department of Forestry has classified 54 acres as protective conservancy. The Nature Conservancy in 1982 negotiated a conservation easement with Crown Zellerbach. This easement protects the natural values of the site. The agreement provides that a 1/4 acre parcel may be used for a transmission facility.

g) Sugarloaf Mountain. This is a ten acre site at the summit of Sugarloaf Mountain, a 2,953 foot peak consisting of intrusive basalt that has resisted erosion. The summit contains a small grass bald

and rock garden community that supports a fairly large number of rare, threatened, or endangered plant species listed for the Oregon Coast Range. Areas below the summit have all been logged. The site contains a number of terrestrial ecosystems identified as needing protection in the Oregon Natural Heritage Plan. These are: a grassy bald on a Coast Range Mountain and rock garden community on a Coast Range Mountain. The Sugarloaf Mountain summit could also be considered as a unique geologic feature. There is a small radio receiving and transmitting facility located on the site. The site is located in Section 1, Township 4N, Range 10W and is in Crown Zellerbach ownership.

h) Upper Younger River. The area described is the drainage basin of the upper portion of the Youngs River and includes Saddle Mountain, Green Mountain and Snow Point. Aside from the land within and immediately adjacent to Saddle Mountain State Park, the area consists of 2nd and 3rd growth forests managed for timber production. The area is described as Section 1 through 36 of Township 6N, Range 8W. Of this area, approximately 2,500 acres is in State Department of Forestry ownership. The remainder is in Crown Zellerbach ownership.

i) Carnahan Lake. A nine acre lake surrounded by second growth timber in the foothills of the Coast Range. The lake's drainage area is approximately .4 square miles. There is no inflow or outflow. The lake is used for fishing. No water quality data is available for the lake, but the water is generally clear with some aquatic growth. There is a small marsh at the east end of the lake. The Oregon Natural Heritage Plan has identified a low elevation lake as a high priority freshwater aquatic ecosystem. The lake is located in Section 22, Township 7N, Range 10W. The surrounding upland is in small private land holdings.

j) City of Astoria Watershed. The watershed contains 3,400 acres in the upper portion of the Bear Creek drainage. A dam on the creek has created a 28 acre reservoir. Also included in the watershed are two natural lakes, Wickiup and Middle Lake. Most of the land is reforested following logging that was completed in 1954. Fire burned much of the eastern portion of the site. The area is now dominant in brush or alder. The predominant species are second growth Douglas Fir-Hemlock forest, although there are also considerable patches of Red Alder and brush. The watershed is located in Section 7, 18, and 19 of Township 7N, Range 7W, and Sections 1, 2, 11, 12 and 13 of Township 7N, Range 8W. The watershed is owned by the City of Astoria. The site contains two elements in the Oregon Natural Heritage Plan, Low Elevation Lake and Red Alder with two perennial streams.

k) Lost Lake and Spruce Run Lakes. The area includes the 3,000 acre drainage area of Lost Creek and Spruce Run Creek. The entire area is covered by an even-age forest of Douglas Fir which is the result of the Tillamook burn. Lost Lake is a 15 acre lake at about 1,500 feet elevation. The lake supports good recreational fishing. Spruce Run Lake is a shallow two acre lake with a marshy edge. The site includes the following elements listed in the Oregon Natural Heritage Plan: a 25-50 year old Douglas Fir forest (old burn) listed as a low priority terrestrial ecosystem; a low elevation lake listed as a high priority freshwater aquatic ecosystem; a low elevation lake listed as a high priority freshwater aquatic ecosystem. The site is located in Section 17-21 of Township 4N, Range 7W. Approximately 1,080 acres of the site is in State Board of Forestry ownership. The remainder of the ownership is Burlington Northern and Longview Fibre, with the area adjacent to the two lakes being in Burlington Northern ownership.

l) Grassy Lake. Although Grassy Lake shows on several maps, it does not appear on any recent aerial photographs. The lake was apparently formed by a beaver dam which no longer exists. The lake site is located in Section 13, Township 4N, R10W, and is owned by the Boise Cascade Corporation.

m) Klootchy Creek Park. This is a twenty acre Crown Zellerbach park located along the Nehalem River. The park contains a remnant Sitka Spruce forest, including the largest Sitka Spruce in the continental United States. The area is used as a public picnic area and campground. The area has been highly disturbed, with much of the understory eliminated. The area is too small, isolated and abused to be a viable ecosystem. The park is located in Section 14, Township 5N, Range 10W.

n) Saddle Mountain State Park. The site consists of 1,653 acres of State land lying within Saddle Mountain State Park. The elevation of the parcel ranges from 380 to 3,283 feet. The following are the site's principle natural features: a rich and diverse flora, including six species on the national list of species proposed for threatened or endangered status; old-growth Sitka Spruce forest near the inland limit of its range in Oregon; mature Noble Fir and Western Hemlock forests; undisturbed headwaters of creeks with an anadramous fish run; a grassy bald and rock garden community; and a geologic formation that is both unique and representative of the Coast Range. The site contains a number of terrestrial ecosystems identified as needing protection in Oregon Natural Heritage Plan. These are: a Noble Fir-Western

Hemlock forest; a grass bald on a Coast Range Mountain, and a "rock garden" community on a Coast Range Mountain. The site also contains a first to third order stream system originating in the Western Hemlock zone, with anadromous fish. This is listed as an important freshwater aquatic ecosystem in the Oregon Natural Heritage Plan. The site is located in Sections 28, 29, 32, 33, and 34 of Township 6N, Range 8W. The site is managed by the State Parks Branch of the Department of Transportation. The Natural Heritage Advisory Council of the State Land Board has proposed that the site be designated as a Natural Heritage Conservation Area.

o) Bradley Park. The park is a day use facility maintained by the State Parks Department. Most of the area has been cleared for picnic tables, open spaces and a parking area. There are scattered older Douglas Fir (80-150 years old) on portions of the site. There is also a small grove of 40-60 year old Douglas Fir near the entrance of the park. The site is located in Section 16, Township 8N, Range 6W.

p) Big Creek Headwaters. This site comprises 2,560 acres of 2nd growth forest plantations that are approximately 30-35 years old. The northern portion of the site is in the true fir zone. This area constitutes the headwaters of Big Creek. The site is located in Sections 19, 20, 29 and 30 and is in State Board of Forestry ownership.

q) Oswald West State Park. The site consists of the portion of the park that is east of Highway 101. The site is in the Sitka Spruce zone and contains significant stands of old Western Hemlock and Douglas Fir. The site can meet the Douglas Fir/Salal 100-150 year old element of the Oregon Natural Heritage Plan. The site is located in Section 31, Township 4N, Range 10W and in State Parks and Recreation ownership.

r) Nicolai Mountain. The mountain top is the site of the Nicolai lookout and numerous radio transmitting facilities. The area was hand planted, with bough and Christmas tree cutting now occurring. There is little, if any, older growth forest anywhere in Section 17, Township 7N, Range 6W. The site is in the State Board of Forestry ownership.

s) Flat Iron Mountain. This site is comprised of 50% middle-age regenerating Western Hemlock forest, 25% Red Alder, and 25% open grass. The site is located in Section 15 of Township 4N, Range 7W. The site is in State Board of Forestry ownership.

t) Nehalem River, Cronin to Gorge Creek. This is the southernmost reach of the Nehalem River in Clatsop County. The extent of riparian vegetation varies along the river. Generally it is second growth or disturbed vegetation. Therefore it does not have significant value as a natural area. A portion is within Spruce Run County Park and another portion is designated by the Department of Forestry as Scenic Conservation. This portion of the river is in Sections 12, 13, 24-27, 34 and 35 of Township 4N, Range 8W. The ownership is primarily State Board of Forestry and Longview Fibre, although there are also a number of small ownerships.

u) McGregor. The headwaters of Olsen Creek consists of a series of ponds and wetlands that have been created primarily by beaver. The south slope consists of hardwoods and shrubs, while the north slope of Olsen Creek is covered with mid-size conifers. The surrounding area concists of regenerating forest. Approximately six acres have been classified by the Department of Forestry as non-commercial. This area is located in a 150-200 foot wide draw that is approximately 1,000 feet long. The site is located in Section 23, Township 4N, Range 6W. It is in State Board of Forestry and International Paper ownership.

v) Lost Lake. This is a 3 acre lake with no discernable inflow or outflow channel. It is a circular-shaped lake surrounded by dead trees and grass. Its perimeter is filled with snags and dead logs. The surrounding forest is second growth. The lake contains some native cutthroat trout and has been stocked with rainbow trout. The lake may meet the criteria for low elevation permanent lake, which is listed as a high priority freshwater aquatic ecosystem in the Oregon Natural Heritage Plan. The lake is located in Section 2, Township 7N, Range 6W. The surrounding area is in Crown Zellerbach ownership and State Board of Forestry ownership.

w) Cullaby Slough.

The Goal #5 Administrative Rule outlines options for sites on the preliminary inventory list: (1) a determination that a site is not important enough to include on the final inventory list; (2) a determination that there is insufficient information available at this time on the location, quality, or quantity of the site to ascertain the significance of the site; and (3) a determination from the information available on the location, quality, or quantity of the site that is important enough to be included on the final inventory.

Sufficient information is available on all sites to determine their quantity, quality and location.

A number of preliminary inventory sites have been determined not to contain sufficient natural area qualities to be included on the final inventory list. These sites fall into a number of groups. The first group consists of 2nd and 3rd growth managed forests. Although the Oregon Natural Heritage Plan lists a 25-50 year old Douglas Fir forest as a low priority terrestrial ecosystem, this type of area was excluded because it characterizes the bulk of forest land within the County and exhibits no substantial natural values described in the Goal definition of Natural Areas. If an example of this type of ecosystem is important for scientific purposes, a site on National Forest land could be designated. The sites included in this category are: Upper Youngs River, Big Creek Headwaters, City of Astoria Watershed, Nicolai Mountain and Flat Iron Mountain.

The Old Forest at Grassy Lake Creek is not included because it has been logged.

Another group consists of lakes. These areas are not included because the preliminary inventory revealed that their significance is in their scenic qualities, or the recreational opportunities they provide. This group includes Carnahan Lake, Lost Lake and Spruce Run Lake. These lakes are discussed in the Fish and Wildlife Habitat section of this report.

The Nehalem River from Cronin to Gorge Creek was excluded because it was determined that its values were largely scenic rather than natural. It is included in the Outstanding Scenic Views and Sites section of this report.

McGregor was excluded because it was determined that its value was as wetland area. The treatment of this site is discussed in the Wetlands section of this report.

II. Final Inventory of Ecologically and Scientifically Significant Natural Areas.

1. Bradwood Cliffs.
2. Walker Creek Old Growth Forest.
3. Elsie County Park.
4. David Douglas County Park.
5. Onion Peak.
6. Sugarloaf Mountain.
7. Klootchy Creek Park.
8. Saddle Mountain State Park.
9. Bradley State Park.
10. Oswald West State Park.

III. Evaluation of Conflicting Uses and Consequences.

The final inventory sites were evaluated to determine if any conflicting uses exist. No conflicting uses were identified for the following sites: Elsie County Park, David Douglas County Park, Klootchy Creek Park, Saddle Mountain State Park, Bradley State Park, Oswald State Prak, Onion Peak and Sugarloaf Mountain. Four of these parks contain ecosystems with insufficient natural values to warrant a Natural plan designtion. These parks (Elsie County Park, David Douglas County Park, Klootchy Creek Prak and Bradley State Park) will be classified as Conservation areas in the Comprehensive Plan and designated Recreation

Management in the Land and Water Development and Use Ordinance. A portion of Saddle Mountain State Park has been recommended by the Natural Heritage Advisory Council of the State Land Board for inclusion in the state's Natural Heritage Conservation Area program. This area will be designated in the Comprehensive Plan as Natural and designated Natural Uplands in the Land and Water Development and Use Ordinance. Oswald West State Park shall also be designated Natural in the Comprehensive Plan and Natural Uplands in the Land and Water Development and Use Ordinance.

Conflicting uses have been identified for the Walker old growth forest and Bradwood Cliffs.

Forest practices are not considered to be a conflicting use for the Onion Peak or Sugarloaf Mountain sites because logging operations have removed all accessible and merchantable timber. Further, all of Sugarloaf Mountain and a substantial portion of Onion Peak consist of grass balds and "rock garden" communities that have no value for forest management. The portion of the Onion Peak site in State Board of Forestry ownership has been designated scenic conservation by the Department of Forestry. This designation does not permit logging. The Nature Conservancy has recently obtained a conservation easement from Crown Zellerbach that covers the other portion of the site. This agreement insured the protection of the site's natural values. Sugarloaf Mountain contains a radio transmission facility and the Nature Conservancy easement permits the location of radio transmission facilities on a 1/4 acre portion of Onion Peak. The use of these sites for radio transmission facilities is not considered a conflict with existing natural values, since they are derived primarily from the rare and endangered plants that are located there. These two sites will be classified as natural in the Comprehensive Plan and Natural Uplands in the Land and Water Development and Use Ordinance. However, provision shall be made for the continued use of the radio facility on Sugarloaf Mountain and the placement of a facility on Onion Peak.

The Walker Old Growth Forest site is owned by Longview Fibre. Longview Fibre intends to manage this area for sustained yield timber production, including clear cutting, farming, and other associated forest practices. Such activities would eliminate the natural values of the site. Permitting forest management activities would result in the destruction of what was once an extensive high quality stand of older growth Douglas Fir/Western Hemlock. (It should be noted that a substantial portion of this area has already been logged since the initial Nature Conservancy Survey). This would mean the loss of a valuable scientific and educational resources. Some short-term environmental impacts would also result, such as the displacement of wildlife species and the removal of vegetative cover.

If forest management is not permitted to occur, 215 acres of the County's forest base would be lost from timber production. In a County that is highly dependent on the forest products industry for both jobs and tax revenue, the maintenance of prime forest land in forest production is a top priority.

The Walker Old Growth Forest site will be designated Conservation in the Comprehensive Plan and zoned Forest Conservation in the Land and Water Development and Use Ordinance.

Forest management practices are a conflicting use for the Bradwood Cliffs site. Permitting forest management activities would destroy the site's natural values. However, because of the site's steep terrain, it is presently not economically feasible to log the site. Further, because of the fragile soil condition, it may be impossible to effectively replant the site after logging operations. Because of these conditions, Crown Zellerbach does not plan to harvest the site.

The Bradwood Cliffs site will be designated Natural in the Comprehensive Plan and zoned Natural Uplands in the Land and Water Development and Use Ordinance.

Outstanding Scenic Views and Sites

The Goal defines scenic areas as "lands that are valued for their aesthetic appearance". This is a very broad definition. A number of other resources listed by Goal #5 would fit this definition, at least in part. These resources include: lands used for agricultural or forest use that are defined as open space; ecologically, scientifically, significant natural areas; wilderness areas; water areas and wetlands; historic structures; potential and approved federal wild and scenic waterways and state scenic waterways; and certain fish and wildlife areas and habitats. Numerous parks within the County could also qualify as scenic resources by this definition. However, the sites inventoried here are only those whose value is derived primarily from their aesthetic features rather than sites where scenic quality may be part of its overall value as a natural area, or historic site or wildlife habitat.

With respect to general scenic character, the County can be defined to consist of two areas, coastal, including the Columbia River, and non-coastal. The coastal area contains a lot of scenic diversity within a narrow one-half mile to five mile wide strip. Within that area the following types of landscapes can be found: beaches, headlands, ocean rocks and dunes, coastal lakes and deflation plains, spits, estuaries, open ocean, rivers and sloughs, forested areas and farming areas. In contrast, the non-coastal area of the County consists entirely of forested mountain ridges and valleys, and river valleys used for various levels of agriculture.

The scenic resources of the County's Coastal areas are addressed in the plan's Coastal Shoreland Element.

A number of uses and activities can be considered to conflict with the two main types of non-coastal scenic landscapes, timbered uplands and river valleys. The County's timbered uplands correspond roughly with the portions of the County that are in timber production. Clear-cutting, road building and other forest management activities may conflict with the scenic qualities of a particular area. The consequence of allowing these forest management practices would be the loss or disruption of a particular view or view corridor. Such a consequence could be considered either social or environmental. No significant energy or economic consequences have been identified. However, by not allowing the conflicting use of forest management a significant economic consequence could result. The forest products industry is the main component of the County's economic base. Any curtailment of forest practices for non-forest production purposes could have an effect on the level of income derived from the forest industry. Reduced income could result in increased rates of unemployment. Also, the tax receipts of local jurisdictions could be decreased thus possibly forcing local government to choose between a decreased level of services or an increase in other types of taxes. Because the timbered uplands of the County are so vast and because the impacts of a particular forest management practice that may affect scenic quality are localized, (and not permanent), the overall effect of forest management practices on the scenic quality of timbered uplands as a whole is not significant (Forest management may have a significant impact on specific scenic resource site discussed below.).

The scenic character of the County's river valleys is derived from their low density pastoral character. The County is taking a number of "built and committed" exceptions in certain river valley areas. These exceptions would allow an increase in rural density. The overall effect of this possible increase in rural density is not expected to effect general scenic qualities because most of the areas are zoned for Exclusive Farm Use or Agriculture-Forestry 20 acre zones.

In addition to general landscape areas, specific scenic resources have been identified. These sites are derived from three sources: Oregon Natural Areas, Clatsop County, prepared by the Oregon Natural Heritage Program; sites identified by the County's Citizen Advisory Committees; and sites designated by the Oregon Department of Forestry as Scenic Conservancy.

I. Preliminary Inventory of Scenic Sites

A. Sites contained in the Oregon Natural Heritage Program study titled Oregon Natural Areas, Clatsop County.

1. Box Canyon. This is a two mile long gorge of the Lewis and Clark River where they join the main river stem. The canyon is about 100 feet deep and its vertical walls consists of basalt. The Crown Zellerbach Lewis and Clark logging mainline runs above the gorge and crosses the river just above the canyon. The surrounding forest is second growth hemlock. The adjacent area is in Crown Zellerbach ownership. Crown Zellerbach anticipates no tree removal within the canyon, except snag removal when requested by the Department of Fish and Wildlife. The site is located in Section 13, Township 6N, Range 10W and Section 18 and 19 of Township 6N, Range 9W.

2. Knappa Gorge at Big Creek. This site consists of the steepest portion of the canyon formed by Big Creek. It extends from the water intake facility for the Big Creek Fish Hatchery to the bridge crossing approximately 1/2 mile upstream. The canyon walls are forested, although the density and the cover varies depending on the steepness of the slope and nature of the soil. The main Boise Cascade logging road, which serves the area's tree farm, follows the west-side of the canyon. The scenic values of this site consists of the Canyon walls and the stream. The site is in Boise Cascade ownership and is located in Sections 28, 29, 32, and 33 of Township 8N, Range 7W.

3. Gnat Creek Falls. This site consists of a series of falls along a fault area. The highest fall is about 80 feet in height. The surrounding forest consists of second growth Western hemlock. The upstream portion is in Crown Zellerbach ownership, including the largest fall. The downstream portion is in State Board of Forestry ownership. The 28 acre parcel in State Board of Forestry ownership has been designated by the Forestry Department as a Scenic Conservancy Area. This designation provides between a 400-900 foot buffer on either side of the creek. Crown Zellerbach has restricted its forest management practices, for its portion of the site, to above the canyon rim. Within the canyon, no logging is permitted except the removal of blow-downs. The site is located in Section [illegible], Township [illegible], Range [illegible].

4. Plympton Creek Falls. Plympton Creek Falls lies in a steep forested canyon at the 600 foot elevation of the Coast Range foothills above Westport. The falls are in an area of second growth timber with some remnant old growth Douglas Fir scattered along the slopes of the creek. On the lower slopes, along the stream, are scattered Western Hemlock, Western Red Cedar and Sitka Spruce. Red Alder with an understory of salmonberry and swordfern are found along the stream bottom. A large 75 foot high ridge blocks the canyon and has formed fan-shaped Plympton Creek Falls, which fall 30 feet to a pool and gravel bar. The site contains the following ecosystems and features contained in the Oregon Natural Heritage Plan: Douglas Fir/Salal 100-150 years old and waterfall/pool system on basalt/sedimen tar rock in the Western Hemlock zone. The site does not contain a sufficiently large or intact stand of Douglas Fir to warrant protection for its natural values. The site does have important scenic values associated with the waterfall. The Department of Forestry has designated forty acres around the falls as Protective Conservancy. This area includes the falls and almost all the older timber along the creek. The site is located in Section 2 and 11 of Township 7N, Range 6W and is in State Department of Forestry ownership.

5. Fall Creek Falls. The site is a 20-30 foot high fall on Fall Creek. The surrounding area has been logged, although a natural strip of riparian vegetation has been left around Fall Creek and the falls. Since the site was logged, the State Department of Forestry has placed this section of Fall Creek under a Scenic Conservancy designation. The site is in State Board of Forestry ownership and is located in Section 20, of Township 4N, Range 8W.

6. Youngs River Falls. The Youngs River creates a fifty-five foot water-fall at this point. The surrounding forest cover is mixed with scattered old growth spruce remaining at some locations. Anadromous fish runs stop at the falls. The site was deeded by Crown Zellerbach to the City of Astoria. The deed limits the type of uses to which the city may put the property. The site is located in the NW 1/4 of Section 27, Township 7N, Range 8W.

7. Nehalem River from Cronin to Gorge Creek. This is the southern-most reach of the Nehalem River in Clatsop County. The extent of riparian vegetation varies along the river, but generally is second growth or is disturbed. The ownership is primarily State Board of Forestry and Longview Fibre, although there are also a number of small ownerships. The Department of Forestry has designated a portion of the river Scenic Conservation. This designation restricts forest management activities that would interfere with scenic value. All of the Nehalem River has been designated as a potential scenic waterway by the State and Federal governments.

B. Sites identified by the Citizen Advisory Committee.

1. Bradley Wayside State Park. This site is considered in the Ecological and Scientific Resources section.

2. Fire Control Tower. This site is considered in the Historic Resources section.

3. Coast Range Foothills-Clatsop Plains. This area is covered in the general discussion of the scenic qualities of timbered uplands.

4. Lewis and Clark Road above Thompson Falls. This area is within the Gearhart watershed.

5. U.S. Highway 101 Scenic Corridor, Cannon Beach Junction to Silver Point. This portion of Highway 101 has been designated a scenic corridor, incorporating a 50 foot buffer on either side of the highway. Within the area, access is limited; no development fronted on the highway is allowed and all uses must be set back in accordance with State Highway Department Regulations.

C. Sites identifed by the Oregon Department of Forestry as Scenic Conservation.

1. Westport-Scenic Conservancy, Highway Corridor. This site is on the south side of U.S. Highway 30 in Westport. It parallels the highway for approximately one mile west of the road leading to the ferry dock.

2. Highway 53 - Scenic Conservancy, Highway Corridor. This site stretches along approximately 2 miles of the North Fork of the Nehalem River along the North Fork Road.

The Goal #5 Administrative Rule outlines three options for sites on the preliminary inventory list: (1) a determination that a site is not important enough to include on the final inventory; (2) a determination that insufficient information is available at this time on the location, quality, or quantity of the site to ascertain the significance of the site; and (3) a determination, from information available on the location, quality, or quantity of the site, that it is important enough to include in the final inventory.

Sufficient information is available on all sites to determine whether or not they should be included in the final inventory. A number of sites are not included on the final inventory because they are more appropriately treated elsewhere. These sites are: Bradley Wayside State Park; and the Fire Control Tower. The Coast Range foothills at the Clatsop Plains are not included because they have already been treated in the general discussion of the scenic qualities of timbered uplands.

II. Final Inventory of Scenic Sites

1. Box Canyon
2. Knappa Gorge at Big Creek
3. Gnat Creek Falls

4. Plympton Creek Falls
5. Fall Creek Falls
6. Youngs River Falls
7. Nehalem River from Cronin to Gorge Creek
8. Lewis and Clark Road above Thompson Falls
9. U.S. Highway 101 Scenic Corridor, Cannon Beach Junction to Silver Point
10. Westport - Scenic Conservancy, Highway Corridor
11. Highway 53 - Scenic Conservancy, Highway Corridor
12. North Fork of the Nehalem - Scenic Conservancy, River Corridor

Evaluation of Conflicting Uses and Consequences

The final inventory sites were evaluated to determine if any conflicting uses exist. No conflicting uses were identified for the following sites: the U.S. Highway 101 Scenic Corridor, Westport Scenic Conservancy Highway Corridor, Highway 53 Scenic Conservancy Highway Corridor, the North Fork Nehalem Scenic Conservancy Corridor, Plympton Creek Falls, Thompson Falls area, and Fall Creek Falls. The Highway 101 corridor is protected by existing State Highway Department regulations. The three Scenic Conservancy sites are located on State Board of Forestry land. As part of their land-use classification program (OSCUR), the Department of Forestry has recognized the scenic value of these sites and designated them scenic conservancy. A scenic conservancy area is one "where scenic values pre-empt all other uses due to aesthetic reasons". No timber harvesting is allowed in areas that have been designated scenic conservancy. The Plympton Creek site is also located on State Board of Forestry land. The Department of Forestry has designated this site as protective conservancy. The Department of Forestry defines a protective conservancy area as one "where resource protection values pre-empt all other uses due to potential or existing ecological problems". No timber harvesting is allowed in areas with a protective conservancy designation. Fall Creek Falls is located in a portion of the area along the North Fork of the Nehalem River designated by the Department of Forestry as scenic conservancy. The scenic conservancy designation protects the site. The County finds that the existing state management requirements are adequate to protect the scenic qualities of these five sites. No additional County requirements or regulations are needed. The Thompson Falls area is located within the City of Gearhart watershed. The City of Gearhart does not propose to undertake any activities within the watershed that could conflict with the scenic character of the site. Therefore, the County designation of this area as Forest-80 is adequate to protect the scenic character of the site.

Two sites have no conflicting uses on a portion of the site and conflicting uses on the remainder. These sites are Gnat Creek Falls and the Nehalem River between Gorge and Cronin Creeks. There are no conflicting uses for the portion of Gnat Creek Falls that is located on State Board of Forestry ownership. The site has been designated scenic conservancy by the Department of Forestry. A scenic conservancy land-use classification does not permit timber harvesting. Forest management practices are a conflicting use for the portion of the site in Crown Zellerbach ownership. However, Crown Zellerbach does not intend to log below the rim of the canyon. Such a policy will preserve the scenic character of the falls. No additional County requirements will be placed on the portion of the site designated scenic conservancy by the Department of Forestry. The site has been designated non-commercial, such a designation will preserve the scenic character of the falls.

* There are no conflicting uses for the portions of the Nehalem River between George and Cronin Creek that have been designated by the Department of Forestry as scenic conservation or recreational use. Forest practices and rural residential developments are conflicting uses to the scenic character of the river for the remaining segments. (Discussion of the Goal #5 Administrative Rule requirements, including ESEE consequences, is found in the Recreational Needs Background Report dealing with Wild and Scenic Rivers). No additional County requirements will be placed on the portion of the site designated scenic conservancy or recreational use by the Department of Forestry. For the remaining river segments, the County will rely on any further Department of Transportation planning process undertaken in considering the possible designation of the Nehalem River as a state scenic river to resolve possible conflicts between scenic values and other land uses along the river. The County will adopt plan policies and development code requirements to protect riparian vegetation on non-forest land. These requirements will aid in protecting the scenic character of the river.

Possible conflicting uses have been identified for three sites (Knappa Gorge on Big Creek, Box Canyon and Youngs River Falls). Forest management activities including logging, have been identified as a conflicting use for Knappa Gorge at Big Creek and Box Canyon. Permitting this conflicting use could degrade the scenic and recreational value of these sites. Not permitting logging to occur would remove these areas from the County's productive forest base.

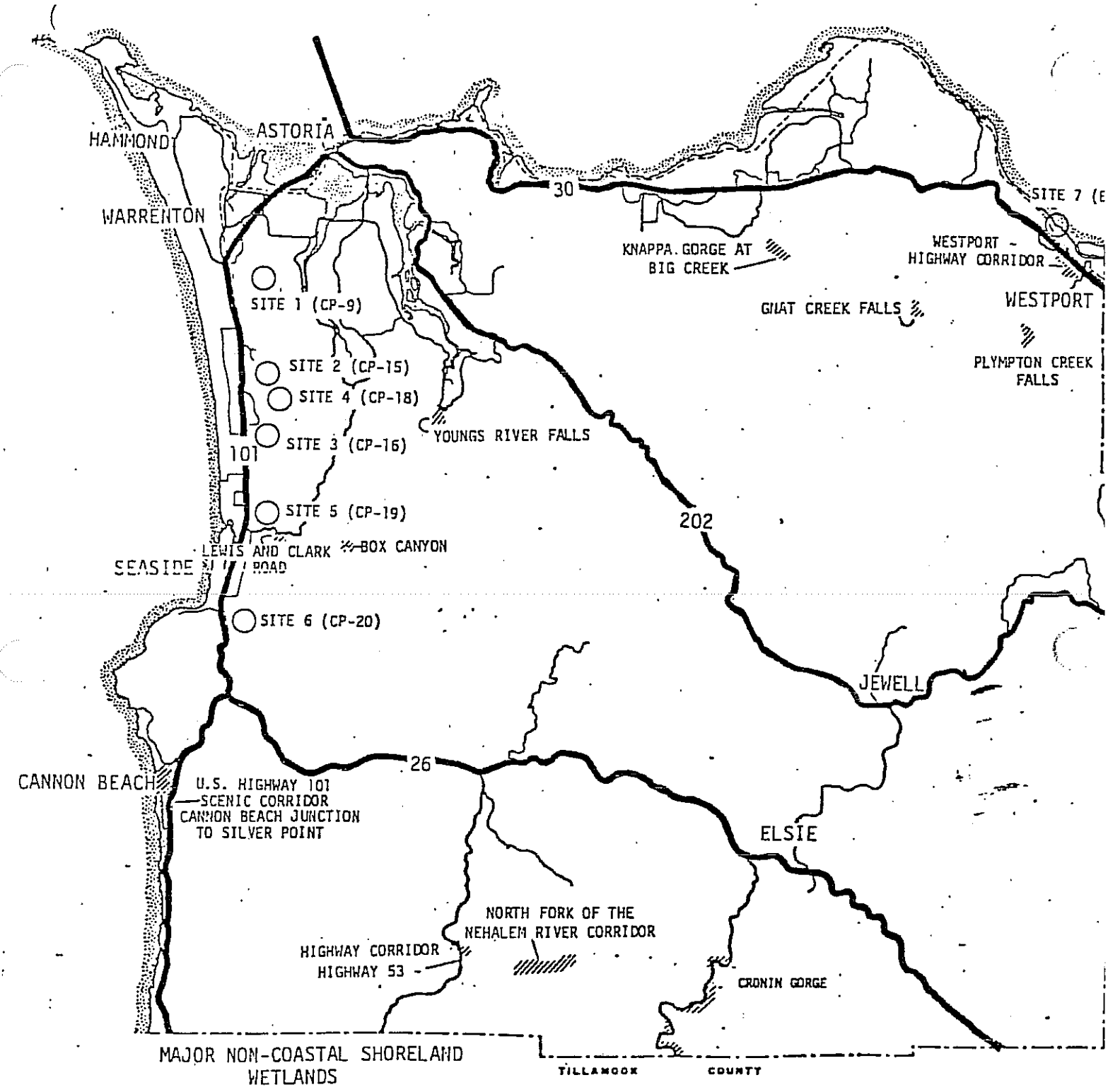
Forest management activities in the Knappa Gorge on Big Creek site are not contained in Boise Cascade's present five year plan. Because of the cost of removing timber from the gorge and the potential difficulty in replanting the site, timber within the canyon may never be harvested. However, at such time as Knappa Gorge at Big Creek is proposed to be included in Boise Cascade's five year timber management plan, the County and Boise Cascade shall develop a program for resolving any conflicts that may arise between the scenic values of the gorge and proposed forest management activities.

Crown Zellerbach does not intend to log below the rim of Box Canyon. The only operations contemplated would be the removal of blow-downs. The County will designate the area below the rim of Box Canyon as Natural in the Comprehensive Plan, Natural Upland in the Land and Water Use and Development Ordinance.

* Amended 84-9, dated May 23, 1984.

The construction of a hydro-electric project at the Young's River Falls, by the City of Astoria, has been identified as a potential conflicting use. The project under consideration consists of the following elements: a 15 foot high concrete diversion dam with a negligible storage capacity; a 700 foot long penstock; a power house containing two turbine generators with a total capacity of 1,000 kw. and an annual energy production of 7.7 mwh' and 300 feet of new transmission line. Construction of the project could reduce the scenic quality of the site and its recreational use. Conversely, not allowing the construction of the hydro-electrical facility would prevent the use of a reasonably inexpensive and environmentally sound method of increasing the amount of electricity to the area. The County finds that value of the potential energy created by a hydro-electric project far outweighs any potential reduction in the site's scenic value. Therefore, the County has determined that the conflicting use (the hydro-electric project) should be allowed fully, not withstanding the possible impacts on the scenic value of the site.

Scenic Conservancy Areas and Wetlands



Information pertaining to the water areas, watersheds and groundwater resources of Clatsop County are discussed in the Air, Water, and Land Resources Quality Background Report and the Public Facilities Background Report. Where appropriate, the Community Plans element of the Comprehensive Plan also contain information on these resources.

WETLANDS

The Statewide Planning Goals define wetland as "land areas where excess water is the dominant factor determining the nature of soil development and the types of plant and animal communities living at the soil surface. Wetland soils retain sufficient moisture to support aquatic or semi-aquatic plant life. In marine and estuarine areas, wetlands are bounded at the lower extreme by extreme low water; in fresh-water areas, by a depth of six feet. The area below wetlands are submerged lands".

Clatsop County contains substantial amounts of wetlands. The majority of these wetlands are either estuarine wetlands, which are covered by the Goal #16 element of the County's Plan, or wetlands found in the Coastal Shoreland which are covered in the Goal #17 element of the County's Plan.

In addition, three other types of freshwater wetlands were identified. The first and most important group consisting of seven major non-coastal shoreland wetlands. These sites are found either immediately east of the "coastal shoreland wetlands" of the Clatsop Plains, or along the Columbia River in areas that are defined to be outside of Oregon's Coastal Zone. The following are descriptions taken from Significant Shoreland and Wetland Habitats in the Clatsop Plains, by Duncan Thomas.

SITE 1 (CP9)

Location: Along the Skipanon River, south of Warrenton and SE of Hwy. 101 realignment.

Size: About 98 acres.

Wetland Vegetation Types: 5, 8, 11 (dry var.) 9.

Riparian Vegetation: About 2,000 ft. x 50 ft. along the Skipanon, north of the wetlands.

Soils: Brallier Muck.

Site Description: This peat bog site has reverted to native wetland vegetation. The Skipanon River, which passes through this site, supports populations of warm water fish. The swamps to the east of the Skipanon are extensively used by elk. The bog area is important habitat for wetland avifauna, and probably supports populations of aquatic furbearers. The site includes an osprey nest.

SITE 2 (CP 13)

Location: Taylor Lake, north of Cullaby Lake.

Size: About 17 acres.

Wetland Vegetation Types: 1A, 1B, 9, 10, 8.

Riparian Vegetation: 2,500 feet x 50 feet wide around the lake.

Soils: Brallier muck, lake sediments.

Site Description: This fairly deep, clear lake supports populations of warm-water game fish and has some use for sport fishing. A forested swamp to the SW within 500 feet of the lake was judged to be significant wetland, and the lake is lined with a forested riparian zone. The forested wetland area is used by deer and elk, aquatic furbearing mammals, and is likely to be important habitat for breeding and feeding of wetland birds. There is also a small marshy area to the east of the lake. The lake was described as Nature Conservancy Site #15 for Clatsop County and the NC also described the surrounding hillside as part of the site. Except for the 50' riparian zone, this hillside was not included in this study, since an evaluation of the natural resources of Clatsop Ridge was beyond its scope.

SITE 3 (CP 14)

Location: Cullaby Lake.

Size: 280 acres.

Vegetation Type: 1A, 5, 8, 9, 11 (dry var.).

Riparian Vegetation: 20,000 feet x 50' wide, particularly on the eastern side of Cullaby Lake.

Soil: Brallier muck, lake sediments.

Site Description: Cullaby Lake has the largest area of any coastal lake in the Clatsop Plains: it appears to be the remnant of a much larger lake or lagoon which has been filling in with peat since its separation from the ocean. It currently has a high level of recreational usage, and supports a recreational warm-water game fishery. It has some value to overwintering and breeding waterfowl. The south end of the lake was described as having a great variety of avifauna by the Nature Conservancy (Clatsop County Site #16). In addition, peat bogs on the western side of the lake within the area were found to be significant. Some of these previously supported agriculture, probably cranberry growing, but have since reverted to scrub or emergent wetlands and are used extensively by wetland avifauna and by raptors.

Values: Warm-water game fishery; waterfowl and wetland birds.

Management: The natural values of the lake should be protected in order to maintain its high recreational value. The riparian vegetation, fringing marshes and significant bog areas should all be protected.

SITE 4 (CP15)

Location: Between Cullaby Lake and Hwy. 101.

Size: About 230 acres.

Wetland Vegetation Types: 5, 8, 9, 11 (dry var.).

Riparian Vegetation: None.

Soils: Brallier Muck.

Site Description: This large peat bog site is a westerly extension of the significant peat bog areas which line the west side of Cullaby Lake. The peat which has filled in a former lake basin has powerful water-retaining properties, and the surface is saturated for much of the year. It can, however, be used for agriculture, particularly cranberry growing, and some of this site appears to have been so-used in the past. It has now reverted to native wetland vegetation. These peat bogs are important to wetland animals, particularly avifauna, and the southern end of this site is extensively used by elk.

Values: Wetland animals, natural semi-natural peat bog wetlands.

SITE 5 (CP16)

Location: east of Hwy. 101 from the south end of the Dellmoor Loop Road south to Palmberg Gravel Works.

Size: about 380 acres (including 15 acres in Gearhart - G3).

Wetland Vegetation Types: 4, 5, 8, 9, 11 (dry var.) 12, 13.

Riparian Vegetation: None.

Soils: Brallier Muck.

Site Description: This site is the best example of a Coastal Peat Bog on Brallier Muck in the County. The northern end approaches the raised bog condition, dominated in places by the moss, Sphagnum, a rare community in this area, and also by various shrubs and stunted trees. To the south, the site becomes much wetter and considerable areas are at least seasonably inundated. The southern half in particular is used by breeding waterfowl, while the central and northern portions have heavy elk use. There is a great diversity of avifauna throughout, including many wetland species despite the scarcity of open water. The site shows evidence of former cultivation, but has since reverted to native wetland vegetation.

Values: Wetland animals, particularly avifauna and elk. The site has high scientific and educational value as a fine example of a peat bog: the past glacial vegetation history of the area is probably contained in fossils in the deep peat.

SITE 6 (CP 18)

Location: 2 small lakes and adjacent wetlands on Cullably Creek, 4000 ft. south of Cullaby Lake.

Size: 160 acres.

Wetland Vegetation Types: 1B, 4, 5, 8, 9, 2.

Riparian Vegetation: about 4,000 ft. x 50 ft. along Cullaby Creek.

Soils: Brallier Muck.

Site Description: This area has great habitat diversity, with open water, marsh and swamp habitats all well-represented. The swamp/upland boundary to the NE of this site was not accurately determined. The lakes are connected to Cullaby Lake via Cullaby Creek and support populations of warm-water game fish. The surrounding marshes and swamps are important to breeding waterfowl and other wetland birds, and have some importance to overwintering waterfowl. The swamp areas are extensively used by elk. The upper part of Cullaby Creek, south of the wetlands adjacent to Cullaby Lake, has about 40 acres of scrub and forested swamps. Since this area is adjacent to the Cullaby Lake wetlands area and shares similar natural values, it is logical to manage the 2 areas as a single unit (see quad sheet).

Values: warm-water fish, breeding wetland; birds, habitat diversity.

SITE 7 (CP19)

Location: North of the road to the Crown site, up to the Palmberg Gravel Co. east of Hwy. 101 and Seaside airport.

Size: about 130 acres (5 acres in Seaside UGB, 9 acres in Gearhart UGB-G4).

Wetland Vegetation Types: 5, 8, 9, also marshes dominated by cat-tails and reed canary grass.

Riparian Vegetation: None.

Soils: Brallier Muck.

Site Description: A system of very wet marshes lining Mill Creek with adjacent swampy areas to the east. These marshes were apparently formed in the past, but the water table has subsequently risen so that the area now supports native marsh vegetation and swamp. The site has a large area of emergent wetland, and is therefore suitable habitat for the breeding of wetland birds, including waterfowl such as mallard, while wood-duck probably nest in the swamps. The area is also extensively used by elk. Populations of aquatic furbearing mammals are probably present.

Values: A large area of emergent and forested wetland, probably an important site for wetland birds and for elk.

Location: Southeast of Seaside; south of the Millponds, east of Hwy 101.

Size: about 132 acres (27 in Seaside UGB - site #S2).

Wetland Vegetation Types: 1B, 2, 5, 8, 9.

Riparian Vegetation: None.

Soils:

Site Description: This headwater swamp on the Neawanna is disected by several small creeks, which support a small natural run of Coho salmon (Maine). The swamps, which also act as riparian zones around these creeks and the Millponds, are important elk habitat, and are important habitat for nesting and feeding wetland bird species, probably including some waterfowl breeding.

Values: Natural wetland values: wetland avifauna, fish, including salmon spawning.

SITE 9 (EC35)

Location: Driscoll Slough marshes, between Wauna Mill and Westport.

Size: about 360 acres.

Wetland Vegetation Types: tidal and non-tidal emergent marshes, blackberry swamp, spruce swamp, willow swamp.

Riparian Vegetation: about 3,500 ft. along the Columbia River.

Soils:

Site Description: These tidal swamps, supporting natural climax floodplain vegetation, are one of the last remnants of a vast system of tidal marshes and swamps which once covered many thousands of acres in Columbia County and the eastern end of Clatsop County as far as Bradley Park. The loss of these and similar floodplain areas was a major reason for the decline of the Columbia White-tail deer. In the Upper Estuary area, in which this site is included, a CREST report notes that 80% of the tidal swamps have been destroyed in the past century. The swamps are laced with tidal sloughs, except for a small area in the NE corner which is cut off from tidal circulation by fills. These tide channels, fringed by forested swamps, are productive warm-water fish habitat, and are also likely to be an important nursery area for juvenile fall Chinook salmon. The area is important to waterfowl and marsh birds and probably supports breeding populations of mallard and wood-duck. A Washington Game Department report identified this habitat type as being of primary importance to aquatic furbearers, such as muskrat, nutria, beaver, river otter, and raccoon. Disturbance at this site includes extensive filling for industrial sites and road and railroad causeways.

The second group of wetlands are those found in conjunction with rivers and lakes. These wetlands are generally identified on maps that were prepared as part of the National Wetlands Inventory undertaken by the U.S. Department of Interior. The County's definition of riparian vegetation has been defined broadly enough to include this group of wetlands. (A more detailed description is contained in the Fish and Wildlife Habitat section of this report.)

The third group of wetlands consists of isolated wetlands, not associated with either a river or lake, that are located on forested uplands. These wetlands are identified on maps that were done as part of the National Wetlands Inventory undertaken by the Department of Interior. These wetlands are few in number and are generally very small in size (one acre or less).

" No conflicting uses have been identified for sites 1 and 2. These sites are unsuitable for rural residential development because of soil characteristics which make the utilization of subsurface wastewater disposal systems infeasible." *

" Sites 3, 4, 5 and 6 (CP 14, CP 15, CP 16, CP 18) do have potential conflicting uses over portions of the sites. Cranberries have been cultivated in the Delmoor Loop Road area for some time. Cranberry cultivation potentially conflicts with wetland preservation. Specifically, such conflicts include removal of wetland vegetation at the bog site, introduction of agricultural chemicals into adjacent wetland areas, oxidation and decomposition of peat soils, alteration of water drainage patterns and water table levels, and disruption of wildlife habitat. An analysis of the economic, social, environmental and energy consequences of cranberry cultivation on these sites follows." *

"A. Economic Consequences.*

1. Benefits:

a. Cranberry production is an intensive agricultural operation which produces income for bog owners and their employees. Cranberry production is a more intensive land use than other agricultural uses found in the county.

b. Cranberry production results in a higher assessed valuation for the property than would be the case if it were left in

* Amended Ord. 84-5, April 11, 1984

wetland, or if it were in another agricultural land use, thus enhancing the County tax base. Fully productive cranberry bogs are assessed as farm land at about $1,400 per acre for the 1983 tax year, while undeveloped wetland areas in general are assessed at about $500 to $600 per acre.

c. Expanded cranberry production in the Delmoor Loop area would strengthen the cranberry sector and both strengthen and diversify the County agricultural economy.

2. Costs:

a. Conversion of wetlands to cranberry production or to other agricultural uses could result in the loss of habitat used by certain economically important species, including elk, fur-bearing animals and waterfowl. This habitat loss could result in a corresponding decline in these animal populations, thus drawing fewer hunters and trappers to Clatsop County. The result would be a slight economic loss for innkeepers, sporting goods store owners, and other merchants who serve hunters, and to individuals engaged in commercial trapping.

b. Removal of wetland vegetation and installation of drainage ditches around bogs may result in the gradual oxidation and decomposition of peat soils on the site. Decomposed peats lose their water retention capabilities, thus increasing the potential for flooding in the area. Wetland soils tend to hold water, thus lowering peak flood elevation.

c. New cranberry bogs may need to be fenced for protection from elk damage. As elk are fenced out of customary feeding areas, they may seek new feeding areas. This may result in increased elk browse damage on adjacent pastures and residential landscaping."

"B. Social Consequences.*

There do not appear to be any significant identifiable social costs or benefits associated with the conversion of wetlands to cranberry bogs."

"C. Environmental Consequences.*

1. Costs

a. Wetland area drainage patterns may be altered by converting wetlands to cranberry bogs. Because natural drainage in this

Amended Ordinance 84-5, April 11, 1984

area has been greatly altered in the past, it is not clear how further alteration will affect wetlands.

b. Water quality may be degraded as a result of contamination by agricultural chemicals associated with cranberry production (herbicides, fungicides, insecticides and fertilizers). Such contamination, if it occurs, would likely occur both on- and off-site.

c. Conflicts with elk may arise if new bogs are not properly fenced.

d. Habitat destruction may result in the decline of certain animal species dependent upon wetland areas.

e. Oxidation and decomposition of peat soils may occur over time because of drainage control in cranberry bogs.

f. The water table may be altered at the site and on adjacent lands by ditching, irrigation and drainage.

2. Benefits.

a. Cranberry production generally preserves high groundwater levels on adjacent wetlands to a greater degree than other agricultural uses.

b. If cranberry production is abandoned, as has occured before in the Delmoor Loop Road area, cranberry bogs will revert back to significant wetlands."

"D. Energy Consequences.*

Energy consequences are considered as costs if they appear to result in a net increase in energy consumption in Clatsop County. Beneficial energy consequences result in net energy conservation.

1. Costs

a. Operation of harvesting equipment consumes energy in the form of gasoline or diesel fuel.

b. Pumping water for frost and heat protection, for irrigation and for harvest flooding consumes energy in the form of electricity.

2. Benefits.

There do not appear to be any significant identifiable energy benefits associated with the conversion of wetlands to cranberry bogs."

Amended Ordinance 84-5, April 11, 1984

An additional conflicting use has been identified for Site 6. Clatsop County has issued a permit for gravel extraction from the site. The permit did not specify where within the general area the gravel extraction would take place. Allowing the gravel extraction operation to proceed will ultimately destroy about 10 acres of wetlands; thus reducing the overall habitat value of the site. Not allowing the gravel extraction operation would limit the utilization of a resource that is in short supply in the County. The County will protect a 10 acre site for gravel extraction within Freshwater Wetland Site 6. The remainder of the wetland will be protected by a freshwater wetland zone.

" Cranberry cultivation shall be permitted in Goal 5 wetlands in the Delmoor Loop Road area only. This area is described on Map 1 in the Delmoor Loop Area Wetlands Study, adopted here by reference."*
(See Appendix 'A')

A conflicting use has been identified for Site 7. The site has a high degree of industrial development potential. The western portion of the site, adjacent to the present Crown Zellerbach Wauna Mill, represents an opportunity for plant expansion. While the eastern portion of the site, in Dant and Russell ownership, with its excellent access to the main Columbia River channel, is rated an important site for water-dependent development. The site has excellent transportation access. The Burlington Northern Railroad line transects the property and U.S. Highway 30 abuts the property to the south.

Permitting industrial development of Site 7 would result in the destruction of one of the last remnants of the system of tidal marshes that used to extend along this portion of the Columbia River. The wildlife that is dependent on this type of habitat would be displaced. Conversely, if the site is not allowed to develop for industrial purposes, the County would lose one of its prime industrial sites. The County will allow industrial development of Site 7. However, policies will be developed to protect some of the site's wetland riparian characteristics.

* Amended Ord 84-5 April 16, 1984

Conflicting uses, and the consequences of these conflicting uses, for the second group of wetlands, as well as appropriate protective measures are described in the Fish and Wildlife section discussion concerning riparian vegetation.

Forest management practices, including logging operations, have been identified as activities that may conflict with the third group of small isolated forested wetlands. Because of their size, however, these wetlands are not considered to have significant wetland values. Therefore the County is permitting forest management operations.

WILDERNESS AREAS

The Oregon Islands Wilderness is a unit of the National Wilderness Preservation System established under the Wilderness Act. The Oregon Islands Wilderness contains several islands, rock and stacks that are located off the shore of Clatsop County. These islands are: Tillamook Head Rocks, Bird Rocks, Sea Lion Rocks, Haystack Rock, and Castle Rock. In addition, the following islands are to be added to the wilderness: Unnamed Rocks located in Section 12, Township 5N, Range 10W, Jocky Cap, Tim Rock, and Gull Rock.

The primary purpose of the refuge is to provide undeveloped undisturbed nesting habitat for sea birds. Access to the islands is restricted to scientific research under special permit. Management is limited to biological study and wildlife protection.

There are no conflicting uses for these rocks. They have been designated Natural in the Comprehensive Plan and Natural Shoreland in the Land and Water Use and Development Ordinance.

There are no other wilderness areas in Clatsop County.

HISTORIC SITES

The Goal defines historic areas as "lands with sites, structures, and objects that have local, regional, statewide or national historic significance".

Three sources were used for establishing the historic resources in Clatsop County: buildings and sites listed on the National Register of Historic Places; buildings and sites listed on the State of Oregon Inventory of Historic Sites and Buildings; and buildings and sites identified as being important by the local Citizen Advisory Committees.

A total of 19 sites and buildings have been identified: one on the National Register of Historic Places; nine on the State of Oregon Inventory of Historic Sites and Buildings; and nine by the Citizen Advisory Committees.

A number of historic sites and buildings are within the Coastal Shoreland planning area. Where this is the case, a reference is made in the description of the site or building.

I. Preliminary Inventory of Historic Sites

A. Sites and Buildings on the National Register of Historic Places.

1. Fort Clatsop National Memorial

This is the site of the first settlement of American citizens in the Pacific Northwest. Lewis and Clark and their part of overland explorers spent the winter of 1805-1806 at a log stockade constructed on this site. The location helped foster American claims to the Pacific Northwest and was an important factor in the Joint Occupancy Agreements of 1818 and 1827 between Britian and the United States.

The camp has been reconstructed by the National Park Service and includes an interpretaton building as well as housing for staff assigned to the monument.

According to the State of Oregon Historic Sites and Buildings Inventory, the site is historically important to the nation because of its association with overland exploration, government and Indian affairs.

The site is located on Fort Clatsop Road, approximately two miles south of its junction with old Highway 101.

B. Sites on the State of Oregon Inventory of Historic Sites and Buildings

2. Cannon at Arch Cape

The cannon at this site gave its name to Cannon Beach. It drifted into the beach near this site after the wreck of American Naval sloop, Shark, at the mouth of the Columbia River on September 10, 1846.

The site includes two pieces from the wreck of the Shark, a cannon and a capstan.

The wayside includes a state historical marker and is maintained by the State Transportation Department.

According to the State Inventory, the site is historically important to the County because of its association with maritime exploration and military affairs.

The site is located on the east side of Highway 101 between Cannon Beach and Arch Cape.

3. Tillamook Rock Lighthouse

The lighthouse was completed in January of 1881 and was in service until 1957. It formed a portion of the navigation warning system along the northern Oregon Coast at the time.

It is presently in use as a columbarium.

According to the State Inventory, the structure is historically important to the nation because of its relationship to Commerce/Industry and Transportation.

The lighthouse is located west of Tillamook Head, between Seaside and Cannon Beach.

The site is located in the Coastal Shoreland Planning Area.

4. Ecola State Park

Lewis and Clark visited this site on January 8, 1806 during their winter encampment at Fort Clasop. They found Indians butchering a whale that was cast up on the beach.

Indian Beach is the site of an early Indian fishing camp.

The Park also includes Clark's View, a viewpoint that is 1,138 feet above sea level and was visited by Captain William Clark while on a trip to the vicinity of present-day Cannon Beach.

The site is located in the Coastal Shoreland planning area.

5. Lindgren House

The building was originally one of a complex of hand-hewn buildings at Soapstone Lake built by Eric Lindgren, a pioneer of the area. The building is presently located at the County Park at Cullaby Lake. According to the State Inventory, the building has historical significance to the State because of its unique style and relationship to ethnic immigration.

6. Tagg Place or R.W. Morrison Home

The house is one of the oldest on the Clatsop Plains. It was built about 1860 by Robert W. Morrison to replace an earlier home built in 1845-46. Morrison arrived at the Clatsop Plains in 1844. In 1850, Morrison donated the five acres that today comprise the Clatsop Plains Memorial Church and Pioneer Cemetery. The building has been altered. The porch on the west and south elevation has been enclosed with glass. The east side of the house was extended about 40 years ago.

According to the State Inventory, the building has historical significance to the County because of its association with Oregon Trail migration and agriculture.

The building is located near Clatsop Avenue, east of Highway 101 and Camp Rilea.

7. Clatsop Plains Memorial Church

The Clatsop Plains Presbyterian Church was founded on September 19, 1846 by Rev. William H. Grey. The congregations first building was erected in 1849. A second building served until 1927, when the present structure was completed. The present church is a classical-styled brick building. According to the State Inventory, the building has historical significance to the County because of its association with religion.

The church is located in the Coastal Shoreland Planning area.

8. Clatsop Plains Cemetery

The cemetery is one of the earliest, if not the earliest burial place for white immigrants to Clatsop County. Among the prominent settlers buried here are R.W. Morrison and Solomon Smith and his wife, Celiast. Celiast Smith was the daughter of Chief Coboway of the Clatsop Tribe.

According to the State Inventory, the site has historical significance to the State because of its historical association with aboriginal man and religion.

The cemetery is located west of Highway 101, just west of the Clatsop Plains Memorial Church, and south of Clatsop Avenue.

The cemetery is located in the Coastal Shoreland Planning area.

9. The Mill Site of the Falls Pulp Company

Construction of the pulp mill at the base of Youngs Falls on the Youngs River was started in 1884 by R.M. Braynes. In 1886, following the destruction of the first ground wood pulp mill on the Pacific Coast, at Camas, Washington, Braynes obtained the mill stones for his site on the Youngs River. In 1887, the Falls Pulp Company was incorporated. It was the first pulp mill in Oregon and operated until 1904. The pulp mill consisted of a wood frame building with a gable roof and lean-to sheds attached at three elevations. It was located at Youngs River Falls on the Youngs River, of the Youngs River Loop Road.

10. The Shepherd and Morse Sawmill Site

The Westport Lumber Company erected a major sawmill on this site in 1910 and by the 1920's over 400 men were employed. The mill was operated until 1956.

The site which is currently owned by Dant and Russell, is marked by pilings which remain from the old mill location. It is located due east of the Crown Zellerbach pulp mill at Wauna, next to the Westport Ferry landing.

C. Sites Identified by the Citizen Advisory Committees.

1. Camp Rilea - This is a summer camp for National Guard Troops and was named for General Thomas Rilea, an officer of the Oregon National Guard who died in 1959. The site is located in the Coastal Planning Area.

2. Fire Control Tower - This tower, east of Highway 101, was erected to direct the fire of the guns at Battery Russell.

3. Bradwood Sawmill - Named for Walter Woodard and Fred Bradley who operated a sawmill here. The site was first occupied by Henry Hunt who brought his sawmill from Ohio in 1843 and set it up at a nearby falls. The site is located in the Coastal Planning Area.

4. Lewis and Clark Campsite at Knappa - Lewis and Clark camped here on their way to the Pacific. The site is located in the Coastal Planning Area.

5. Old Military Road - This road was surveyed from Astoria to Forest Grove in 1855 and later used as a pack horse trail.

6. Hamlet Cemetery - An old cemetery donated to the community for preservation.

7. World War II Memorial - A memorial naming the Sunset Highway, once the Wolf Creek Highway, it is located at the junction of Highway 53 and Highway 26.

8. Jamisen House - This structure is located at the Jewell Wildlife Meadows.

9. Westport Logging Tunnel - The tunnel for the West Creek Skid road was excavated around 1890 for the logging outfit established by John West, the founder of Westport. The skid road method of moving logs was developed in the Pacific Northwest to deal with conditions of climate and terrain. After the era of ox-team logging, the tunnel was enlarged for a locomotive. The ownership is a combination old Highway 30 right-of-way, private holdings and State Forest land.

The Goal #5 Administrative Rule outlines three options for sites on the preliminary inventory list: (1) a determination that a site is not important enough to include on the final inventory; (2) a determination that insufficient information is available on the location, quality, or quantity of the site that it is important enough to include in the final inventory.

Sufficient information is available for the sites on the National Register of Historic Places and the State of Oregon Inventory of Historic Sites and Buildings to determine that they are important sites. They are all included on the final inventory. Sufficient information is also available on the Westport Log Tunnel.

There is presently inadequate information available on the historical significance of the other sites identified by the Citizen Advisory Committees. The County, over the next two years, will work with the Clatsop County Historical Society and the State Historic Preservation Office to develop additional information about these sites. When this information is available, the County will proceed with the remaining steps of the Goal #5 process contained in Administrative Rule OAR 660-16-000.

II. Final Inventory of Historic Sites

1. Fort Clatsop National Monument
2. Cannon at Cannon Beach
3. Tillamook Rock Lighthouse
4. Ecola State Park
5. Lindgren House
6. R.W. Morrison House
7. Clatsop Plains Memorial Church
8. Clatsop Plains Cemetery
9. The Mill Site of the Falls Pulp Company
10. The Shepherd and Morse Sawmill Site
11. Westport Log Tunnel

III. Evaluation of Conflicting Uses and Consequences

The final inventory sites were evaluated to determine if any conflicting uses existed. No conflicting uses were identified for five sites and buildings. Fort Clatsop National Monument is part of the National Park Services system of National Monuments. The site is managed by the National Park Service to maintain the historical identity of the site. Ecola State Park contains a number of sites associated with the exploration of Lewis and Clark. No park master plan has yet been developed, but a future master plan should give recognition to the historic activities that occurred at the park. The Lindgren House is located at the Clatsop County Park on Cullaby Lake. County Plans call for the on-going maintenance of the building. The mill site of the Falls Pulp Company and the Shepherd and Morse Sawmill are in a unique category. The structures have already been destroyed, and thus there are no conflicting uses.

Conflicting uses have been identified for five sites. Two activities have been identified as conflicting with the maintenance of Tillamook Rock Lighthouse, the Morrison House and the Clatsop Plains Memorial Church. These activities are the demolition of the structure and the alteration of the structure so as to change the historic character. A conflicting use for the Clatsop Plains Cemetery is its conversion to a different use. The Cannon Beach cannon is located in the right-of-way of U.S. Highway 101. A conflicting use would be the widening of Highway 101 that would require the movement of the cannon and capstan.

The major consequence of allowing the conflicting uses identified above would be the loss of an element of the County's cultural and historical heritage. Because the sites are scattered, it is doubtful that they are significant tourist attractions. No significant environmental or energy consequences of allowing conflicting uses or activities have been identified.

CULTURAL AREAS

The Goal defines a cultural area as "an area characterized by evidence of an ethnic, religious or social group with distinctive traits, belief and social form". This definition is interpreted to mean archeological sites of former Indian villages and other activity centers.

Northwest Coastal Indians have lived in the area since at least the fifteenth century. Available research indicates that the Indians typically avoided settling the forested areas because of the difficulty of travel and the relative lack of food resources. Village sites were developed mainly along rivers and bays, or other sites that afforded easy access to fresh and salt water. During the summer months some Indians would migrate inland to hunt deer and elk and collect berries and materials for making baskets. The main types of villages were constructed, permanent winter lodges constructed of cedar planks and less developed inland summer encampments near hunting and gathering areas.

There are 53 known archeological sites in Clatsop County. An inventory of these sites is maintained in confidential status at both the Clatsop County Planning Department and the State Historic Preservation Office. Because of the limited number of archeological surveys undertaken, there are undoubtedly other undiscovered archeological sites in Clatsop County.

Excavation, filling, grading, and other construciton activities in or adjacent to an archeological sites are conflicting uses. The consequence of allowing such conflicting uses without proper review and regulation would be the loss of a significant cultural resource that could enhance the knowledge available concerning the culture of coastal Indians.

Several state and federal laws and statutes pertain to archeological sites. Oregon Revised Statute 97.740 prohibits tampering with Native Indian cairns and graves. Oregon Revised Statute 273.705-742 governs the removal of archeological historical and other valuable materials from state lands. The pertinent Federal laws are PL 96-95, the Archeological Resources Protection Act of 1979 and PL 93-291, Historic and Archeological Data Preservation Act.

POTENTIAL AND APPROVED OREGON RECREATIONAL TRAILS

The County's potential and approved recreational trails are discussed in the Recreational Needs Background Report.

POTENTIAL AND APPROVED WILD AND SCENIC WATERWAYS

The County's potential and approved federal wild and scenic waterways and state scenic waterways are discussed in the Recreational Needs Background Report.

Note: Pages 62-65 were amendments that were added to Goal 8 Recreational Lands Report

Mineral and Aggregate Resources Policies

1. The County recognizes the need for a detailed study of the County's aggregate resources. The County will work with the State Department of Geology and Mineral Industries in initiating such a study.

2. The County will develop a quarry and mining zone to protect important aggregate resource areas.

3. Mineral and aggregate resource sites shall be located and designed so that the potential noise, dust, visual and traffic impact on adjacent residential and commercial uses are minimized.

4. Mineral aggregate resource sites to be located along State Highways shall be designed to minimize their visual impact.

5. New mineral and aggregate extraction operations shall include a restoration program as specified by ORS 517.750 to ORS 517.900.

6. Removal of material from the bed or banks of a waterway shall be governed by the requirements of ORS 541.605 to 541.665.

7. New residential and commercial development should not be allowed within 500 feet of established surface mining operation.

Energy Sources

1. Development shall not be allowed to impair the feasibility of potential wind generating facilities at sites identified as appropriate for such generation.

2. The County will rely on state and federal permitting processes to govern the location of low-head hydro projects and to resolve any conflicts that may result from such projects.

*3 Clatsop County shall apply the Goal 5 Administrative Rule to oil, gas, nuclear, and large-scale hydro that are proposed in the future.

*4. If and when the City of Astoria intends on constructing a hydroelectric facility at the Youngs River Falls site, Clatsop County shall, in cooperation with the City of Astoria, apply the Goal 5 Administrative Rule.

* Amended 84-9, dated May 23, 1984

Wetlands

1. The County will protect identified significant freshwater wetlands, for which no conflicting uses have been identified, from incompatible uses.

2. A ten acre site within Wetland Site 6 shall be provided for gravel extraction.

3. The following requirements shall apply to Wetland Site 7 (which also contains white-tail deer habitat).
   a. All industrial development shall be located north of the railroad right-of-way. The area between the railroad right-of-way and U.S. Highway 30 shall be designated for protection of its wetland characteristics.
   b. Development of land adjacent to Driscoll Slough shall be carried out in a way that will minimize the alteration of riparian vegetation, degradation of water quality and stream sedimentation. Proposed development will be evaluated against the Department of Fish and Wildlife's management objectives of maintaining vegetative cover, particularly riparian vegetation, and the maintenance of corridors that provide for deer movement between habitat areas. Construction of a bridge or other transportation access across the slough shall be the minimum necessary to accomplish the project. Piling is preferred to filling for any access corridor across Driscoll Slough.
   c. Industrial development on the eastern portion of the site shall be designed to minimize or avoid the removal of riparian vegetation along Westport Slough. Riparian vegetation removal shall be permitted where direct access to the water is required.
   d. Filling of the site shall not be permitted until a specific development proposal has been reviewed and approved by the County.

Natural Areas

1. Significant natural and scientific areas and scenic sites should be set aside for preservation and managed so as to protect the unique characteristics of the area.

2. The County will cooperate with appropriate State and Federal agencies and private groups to ensure that examples of the full range of Oregon's natural ecosystem are preserved for future study and enjoyment.

3. A 1/4 acre site, located on the portion of Onion Peak designated Natural, shall be reserved for a potential radio transmission facility. The siting and placement of such a facility shall minimize impacts on the area's natural qualities.

4. The Natural designation for Sugar Loaf Mountain shall not affect the continued operating and maintenance of the radio transmittor facility located there.

Water Resources

1. The County will cooperate and coordinate with State and Federal agencies in assuring the maximum beneficial use of all water areas in the County.

2. The County will coordinate its actions with water quality planning and implementation activities carried out by such state agencies as the Department of Environmental Quality, the Soil and Water Conservation Commission, the Department of Forestry, and the Department of Water Resources.

3. Where municipalities or water districts have identified possible conflicts between forest management practices and the maintenance of the integrity of their watershed, the County encourages these to work with the Northwest Region Forest Practices Committee in the development of amendments to the Oregon Forest Practices Act that will provide needed modification and protection of state licensed water supply systems.

4. The County encourages the development of community dock facilities rather than individual piers or docks.

Historic Sites

1. The County encourages the State Parks Division, when developing a master program for Ecola Park, to give proper recognition to the historical activities that occurred there.

2. The County encourages the State Highway Division to relocate the Cannon Beach Cannon at a suitable new location should Highway 101 widening ever make the present site unsuitable.

3. The County Parks Department, to the extent funding permits, will continue to maintain the Lindgren House.

4. The County encourages the Clatsop County Historical Society and the State Historic Preservation Office to place commerative plaques at the sites of the Falls Pulp Mill and the Shepherd and Morse Sawmill.

5. The Clatsop Plains Cemetery shall be protected from incompatible uses by placing it in the Open Space, Parks and Recreation Zone.

6. The County will protect the historical character of the Tillamook Lighthouse, Morrison House, the Clatsop Plains Memorial Church and the Westport Log Tunnel through appropriate provisions in the zoning ordinance.

7. Clatsop County will work with the Clatsop County Historical Society and the State Historic Preservation Office to evaluate the historical significance of sites and buildings identified by the Citizen Advisory Committee. The Goal #5 Administrative Rule evaluation process will also be applied at that time. The County will take appropriate action to protect any sites that are placed on the State of Oregon Inventory of Historic Sites and Buildings. This will be completed in the next two years.

Cultural Areas

1. The County will review land use activities that may affect known archeological sites. If it is determined that a land-use activity may affect the integrity of an archaelogical site, the County shall consult with the State Historic Preservation Office on appropriate measures to preserve or protect the site and its contents.

2. Indian cairns, graves and other significant archeological resources uncovered during construction or excavation shall be preserved intact until a plan for their excavation or reinternment has been developed by the State Historic Preservation Office.

* Other Policies

Clatsop County shall rely upon the Forest Practices Act and any supplemental agreements between the Fish and Wildlife Commission and the Board of Forestry to protect critical wildlife habitat sites.

* Wilderness Areas

Clatsop County shall work with federal agencies in the protection of federal wilderness areas.

* Watersheds

As information becomes available, Clatsop County shall apply Goal 5 Administrative Rules to the 14 identified watersheds and the small or minor watersheds identified in this element.

* Amended, 84-9, dated May 23, 1984

3. Amend S4.404, Rock and Mineral Resource Use Standards, standard 3 to read:

   3. Appropriate provisions shall be made for the reclamation of the site for a use consistent with the Comprehensive Plan. The requirements of ORS 517.750 to 517.900 shall be met.

4. Add a ~~Quarry and Mining Zone. (See proposed 80-14 amendments).~~

5. Amend the zone requirements for aggregate sites from 50 feet to 500 feet

   Agriculture Forest-20 Zone
   Section 3.524 Development and Use Permitted
   4. Extraction, processing and stockpiling of rock, sand, mineral and other surface materials for use on forest lands in forest zones except when located within 500 feet of a residence located on an adjacent lot or a residential zone.
   Section 3.526 Conditional Development and Use
   2. Extraction processing and stockpiling of rock, sand, mineral and other surface materials for use in areas other than forestlands in forest zones and/or within 500 feet of a residence located on an adjacent lot or a residential zone.

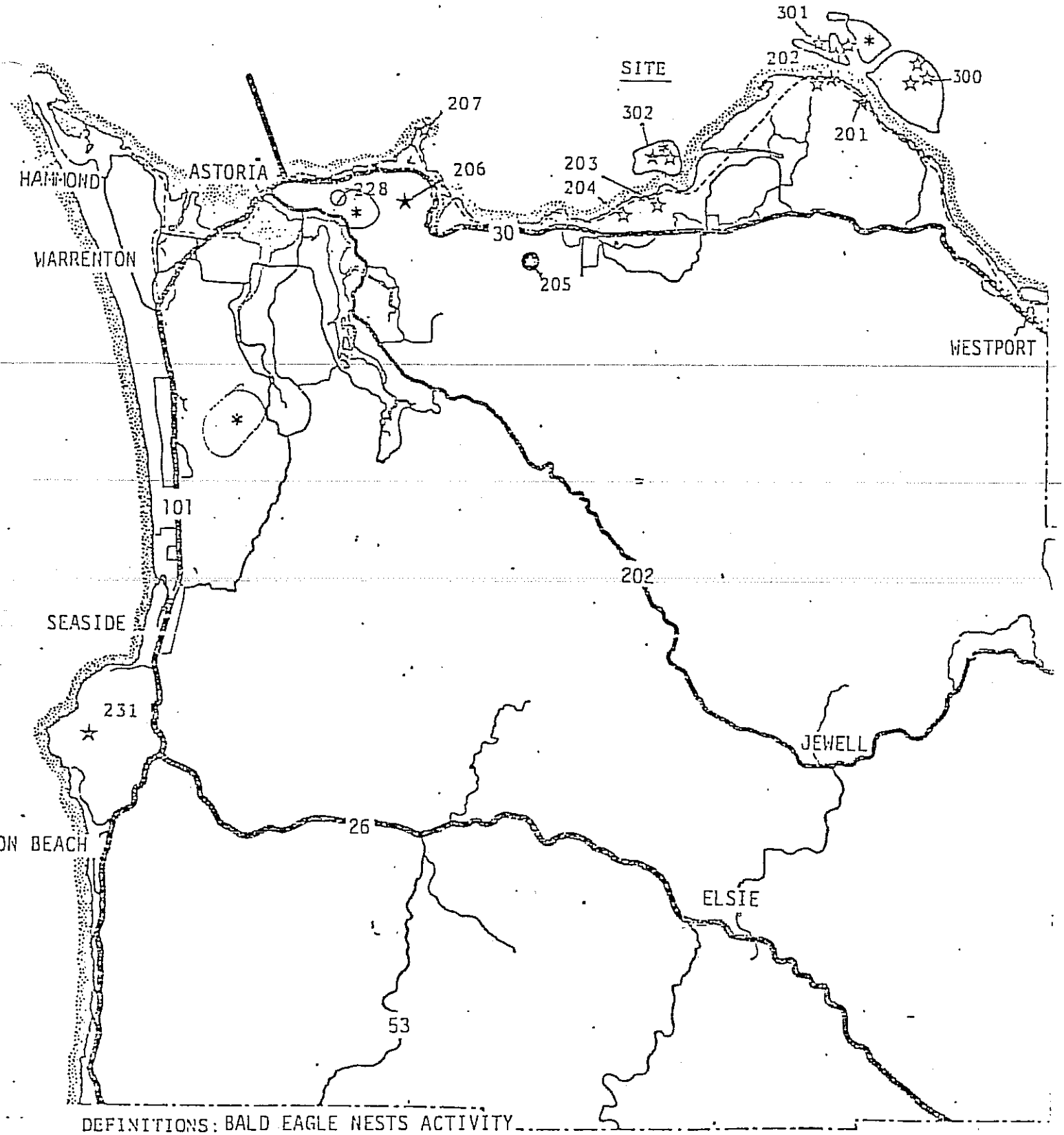
   Forest-38
   Section 3.544 Development and Use Permitted
   4. Extraction, processing, and stockpiling of rock, sand, mineral and other surface materials for use on forest lands in forest zones except when located within 500 feet of a residence located on an adjacent lot or a residential zone.
   Section 3.546 Conditional Development and Use
   2. Extraction, processing, and stockpiling of rock, sand, mineral and other surface materials for use in areas other than forest lands in forest zones and/or within 500 feet of a residence located on an adjacent or a residential zone.

Fish and Wildlife Areas and Habitats

1. Amend Section 5.015 Authorization of a Conditional Development and Use to include the following additional criteria:

   2j. The use is consistent with the maintenance of big game habitat. In making this determination, consideration shall be given to the cumulative effects of the proposed action and other development in the area on big game habitat.

BALD EAGLE NESTS AND NESTING ACTIVITY - GREAT BLUE HERON ROOKERIES
CLATSOP COUNTY

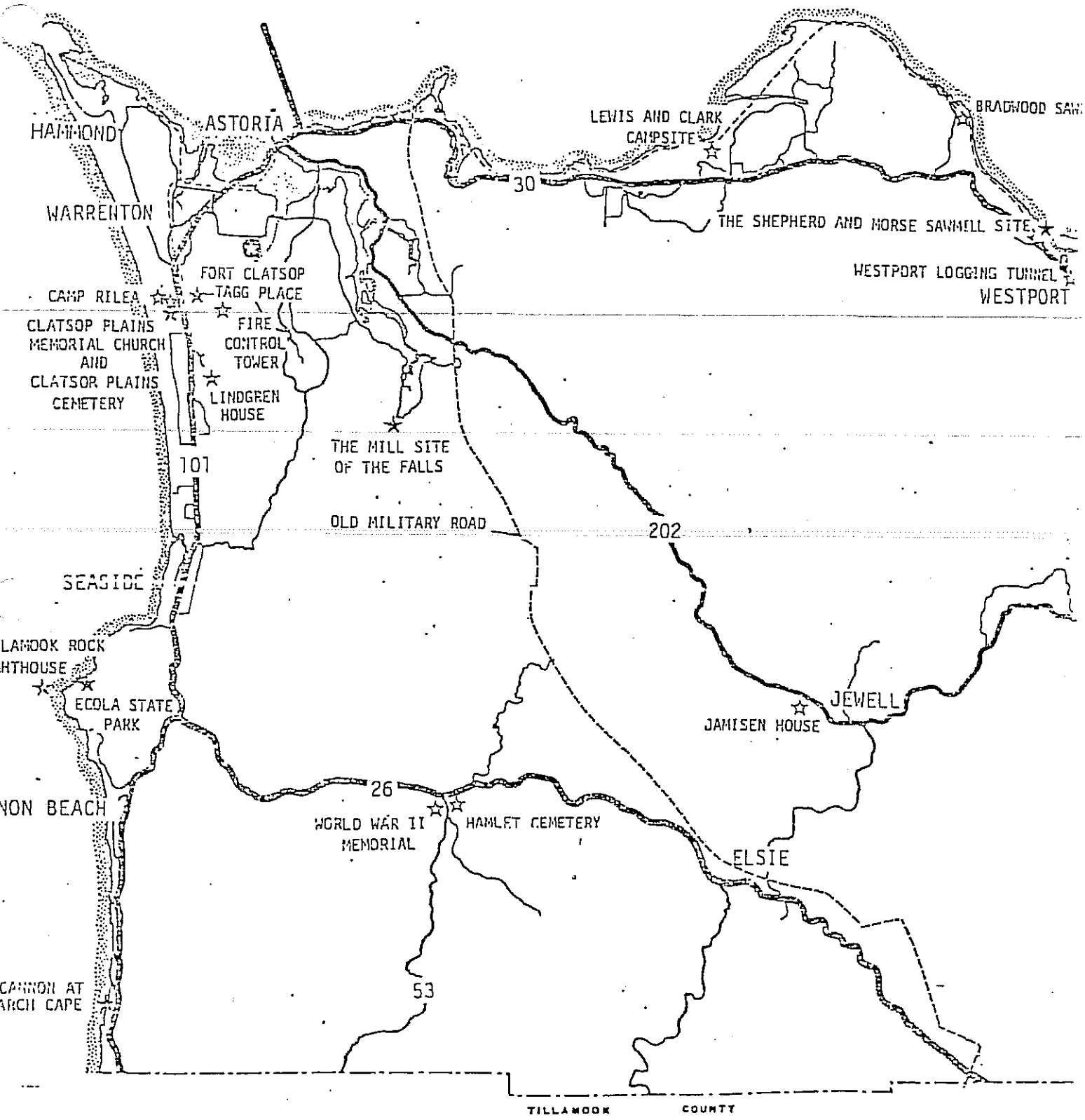


DEFINITIONS: BALD EAGLE NESTS ACTIVITY DURING 1981

- A = Active - Eggs were produced (by best estimate)
- F = Failed - No young resulted
- I = Inactive - No bird used the nest in that particular year
- Y = Young - A young bird was produced
- BD = Blow-down - The nest or nest tree was blown down

* GREAT BLUE HERON ROOKER

Historic Sites



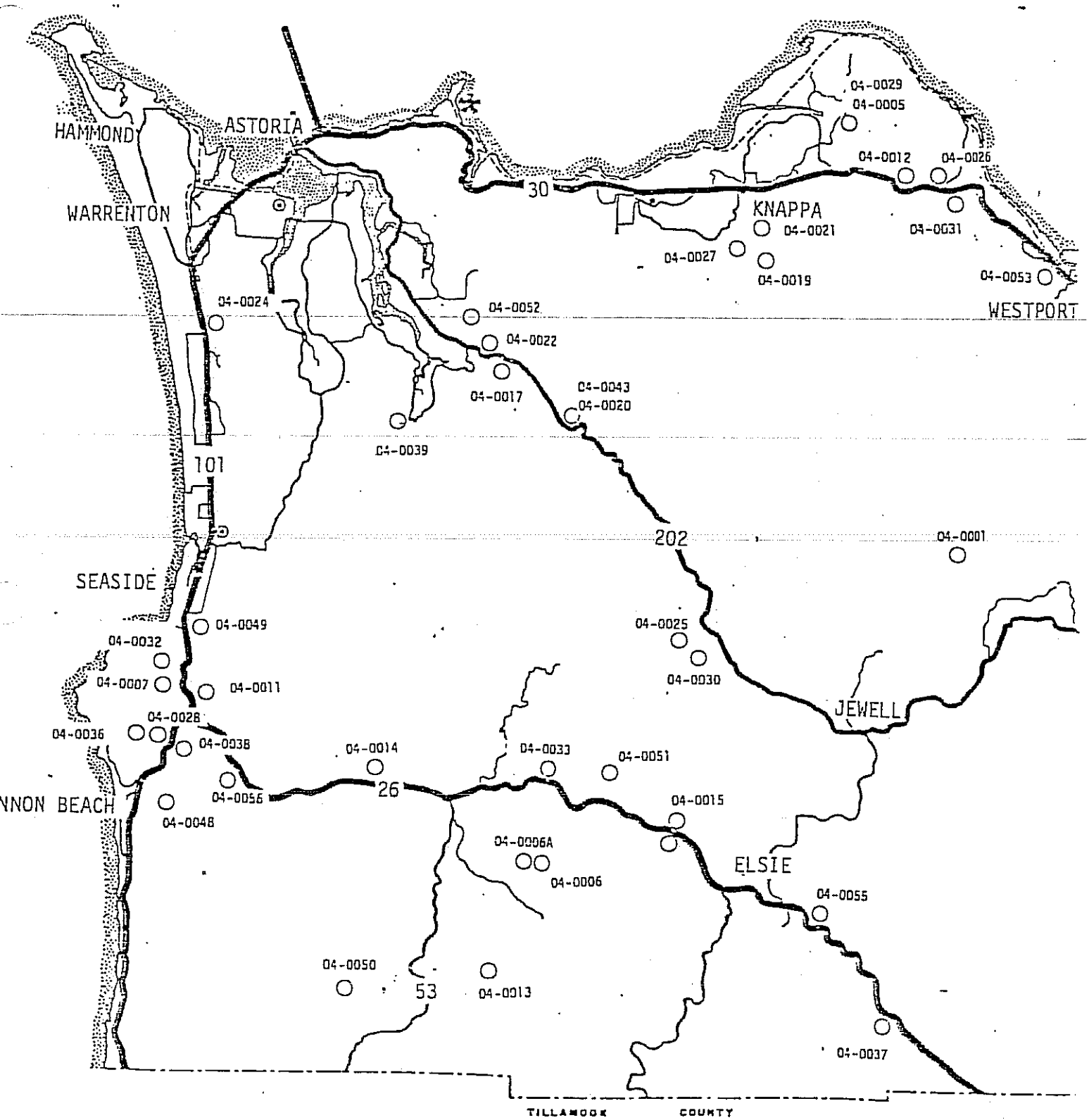
LEGEND:

NATIONAL REGISTER OF HISTORIC PLACES

[illegible] HISTORIC SITES AND BUILDING INVENTORY

SITES IDENTIFIED BY THE CITIZEN ADVISORY COMMITTEES

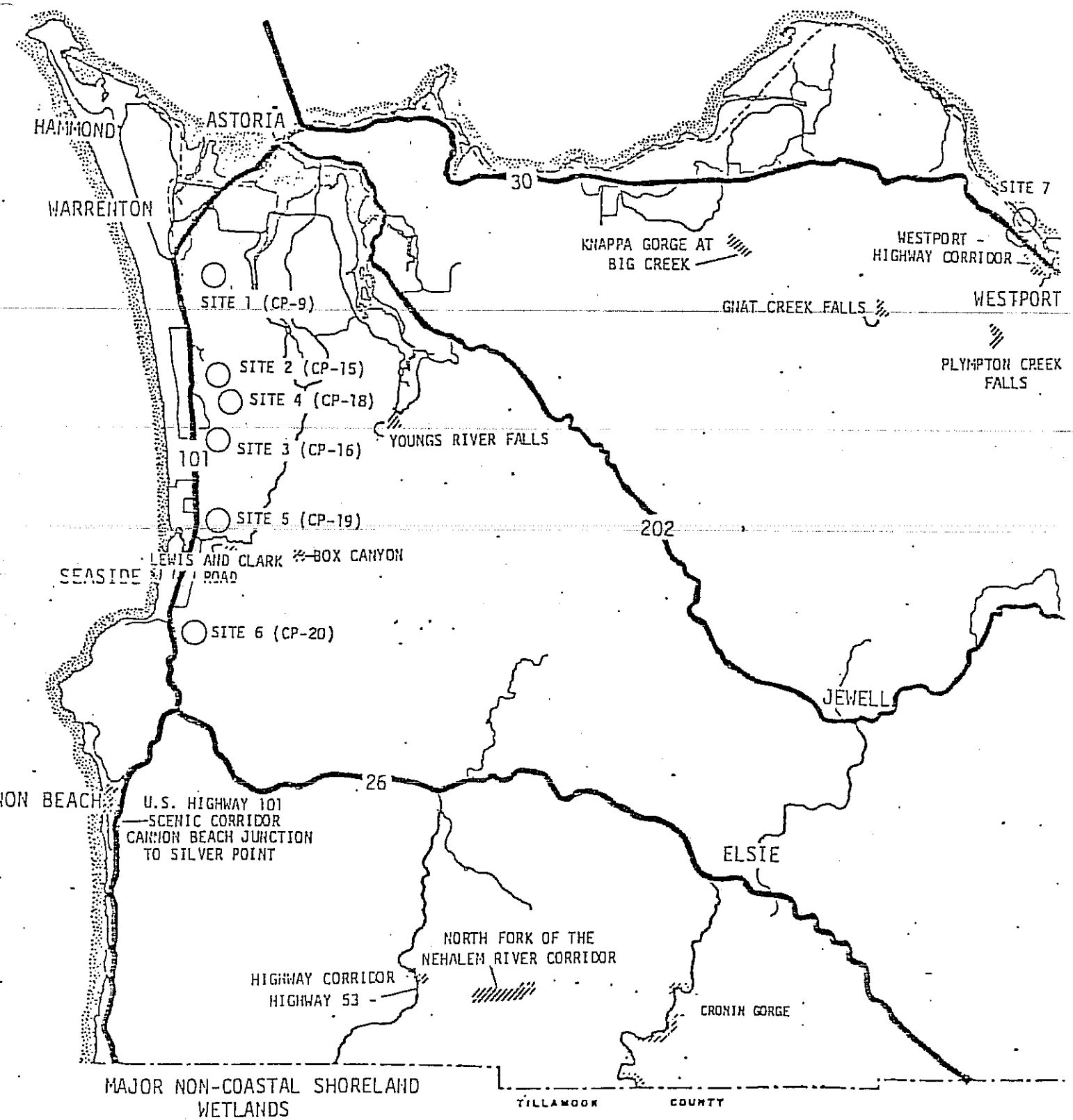
Rock Quarries and Gravel Pits



ROCK QUARRIES AND GRAVEL PITS

○ Department of Geology and Mineral Industries Permit Numbers

Scenic Conservancy Areas and Wetlands



MAJOR NON-COASTAL SHORELAND WETLANDS

SITE 1 (CP-9)
SITE 2 (CP-15)
SITE 3 (CP-16)
SITE 4 (CP-18)
SITE 5 (CP-19)
SITE 6 (CP-20)
SITE 7 (LC 35)

NORTH

SCALE IN MILES

WATERSHEDS AND GROUNDWATER RESOURCES

INVENTORY: State-wide Planning Goal 5 requires that the County inventory its watersheds and groundwater resources, including information on the location, quality and quantity of each resource. This section provides information as to the location of the major watershed systems in the County. This information is summarized in tabular form below, and on Map _____, included by reference. Clatsop County does not presently have information on the quality and quantity of the watersheds listed below. The rest of the Goal 5 process for these watersheds will be delayed, pursuant to OAR 660-16-000(1B).

Reference Number	Major Waterway(s)	Approximate Acreage
1.	Plympton Creek/West Creek	8,900
2.	Hunt Creek	5,100
3.	Blind Slough/Grizzley Slough	24,700
4.	Big Creek/Little Creek/Fertile Valley Creek	29,000
5.	Mary's Creek/Bear Creek/Ferris Creek	14,500
6.	John Day River	4,400
7.	Young's River/Klaskanine River/ Walluski River	80,300
8.	Lewis & Clark River	42,800
9.	Neawanna Creek/Thompson Creek	4,700
10.	Canyon Creek	2,100
11.	Necanicum River	30,300
12.	Nehalem River	213,200
13.	Elk Creek	15,200
14.	Arch Cape Creek/Asbury Creek/ Shark Creek/Fall Creek/ Red Rock Creek	7,100
15.	(This drainage area is almost entirely within the City of Astoria)	
16.	Clatsop Plains — see below	

O. These small or minor watersheds are not included. They consist of small coastal creeks and small creeks draining into the Columbia River. They are not included at this time due to lack of information.

The Clatsop Plains area (Map _____, number 16) consists of two major waterways: the Skipanon River, which drains to the north, and Neacoxie Creek, which drains to the south. The Clatsop Plains area is not notable for its watersheds: it is, however, notable for its groundwater resources.

Clatsop County has complete inventory information for the Clatsop Plains groundwater resource. This information is found in two documents:

R.W. Beck and Associates. Clatsop Plains Ground Water Protection Plan: Summary Report and Environmental Assessment. March, 1982.

Sweet, Edwards and Associates. Clatsop Plains Ground Water Protection Plan: Ground Water Evaluation Report. December, 1981.

These two reports identify conflicting uses, (2) determine the economic, social, environmental and energy consequences of allowing the conflicting uses, and (3) suggest policies to restrict conflicting uses in order to protect the groundwater resource. These reports are included here by reference. The County Board of Commissioners adopted the proposals in these reports on the 24th of March, 1982. The Environmental Quality Commission adopted regulations pursuant to these recommendations on 27 August, 1982 (revised 15 October, 1982).

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Appendix A

DELMOOR LOOP AREA WETLANDS STUDY *

The purpose of this study is to determine whether certain freshwater wetlands in the Delmoor Loop Road area should be made available for conversion to agricultural uses. This study will focus on significant non-coastal wetlands near cranberry bogs. The first section defines a study area and describes wetlands in the study area. Included is information on the location, size and quality of the wetland resource. The second section examines activities associated with agricultural uses which potentially conflict with wetland preservation. The next section identifies wetland areas which may be physically well suited for conversion to various agricultural uses. Finally the economic, social, environmental and energy consequences of allowing or restricting each conflicting use are examined.

1. Inventory

The study area consists generally of the east halves of Sections 22 and 27, T7N R10W, plus about 30 acres in Section 26. The western boundary of the study area is the Burlington Northern Railroad right-of-way. Coastal wetland areas west of the railroad right-of-way have not been included in the study area because the County's management options in coastal wetlands are constrained by Statewide Land Use Planning Goal 17. There are no coastal wetlands in the study area. Wetlands immediately north of the study area are owned by Clatsop County and are managed in conjunction with a recreation area. Non-coastal wetlands south of the study area are not easily accessible. The study area includes about 550 acres, and is more or less coterminous with the southern end of the Skipanon Water Control District. Lands outside of the District are not included because of the important services provided by the District to cranberry growers. Map 1 shows the study area.

The study area consists of about 260 acres of significant non-coastal wetlands and about 290 acres of upland and insignificant wetland areas. Four major wetland types occur in the study area. Their descriptions below are condensed from the County's Goal 5 plan element.

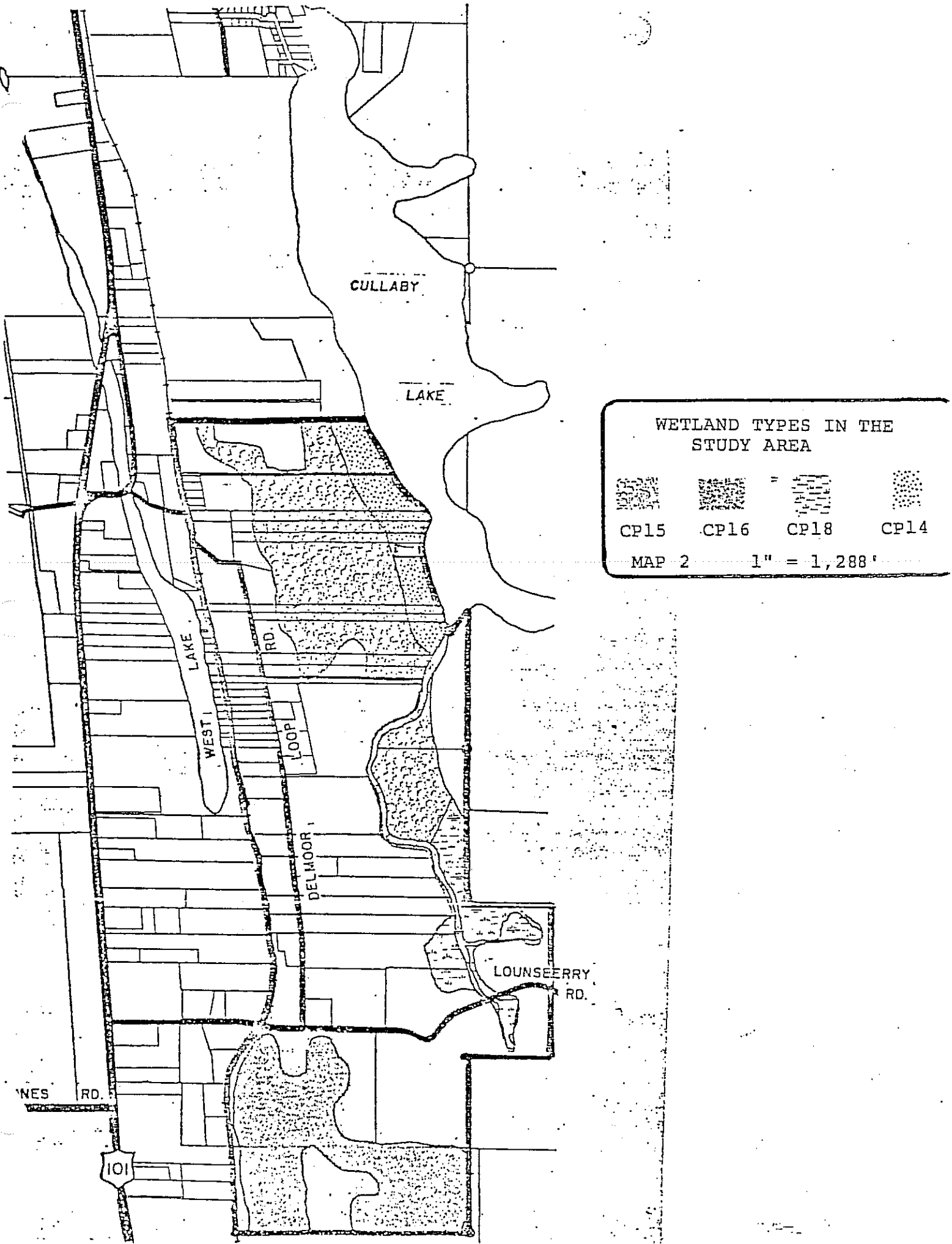
CP 14

Vegetation Type: 1A, 5, 8, 9, 11 (dry var.) (see page nn for key)

Soil: Brallier Muck, lake sediments.

Site Description: Cullaby Lake has the largest area of any lake in the Clatsop Plains: it appears to be the remnant of a much larger lake which has been filling in with peat. It currently has a high level of recreational usage, and supports a recreational warm-water game fishery. It has some value to overwintering and breeding waterfowl. The south end of the lake was described as having a great variety of

* Amended Ordinance 84-5, April 11, 1984


CULLABY
LAKE
WEST LAKE RD.
LOOP
DELHOOR
LOUNSBERRY RD.
NES RD.
101
WETLAND TYPES IN THE STUDY AREA
CP15
CP16
CP18
CP14
MAP 2
1" = 1,288'

avifauna by the Nature Conservency (Clatsop County Site #16). In addition, peat bogs on the western side of the lake within the area were found to be significant. Part of this wetland previously supported cranberry cultivation, but has since reverted to scrub or emergent wetlands and is used extensively by wetland avifauna and by raptors.

Values: Warm-water game fishery; waterfowl and wetland birds.

CP 15

Wetland Vegetation Types: 5, 8, 9, 11 (dry var.).

Soils: Brallier Muck.

Site Description: This large peat bog site is a westerly extension of the significant peat bog areas which line the west side of Cullaby Lake. The peat which has filled in a former lake basin has powerful water-retaining properties, and the surface is saturated for much of the year. It can, however, be used for agriculture, particularly cranberry cultivation, and some of this site has been so-used in the past. It has now reverted to native wetland vegetation. These peat bogs are important to wetland animals, particularly avifauna, and the southern end of this site is extensively used by elk.

Values: Wetland animals, natural semi-natural peat bog wetlands.

CP 16

Wetland Vegetation Types: 4, 5, 8, 9, 11 (dry var.) 12, 13.

Soils: Brallier Muck.

Site Description: This site is the best example of a Coastal Peat Bog on Brallier Muck in the County. The northern end approaches the raised bog condition, dominated in places by the moss, Sphagnum, a rare community in this area, and also by various shrubs and stunted trees. To the south, the site becomes much wetter and considerable areas are at least seasonably inundated. The southern half in particular is used by breeding waterfowl, while the central and northern portions have heavy elk use. There is a great diversity of avifauna throughout, including many wetland species despite the scarcity of open water. The site at one time supported cranberry cultivation, but has since reverted to native wetland vegetation.

Values: Wetland animals, particularly avifauna and elk. The site has high scientific and educational value as a fine example of a peat bog: the past glacial vegetation history of the area is probably contained in fossils in the deep peat.

CP 18

Wetland Vegetation Types: 1B, 4, 5, 8, 9, 2.

Soils: Brallier Muck.

Site Description: This area has great habitat diversity, with open water, marsh and swamp habitats all well-represented. The swamp/upland boundary to the NE of this site was not accurately determined. The lakes are connected to Cullaby Lake via Cullaby Creek and support populations of warm-water game fish. The surrounding marshes and swamps are important to breeding waterfowl and other wetland birds, and have some importance to overwintering waterfowl. The swamp areas are extensively used by elk. Riparian vegetation is found along Cullaby Creek.

Values: warm-water fish, breeding wetland; birds, habitat diversity.

Wetlands in the study area are shown on Map 2. The following table summarizes acreages in each of the wetland types found in the study area.

wetland type	acres in study area	total acres in wetland
CP-14	33	280
CP-15	96	230
CP-16	84	380
CP-18	43 (including 2 small lakes)	160
total	256	1,050

These wetlands are curently protected by the County's Lake and Wetland zone (Section 3.610, Land and Water Development and Use Ordinance). The LW zone does not permit any farm uses, including cranberry cultivation.

2. Conflicting Uses and Activities.

Nearly all farm uses conflict in some way with the preservation of wetlands. Both direct and indirect conflicts may be distinguished. Direct conflicts occur at the site, while indirect conflicts occur off-site on adjacent or nearby lands. This section describes directly and indirectly conflicting activities associated with farm uses customarily practiced in the study area.

A. Grazing. Some wetland areas are grazed in the summer months when pastures are dry enough to support cattle. This type of grazing pattern conflicts with wetland preservation in the following manner:
(1) Domestic animals disturb and compact peat soils.
(2) Domestic livestock competes with wildlife for limited forage.
(3) Waste from domestic livestock may degrade surface and groundwater.
(4) Grazing results in the removal of certain wetland plants.

Wetlands may also be grazed year-round by draining or filling the wetland. This type of grazing practice conflicts with wetland preservation in the following manner:
(5) Drainage of wetland areas results in compaction and decomposition of peat soils.
(6) Draining wetlands eliminates certain wetland plant species.
(7) Draining wetlands may affect runoff patterns and groundwater levels on adjacent undrained wetlands.
(8) Filling of wetland areas may compact peat soils.
(9) Filling will eradicate wetland vegetation.
(10) Filling may change drainage and runoff patterns on adjacent unfilled wetlands.

B. Hay Production. It would be necessary to either fill or drain a wetland to grow hay on the site. Conflicting uses associated with hay production would be the same as those listed above (A(5) through A(10)), in addition to those listed below:
(1) Liquid manure can degrade ground and surface water through runoff.
(2) Herbicides used to control unwanted vegetation may contaminate ground and surface water via drift, runoff and percolation.

C. Cranberry Cultivation. Conflicts associated with cranberry cultivation occur during bog preparation and during cranberry production. These conflicting uses and activities are discussed below.
(1) Bog Preparation.
(a) Wetland vegetation is stripped from the bog site exposing the underlying peat. Vegetation is removed either mechanically with light bulldozers or power shovels, or chemically with defoliants.
(b) The exposed peat is leveled, with a slight slope toward drainage ditches on the sides.
(c) The prepared bog site is covered with about two inches of sand to provide a rooting zone for the cranberry vines, to seal the exposed peat surface, and to reduce weed seed germination.

(2) Production.
(a) Weeds, unwanted insects and plant diseases are controlled with chemical herbicides, insecticides and fungicides. These chemicals are applied as aerosal sprays, as soil supplements

and through the irrigiation system dissolved in water. Improper use of these chemical agents may adversely effect adjacent and nearby wetlands through atmospheric drift, or through ground or surface water contamination.

(b) Machinery used to harvest cranberries can, over time, result in compaction and decomposition of peat soils.

(c) Cranberry production requires large amounts of water for protection from frosts, for irrigation during the growing season, and for harvesting. Ditches and dikes are used to control the water table level beneath the bog. Drained peat soils can oxidize and decompose. Drainage control also alters water levels on adjacent wetlands and changes runoff and drainage patterns.

4. Areas for Conversion to Agricultural Uses

This section identifies wetlands in the study area which may be physically suitable for conversion to agricultural uses. Several factors are considered: soils, adjacent uses, water availability, flooding problems, access and parcel sizes.

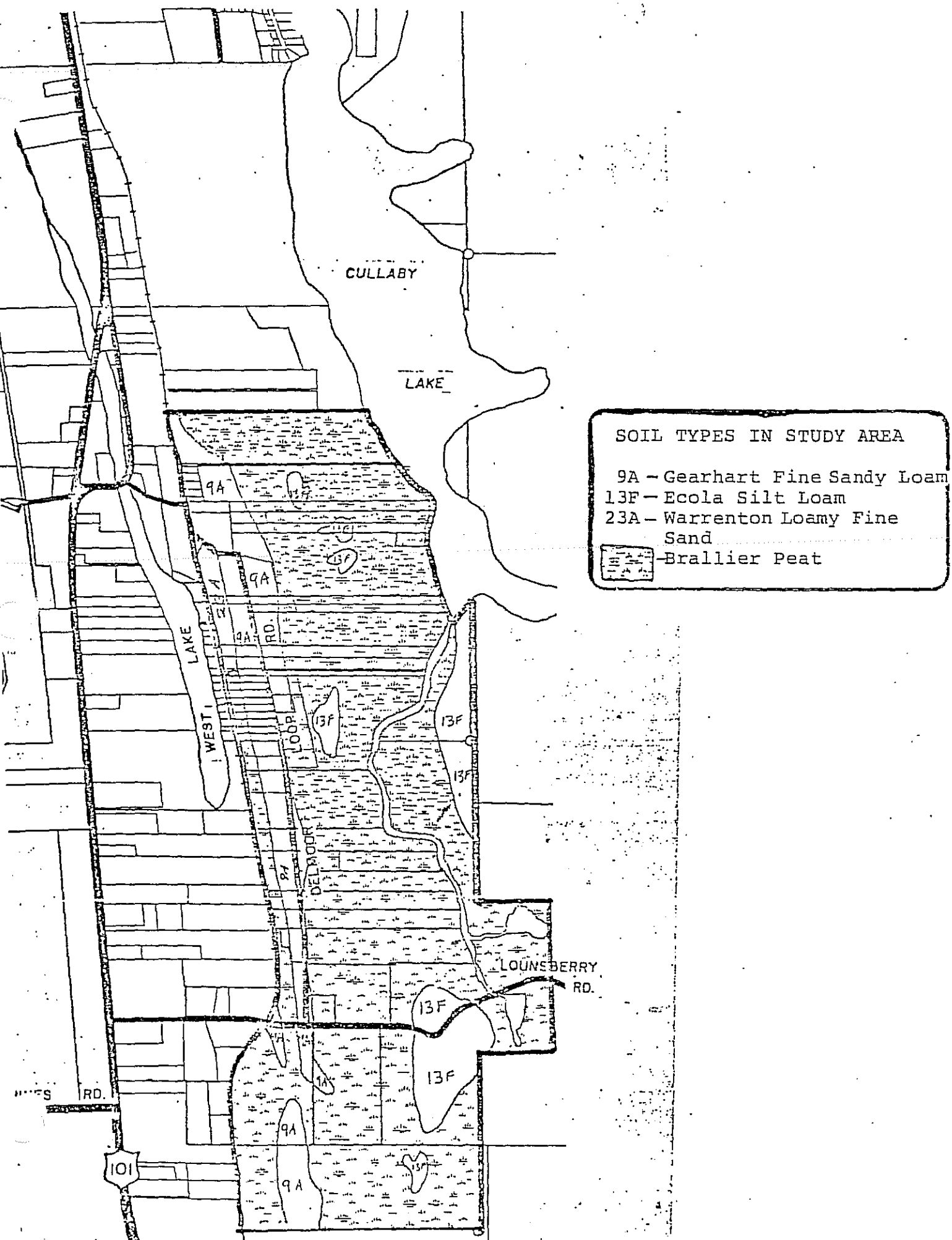
A. Soils

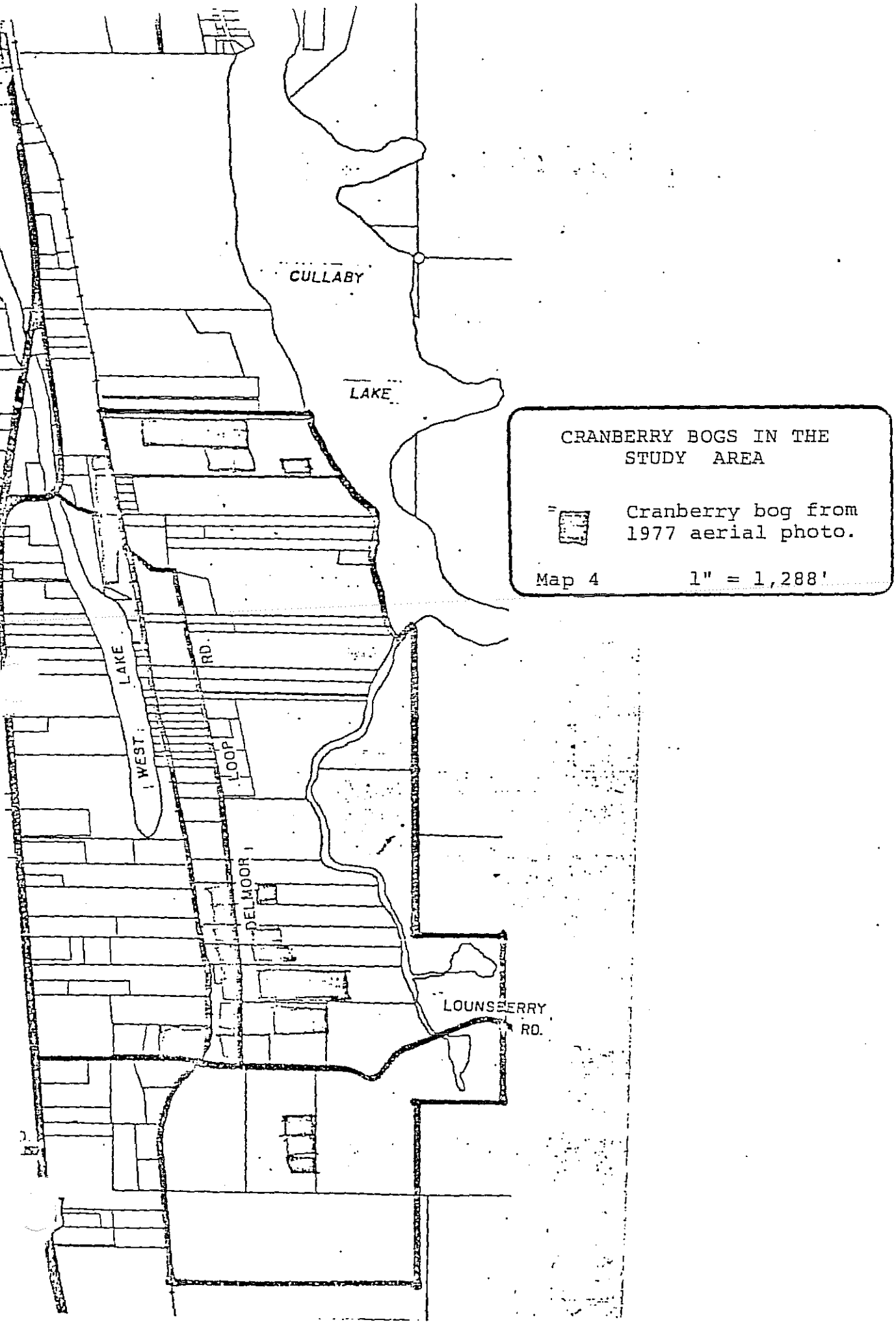
The predominant soil type in the area is Brallier Peat. This soil underlies all of the significant wetland areas in the study area, as well as the insignificant wetlands and portions of the EFU zone. Other soil types in the area are Gearhart Fine Sandy Loam, Ecola Silt Loam and Warrenton Loamy Fine Sand. The Brallier Peat and the Warrenton soils both have agricultural capability classificiation of IVw. The Gearhart and Ecola soils have agricultural capability classifications of VIe. The Brallier Peat soils are subject to high ground water and flooding during the winter and spring months. Peat soils are also somewhat acidic, with a soil pH of between 3.5 to 5.0. Map 3 shows peat soils in the study area. Other soils shown on Map 3 are Ecola Silt Loam (13F), Gearhart Fine Sandy Loam (9A), and Warrenton Loamy Fine Sand (23A).

B. Adjacent Uses.

This study area is characterized by a number of uses, including residences, small pastures, woodlots and cranberry bogs. Residential development is generally concentrated at the north end of Delmoor Loop Rd. Most of the cranberry bogs are concentrated at the south end of the study area, with the exception of a 9-acre site at the north end. Existing cranberry bogs are shown on Map 4. Small woodlots are scattered throughout the area. Small pastures occur in the central portion of the study area.

West of the study area is a similar mix of residential and agricultural uses, as well as wetland. North and south of the study area are significant coastal and non-coastal wetlands. East of the study area are forest lands.


CULLABY
LAKE
SOIL TYPES IN STUDY AREA
9A – Gearhart Fine Sandy Loam
13F – Ecola Silt Loam
23A – Warrenton Loamy Fine Sand
– Brallier Peat
9A
13F
LAKE
WEST
LOOP
RD.
DELMOOR
LOUNSBERRY
RD.
101


CULLABY
LAKE
LAKE
WEST
RD.
LOOP
DELMOOR
LOUNSBERRY
RD.
CRANBERRY BOGS IN THE
STUDY AREA
Cranberry bog from
1977 aerial photo.
Map 4
1" = 1,288'

C. Water Availability

Adequate volumes of water for pasture and hay production are generally availability in the Delmoor Loop Road area. Cranberry cultivation, on the other hand, requires larger volumes of water. Protection from frost and heat, irrigation during the summer months, and harvest opeations all require large amounts of water. Each bog must have access to water in quantities and at rates sufficient to deliver up to 1/4 inch per hour during non-dormant periods whenever the bog temperature falls below 34 degrees F. Cranberry cultivation is not a highly consumptive water using activity. Most of the water used in harvesting and for frost protection returns to either Cullaby Lake or to the aquifer.

Water in sufficient quantities exists in Cullaby Lake, Cullaby Creek and in West Lake. The State Department of Water Resources has indicated that water withdrawals are available for both Cullaby Lake and West Lake.

D. Flooding Problems.

The study area is entirely outside of the 100-year flood plain. There are, however, high groundwater problems in the area. With the exception of two narrow sand ridges running north-south, nearly all of the study area is at least intermittently inundated. The water table is raised during harvest time in order to facilitate flooding of the bogs. This is often thought to be the cause of high groundwater problems in adjacent residential areas. Harvest operations are generally completed within a two week period in October. Several other factors also influence groundwater levels around Cullaby Lake. Chief among these are the need to keep Cullaby Lake deep enough for motor boat use, and the amount of rainfall.

E. Road Access.

There is only one parcel in the study area without direct access to public roads. The County Road Department reports that there are no weight limits on Delmoor Loop Road.

F. Parcel Sizes.

The study area includes about 60 parcels, averaging about 8.5 acres in size. About 75% of the area is in parcels larger than ten acres. About 65% of the area is in parcels twenty acres and larger.

In general, the area consists of long narrow parcels, extending from Delmoor Loop Road to the west shore of Cullaby Lake or Cullaby Creek.

Summary

There are few sites in the Delmoor Loop Road area suitable for pasture or forage. Much of the area, however, is uniquely well-suited for cranberry cultivation. Factors which make hay production or grazing difficult (high groundwater, peat soils, small parcels) work to the advantage of cranberry growers. The number of existing bogs in the area bears witness to this.

5. Plant Communities in the Delmoor Loop Road Area

This section describes plant communities found in various wetlands in the Delmoor Loop Road area. The reader should referr back to the wetland descriptions begining on page nn.

1A. Open Water with few floating or submerged aquatic vascular plants.

1B. Water which usually becomes more or less filled with floating or submerged aquatic vascular plants during the summer and fall. Plant species include:

Callitriche species (water starwort)
Lemna minor (duckweed)
Ceratophyllum demersum (water hornwort)
Elodea densa (South American waterweed)
Elodea nuttallii (Nuttaill's waterweed)
Myriophyllum brasiliense (South American water-milfoil)
Nymphaea odorata (fragrant waterlily)

2. Shallow but more or less permanent water which becomes covered by a dense growth of non-persistent emergent and floating-leaved plants. The main dominants are the yellow flowered Indian Pondlily and the marsh cinquefoil. A species list of plants common or dominant in this community includes:

Potomogeton species (pondweed)
Nuphar polysepalum (Indian pondlily)
Hippuris vulgaris common mare's tail)
Potentilly Palustris (marsh cinquefoil)
Ultricularia vulgaris (common bladderwort)

4. Sedge meadows dominated by tussocks of Sitka sedge. This vegetation is flooded by two or three feet of water during wet periods though the sedge tussocks are usually persistently emergent. During dry periods, the surface between the tussocks may be exposed or shallowly flooded. This community is typical of wet emergent marshes on Brallier peat, and it usually contains floristic elements of either wetter (2,3) and/or drier (5, 11A) communities. Common plant species include:

Carex sitchensis (Sitka sedge)

Carex cusickii (Cusick's sedge)
Carex obnupta (slough sedge)
Nuphar polysepalum (Indian pondlily)
Spiraea douglasii (spiraea or hackberry)
Oenanthe sarmentosa (water parsley)

5. Sedge meadows dominated slough sedge, saturated or flooded at all times. This vegetation is flooded by a foot or more of water during wet periods, and the saturated soil surface s exposed during dry conditions. It occurs on Brallier muck and also on Warrenton loamy fine sand. Common species include:

Carex obnupta (slough sledge)
Lysichiton americanum (skunk cabbage)
Oenanthe sarmentosa (water parsley)
Athyrium filix-femina (lady fern)
Spiraea douglasii (spiraea, or hackberry)
Lonicera involucrata (twinberry)
Carex sitchensis (Sitka sedge)

6. Slough sedge wetland on young deflation plains. These wetlands, on sandy soil close to the ocean, have a fluctuating water table and are flooded during wet periods but dry out so that the soil is moist, not saturated, during dry conditions. Common or dominant species include:

Carex obnupta (slough sedge)
Potentilla pacifica (Pacific silverweed)
Deschampsia cespitosa (tufted hari-grass)

A number of unusual or interesting plant species occur in this community:

Botrychium multifidum (leathery grape-fern)
Habenaria greenei (Green's bog-orchid)

7. Shrub-dominated wetland on young deflation plans. As with vegetation type #6, this type is saturated or flooded during wet periods and may be merely moist at other times. The usual dominant species is Salix hookeriana (Hooker willow), with an herb layer of Carex obnupta (slough sledge).

8. Shrub-dominated swamps. This vegetation type resembles #7, but occurs on more mature soils, particularly Brallier muck and also Warrento loamy fine sand. Soils are less well draining than #7, and are saturated or flooded at all times. Species typical of this community are:

Salix hookeriana (Hooker willow)
Salix lasiandra (Pacific willow)
Pyrus fusca (crabapple)

Lysichiton americanum (skunk cabbage)
Carex obnupta (slough sledge)

In addition, scattered trees of Picea sitchensis (Sitka spruce) and Alnus rubra (red alder) may be present.

9. Sitka spruce swamp. Forested swamp dominated by Sitka spruce trees, which may become large (they are generally stunted in type 8). Soil conditions are saturated with occasional flooding. The understory is dominated by skunk cabbage and slough sedge, with Rubus spectabilis (salmonberry), and Sambucus racemosa (elderberry) in areas which are transitional between wetland and upland.

11. Low shrub vegetation, in which spiraea or hackberry (Spiraea douglasii) is the main dominant. A wet and a drier variant of this type have been identified. The wet variant often occurs on Brallier muck and is flooded for most of the year. Typical associates of the spiraea are slough sedge andSitka sedge (Carex sitchensis). The drier variant is also found on Brallier peat, often on abandoned cranberry bogs, where it grows with other surubs such as sweet gale (Myrica gale) and'labrador tea (Ledum glandulosum).

12. Sphagnum bog. The bog surface is covered by a mat of bryophytes, principally of the genus Sphagnum. Soil conditions are saturated, on account of the water-retaining properties of the moss, and the community develops on Brallier peat. Common vascular plants include species of herb and shrub such as:

Carex obnupta (slough sedge)
Carex sitchensis (Sitka sedge)
Carex cusickii (Cusick's sedge)
Lysichiton americanum (skunk cabbage)
Trientalis arctica (northern starflower)
Drosera rotundifolia (sundew)
Eriphorum chamissonis (cotton-grass)
Ledum glandulosum (Labrador tea)
Kalmia occidentalis (swamp laurel)
Gaultheria shallon (salal)

13. Disturbed marsh flora (wet variant). The usual reason for such disturbance is the logging of adjacent forested areas. Following the distruction of marsh vegetation types such as #4 and#5, these areas become dominated by species such as:

Sparganium emersum (bur-reed)
Juncus nevadensis (Sierra rush)
Juncus species (rush)
Glyceria species (manna grass)

IN THE BOARD OF COMMISSIONERS

FOR CLATSOP COUNTY, OREGON

ORDINANCE NO. 86-10

APR 02 1986

(AN ORDINANCE AMENDING THE CLATSOP
(COUNTY COMPREHENSIVE PLAN AND ZONING
(MAP, TAKING AN EXCEPTION TO GOAL 4
(FOREST LANDS, AS ADOPTED BY THE BOARD
(OF COUNTY COMMISSIONERS, ADOPTING
(CERTAIN FINDINGS, RESCINDING
(INCONSISTENT PROVISIONS AND DECLARING
(AN EMERGENCY

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the Bayview Transit Mix Rock Quarry Project Amendment.

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to revise and amend the Clatsop County Comprehensive Plan, Background Reports, Community Plans and Comprehensive Plan/Zoning Map. In the interest of the health, safety and welfare of the citizens of Clatsop County and in accordance with the recommendations of the Clatsop County Planning Commission and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the Comprehensive Plan text and map.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Planning Commission has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Planning Commission held a hearing on January 14, 1986 and February 11, 1986. The Board received and considered the Planning

Commission's recommendation on this amendment and held a public hearing on this ordinance pursuant to law on February 12, and April 2, 1986.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supercede, control and repeal any inconsistent provision of the Clatsop County Comprehensive Plan, as amended, the Clatsop County Land and Water Development and Use Ordinance, as amended, or any other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force immediately upon adoption as set in the emergency clause.

SECTION 7. EMERGENCY CLAUSE.

In order to implement the recommendations of the Planning Commission and findings of the Board with the greatest expedience and in order to realize the benefits to be derived from the adoption of this ordinance to the Comprehensive Plan Background Reports, County-wide Elements, Community Plans and the County Land and Water Development and Use Ordinance (80-14), an emergency is declared to exist and this ordinance shall become effective immediately upon its passage.

SECTION 3. ADOPTION CLAUSE.

The Board of Commissioner's hereby adopts the findings and conclusions set forth in "Exhibit A" and attached hereto and by reference herein made a part of this ordinance in its entirety.

ENACTED this 2nd day of April, 1986.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

BY _____
Roger A. Berg, Chairman

ABSENT

BY _____
Joan M. Dukes, Commissioner

BY _____
Bob Westerberg, Commissioner

Vote: Aye: Bob Westerberg, & Roger A. Berg

Nay: -0-

Abstention: Joan M. Dukes

Attest: _____
Recording Secretary to the Board
Norma Hunsinger

Date: April 2, 1986

Date of first reading: April 2, 1986

Date of second reading: April 2, 1986

EXHIBIT "A"

PART 1

PROPERTY DESCRIPTION: PORTIONS OF:

T5N R10W Tax Lots 700 and 1000
T5N R10W Section 4 Tax Lot 100
Willamette Meridian

SEE ATTACHED MAP

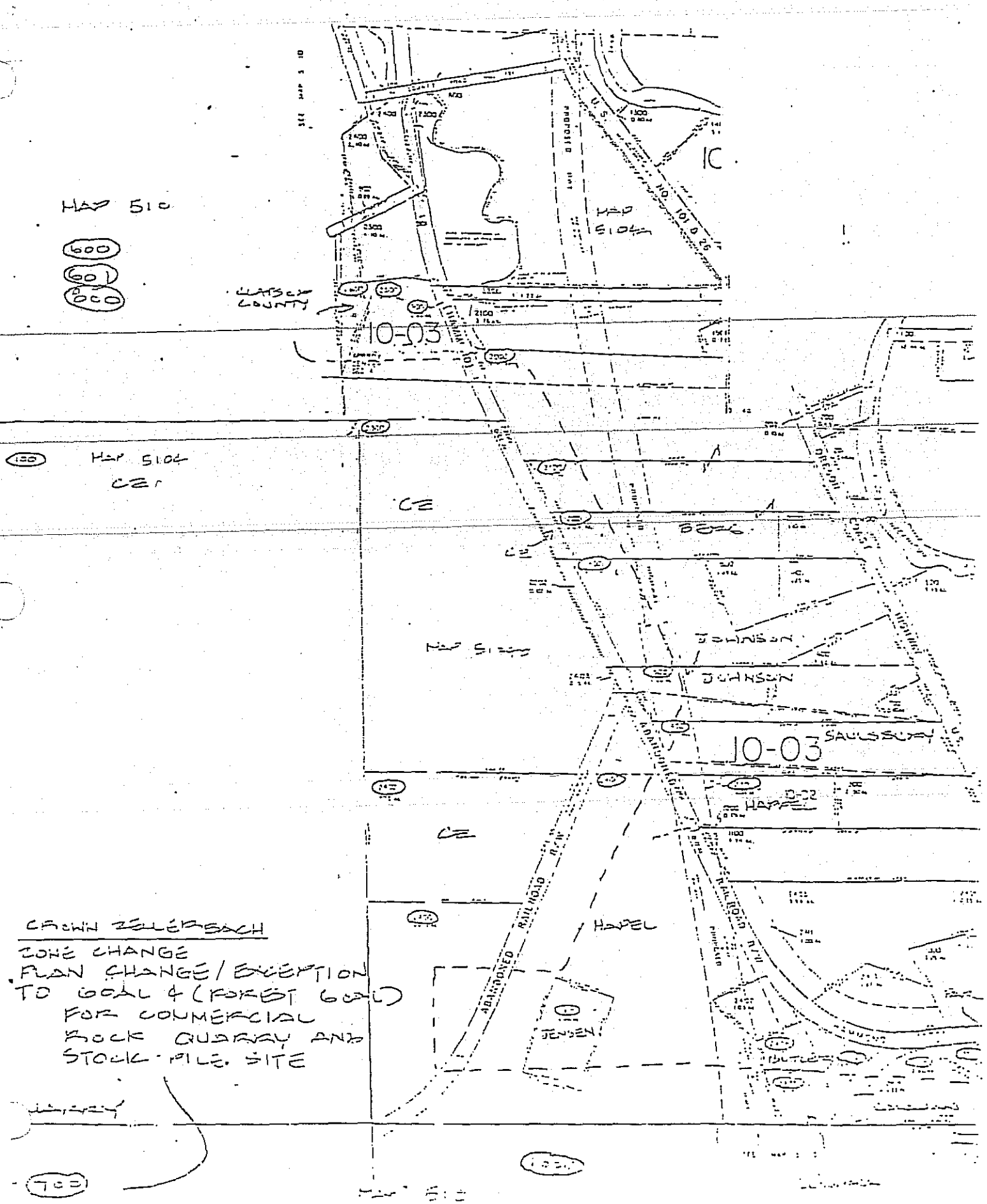
REQUEST:

1. AMEND COMPREHENSIVE PLAN/ZONING MAP

   FROM: CONSERVATION FOREST LANDS AND F-80 ZONE

   TO: CONSERVATION OTHER RESOURCES AND QM

2. AMEND GOAL 2 ELEMENT BY ADDITION OF EXCEPTION INFORMATION ATTACHED.


MAP 510
600
601
000
CLATSOP COUNTY
10-03
MAP 5104
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JOHNSON
JOHNSON
SAULSBURY
10-03
10-32
HAPPEL
ABANDONED RAILROAD R/W
HAPPEL
JENSEN
BUTLER
CROWN ZELLERBACH
ZONE CHANGE
PLAN CHANGE/EXCEPTION
TO GOAL 4 (FOREST GOAL)
FOR COMMERCIAL
ROCK QUARRY AND
STOCK-PILE SITE

EXHIBIT A
PART 2

APPROVAL FINDINGS
BAYVIEW TRANSIT ZONING AMENDMENT AND GOAL EXCEPTION
DATED - FEBRUARY 26, 1986

BACKGROUND

Bayview Transit, Inc. has made application to Clatsop County requesting the rezoning of about 30 acres of land to the West of the intersection of Highways 101 and 26. A Comprehensive Plan amendment from Conservation Forest Lands to Conservation-Other Resources and a zoning amendment from F-80 (Forest-80) to QM (Quarry and Mining), has been requested to allow the applicant to conduct a quarrying, crushing and stockpiling operation on the subject property which will be leased from Crown Zellerbach. The request includes a 20+/- acre area that would be used as a quarry and crushing site; this area has been used by Crown Zellerbach for the past 10 to 15 years as an aggregate source for timber access road rock and for some general commercial rock. The request also includes a 10+/- acre site to the southeast of the quarry which would be utilized as a stockpile and processing area. Both the quarry and stockpile sites are owned by Crown Zellerbach. Crown also owns all surrounding properties.

The Clatsop County Planning Commission held a public hearing on the Bayview request on January 14, 1986. This public hearing was continued to the Commission's February 11, 1986, meeting. At the conclusion of the continued public hearing, the Planning Commission, by unanimous vote, made a recommendation to the Clatsop County Board of County Commissioners that the Bayview Comprehensive Plan amendment, zoning amendment and goal exception be approved.

The Board of Commissioners held a public hearing on the Bayview request on February 12, 1986. Following the hearing, the Board requested findings submittals from the proponents and opponents by February 21, 1986.

REVIEW CRITERIA

The Clatsop County Department of Planning and Development has determined that two sets of Review Criteria are relevant to this request. These are: (1) the Statewide Planning Goal 2 Part IIC exception criteria, and (2) the Zoning Ordinance section 5.412 Zone Change Criteria.

Section 20 of Chapter 660 Division 4 of the Oregon Administrative Rules outlines the following four factors required to be addressed when taking exception to a statewide planning goal:

(1) Reasons justify why the state policy embodied in the applicable goals should not apply;

(2) Areas which do not require a new goal exception cannot reasonably accommodate the use;

(3) The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures designed to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in areas requiring a goal exception other than the proposed site; and

(4) The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.

Since the request involves a non-forest use on lands currently designated for F-80 usage, the Planning Department has determined that a Goal 4 exception must be taken.

The Planning Department January 14, 1986, staff report also addressed section 22 of the above referenced administrative rule. Section 22 provides a summary of "the types of reasons that may or may not be used to justify certain types of uses not allowed on resource lands. . ." (emphasis added). The illustrative examples contained in section 22 are not review criteria. Accordingly, these findings will address the section 20 factors and will not specifically speak to section 22.

Section 5.412 of the Clatsop County Land and Water Use and Development Ordinance outlines the following zoning amendment review criteria:

(1) The amendment shall be consistent with the Comprehensive Plan.

(2) The revision will not interfere with the development or value of other land in the vicinity when compared to the public interest in allowing the change in zone.

(3) A demand exists for the development and uses listed in the proposed zone at the proposed location.

Factors which should be considered in determining whether or not this demand exists include (a) availability, including an assessment of the public facilities and services and roads to supply the area, and (b) an assessment of availability of other appropriate zoned property.

(4) The revision will not be detrimental to the general interests of the community.

Note: The County's zoning amendment application contains a separate and different list of zone change criteria with no reference to the Zoning Ordinance section 5.412 criteria. The applicant has responded to both sets of review criteria. Based upon the direction of the Planning Department staff report, this findings document addresses the section 5.412 criteria.

OAR 660-04-020 GOAL EXCEPTION CRITERIA

Exception Factor #1

Reasons justify why the state policy embodied in the applicable goals should not apply.

Findings

(1) Statewide planning goal 4 Forest Lands provides the following goal intent statement:

"TO CONSERVE FOREST LANDS FOR FOREST USES."

(2) Statewide planning goal 5 Open Spaces, Scenic and Historic Areas, and Natural Resources, provides the following goal intent statement:

"TO CONSERVE OPEN SPACES AND PROTECT NATURAL AND SCENIC RESOURCES."

(3) Planning guideline #6 of goal 5 contains the following requirements:

"In conjunction with the inventory of mineral and aggregate resources, sites for the removal and processing of such resources should be identified and protected."

(4) The County's goal 5 background report contains the following information:

"Since transportation costs are an important factor in the economics of supplying rock materials, rock sources should ideally be located on good haul roads, not more than 15 to 20 miles from the intended market. Clatsop County, because of the nature of its geologic rock materials, has only limited sources capable of furnishing good construction crushed rock and gravel aggregates due to the fact that most of the upland areas are composed of marine sedimentary rocks which readily weather and break down into fine grained sands and rock materials of poor quality. The best source of rock in the County, therefore, is the Miocene intrusive rocks which are located within 15 to 20 miles from any major community, and so, in some cases, it is not economically feasible to transport these rock materials under normal operating conditions." (Emphasis added.)

(5) The subject quarry site has been used by Crown Zellerbach for the past 10 to 15 years as a source for rock.

(6) Tom Parke, a Crown Zellerbach spokesman, has advised the County of Crown's endorsement of the Bayview request and has stated that the proposed use would be compatible with the ongoing forest management of surrounding lands.

Conclusion

This request involves the balancing of two statewide planning goals; the involved goals are Goal #4 Forest Lands, and Goal #5 Open Spaces, Scenic and Historic Areas, and Natural Resources. The forest production value of the subject land must be weighed against its resource value as a source for construction rock aggregate. The forest production potential of the quarry site is considered to be secondary to its rock resource value. The site has been utilized as a rock source in the past, and it is assumed that Crown will continue to remove rock from the quarry regardless of whether the current amendments to provide for a commercial quarry are approved. The forest production potential at the stockpile site is comparable to that of surrounding lands and other F-80 lands in the County. The County has a vast supply of commercially managed forest land. The removal of 30 acres from active forest management will be inconsequential to the County's overall forestry production resources. Due to the fact that rock resources are limited in the County and that this pit has excellent development potential (as detailed in findings that follow), a decision has been made that the involved lands would be best utilized as a source of aggregate material.

The proposed quarry activities will be compatible with future forest management activities on surrounding Crown lands. The lands involved in this request will be reclaimed for future

forest practices after the quarrying activities are completed as per Department of Geology and Mineral Industries' requirements. Based upon a rock deposit of one million tons and an annual extraction rate of 50,000 tons, the involved quarry would have a usable life span of 20 years; after this time the lands will be available for future forest uses.

Exception Factor #2

Areas which do not require a new exception cannot reasonably accommodate the use.

Findings

(7) In attempting to find a suitable quarry site, the applicant looked for property with the following characteristics:

(a) The land had to contain a large volume rock deposit in excess of one million tons,

(b) The rock deposit had to be a high quality deposit suitable to be processed into paving rock, and

(c) The rock deposit had to be in close proximity to the Cannon Beach junction highway improvement project and other anticipated future Highways 101 and 26 projects.

(8) The subject property contains a rock deposit in excess of one million tons.

(9) The subject rock deposit has been tested by Northwest Testing Laboratories, Inc., and the test results have been reviewed by Chris Hardwick and Associates. Hardwick and Associates conclude that "the rock tested met the minimum requirements of Oregon State Highway Division, the Federal Highway Administration and the U. S. Forest Service."

The Hardwick report entitled Evaluation of Square Creek Aggregate Source Clatsop County, Oregon, dated January 7, 1986, is incorporated herein by this reference.

(10) The subject quarry site is within one mile of U. S. 101 and Highway 26 intersection highway improvement project which is scheduled for bid in the spring of 1986. Existing logging roads provide access from U. S. 101 to the quarry site.

(11) Quarry locations are dependent upon the location of suitable rock deposits. The majority of these rock deposits are located on "Conservation Forest" lands in the county and all require either a zoning amendment or conditional use permit and a goal exception to be utilized for general quarrying activities.

(12) The Planning Department staff report provides a listing of other old or operating quarries in the general area of the applicant's proposed quarry. These nine quarries are identified by the Department of Geology and Mineral Industries (DOGMI) permit numbers.

(13) The DOGMI quarries 4.0028, 4.0032, 4.0036, 4.0038, 4.0048, 4.0049 and 4.0056 are all located in the County's F-80 zone and would require a goal exception for general quarry development. Of this group, only quarries 4.0038 (CZ-Darling) and 4.0056 (Ordway) are currently operating and neither of these two quarries contains a rock deposit of comparable quantity and quality to the applicant's quarry site.

Quarry 4.0038 is allowed to operate as a grandfathered (previously existing) use; a goal exception would be required if this use was expanded to produce the commercial rock quantities proposed by the applicant. Quarry 4.0056 is operated on a conditional use basis with conditions attached which limit activities to certain months of the year; an exception would be required to allow this quarry to be operated as a year-round general commercial quarry.

(14) Quarry 4.0007 is owned by Crown Zellerbach and leased to Howard E. Johnson and Sons; this quarry is in the F-80 zone. Quarry 4.0011 is owned and operated by Howard E. Johnson and Sons, and is in the quarry and mining zone.

(15) The applicant operates a drum roller asphalt paving plant which produces mixed asphalt for highway construction projects, such as the upcoming Cannon Beach junction project. Oregon State Highway Department specifications require the stockpiling of three classes of aggregate which are fed into the drum roller asphalt plant. These three classes are ½" to ¼", ¼" to 10, and 10 minus. In order to produce State specification asphalt, the applicant must have a source for each class of rock.

(16) When producing asphalt mix for State highway projects, the applicant must satisfy random quality control tests of the stockpiles of the three aggregate classes, as well as the finished mix. If the random samples do not meet contract specifications, production penalties are imposed. Accordingly, the applicant must maintain tight quality control upon his aggregate stockpiles; the best means of assuring this control is to directly supervise all crushing operations.

(17) There are no crushing operations in Clatsop County which produce ¼" to 10 and 10 minus rock to meet Oregon Highway Department specifications.

(18) Bruce Johnson, of Howard E. Johnson and Sons, testified that his firm produces ½" to ¼" and ¼" minus crushed rock. His firm has not produced (and does not currently produce) ¼" to 10 and 10 minus specification aggregate from their crushing plant.

(19) Certain classes of crushed rock are available from Howard E. Johnson and Sons at the price of $6.00/yd. The applicant estimates that rock can be quarried, crushed and stockpiled at the cost of $4.20/yd. at the proposed quarry.

(20) Paragraph B of OAR 660-04-020 (2B) states that "economic factors can be considered along with other relevant factors in determining that the use cannot reasonably be accommodated in other areas."

(21) Plamberg Paving submitted a letter dated 1/14/86 pertaining to their rock needs. Testimony before the Planning Commission determined that this company operates a different type of asphalt plant than the Bayview plant and that Palmberg rock needs are also different. Palmberg's plant does not require any rock smaller than ¼" minus specification rock. The Bayview drum roller plant requires two classes of rock (¼" to 10 and 10 minus) which are not utilized by Palmberg. Existing quarries may supply Palmberg's needs but they do not supply the applicant's needs.

Conclusion

The proposed development site contains a high quality rock deposit with a volume in excess of one million tons that is located within one mile of the upcoming Cannon Beach junction highway improvement project.

Of the nine quarries identified by Planning Department staff in the general vicinity of the request, two are owned or controlled by Howard E. Johnson and Sons and the other seven quarries are all located on F-80 lands and would require a similar goal exception for commercial development. Of this latter group of seven, only two are currently operating and neither of these two quarries contain rock deposits which are comparable in quality and quantity to the proposed quarry.

In order to produce State Highway Department specification paving mix, the applicant must have a supply of the following three specification rock: ½" to ¼", ¼" to 10 and 10 minus. There are no crushing operations in Clatsop County (including Howard E. Johnson and Sons) which produce ¼" to 10 and 10 minus rock to Oregon Highway Department specifications. The applicant would have to import these classes of rock or purchase ¼" minus rock

and rescreen it to separate ½" to 10 and 10 minus stockpiles. Importing or rescreening would both increase rock supply expense. The applicant also finds it desirable to produce his own crushed rock, in order to have complete quality control upon the products he stockpiles. The applicant can realize economic advantages from producing his own crushed aggregate. The applicant can crush his own rock at an estimated expense of $4.20/yd. as compared to $6.00/yd. if crushed rock is purchased from the other quarry in the area. This 30% supply savings is a substantial economic consideration in a material-intensive operation such as asphalt production.

The abovementioned economic factors are relevant in justifying the proposed amendments and goal exception. The applicant should be allowed to develop this quarry site in order to obtain a dependable and economic source of aggregate for his established paving operation. His agg egate needs are not currently supplied by the County's aggregate producers. Areas which do not require an exception cannot reasonably accommodate his proposed use.

Exception Factor #3

The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site with measures to reduce adverse impacts are not significantly more adverse than would typically result from the same proposal being located in other areas requiring a goal exception.

Environmental Consequences

Findings

(22) The proposed project is located within the Major Big Game Range. The Goal 5 element of the Comprehensive Plan recommends that other uses (non-residential) allowed in the F-80 zone are required to be at a density that will not conflict with the Big Game Range. This recommendation seems to imply that the density requirement is one non-forest related development per 80 acres of forest land in the F-80 zone. The Crown Zellerbach parcel is several hundred acres in size. The proposed use of Crown ownership is consistent with the Department of Fish and Wildlife criterion.

(23) Deer, elk and other wildlife are native to the area involved in this request. No significant habitat alterations are proposed.

Planning Department staff observed two potential bird nesting sites in the vicinity of the proposed amendment. Walt Weber, a local Fish-Wildlife biologist with the Oregon Department of Fish and Wildlife, visited the site and concluded, "Inspection of suggested nest trees did not reveal any nests or the presence of any eagles."

(24) Square Creek flows in an easterly direction between the proposed quarry and stockpile sites. Square Creek flows into Circle Creek. These are both Class I streams.

(25) Laurel Underhill and Otto Jensen, two local landowners and Salmon Trout Enhancement Program (S.T.E.P.) volunteers have suggested that the future quarry activities would damage the fish habitat value of Square and Circle Creeks. Mr. Jensen maintains egg incubation boxes on his property that are fed by a spring that flows into Circle Creek. Mr. Underhill has incubation boxes on his property about one mile to the northeast, which are not influenced by Square or Circle Creek; he has released fingerlings into the Circle Creek system in the past. There are no other S.T.E.P. incubation boxes on Square or Circle Creeks.

(26) Rick Klaumph and Eldon Korpela provided testimony to the Board upon the background of the S.T.E.P. program and past S.T.E.P. activities in the Circle Creek system. They noted that the proposed quarry activities had the potential to negatively impact Square Creek fish habitat values.

(27) Otto Jensen submitted to the Planning Commission a habitat assessment of Square Creek prepared by Richard Pressey. This report identified potential habitat impacts from the proposed quarry and suggested mitigation measures which could be undertaken to lessen negative impacts.

(28) The applicant presented an engineered development and reclamation plan for the proposed quarry that was prepared by David Evans and Associates. This plan included provisions to contain on-site runoff waters and filter these waters to remove erosion sediments. This development plan was designed to meet applicable DEQ water quality standards. In presenting the development plan to the Board, Robert Price, of David Evans and Associates (DEA), stated that the proposed containment and filtration plan would result in a lesser runoff sediment load into Square Creek than the sediment load which is currently carried into the Creek.

(29) Warren Knispel, District Fish Biologist for the Oregon Department of Fish and Wildlife, has submitted the following comments to the County regarding the proposed quarry:

> "Expansion will require some caution to protect water quality in nearby Circle Creek. The stream produces salmon, steelhead and cutthroat trout. Past experience, with poorly designed pit drainage, has resulted in turbid water entering such streams. If the crushing operation washes rock, adequate settling basins would be needed as well as an upland site to dispose of the non-usable material."

After reviewing the engineered site development plans as they were presented at the February 11, 1986, Planning Commission meeting, Mr. Knispel advised the Commission that the Department of Environmental Quality had regulatory authority upon water quality impacts and he observed with regards to the DEA development plan, "It's a good plan."

(30) The applicant does not propose to remove water from Square Creek at the project site. Imported water will be utilized to meet his needs. The applicant intends to use a dry stream process in his crushing operation.

(31) The nearest residence, Otto and Pat Jensen's mobile home, is approximately 2,000 feet from the proposed quarry site and 800 feet from the proposed stockpile site. The Jensens have a conditional use permit to allow a non-forest dwelling within an AF-20 forest zone.

(32) There are five residences within 3,000 feet of the proposed quarry. Four of these are located within the AF-20 zone and the other is within a GC general commercial zone. All of these residences are within 150 feet of the Highway 26/101 intersection.

(33) The applicant's rock crusher would be located on the south side of the quarry. An asphalt mix plant may be placed at the quarry site or in the stockpile area. Both the rock crusher and the asphalt plant must receive DEQ permits which regulate noise, dust and emission levels.

(34) Access roads to the site will be maintained in a dust-free condition per QM zoning standards.

(35) Mr. Jensen testified before the Board that he had in the past heard, from his residence, noise from the Johnson quarry, the previous activities at the applicant's proposed quarry site and traffic noise from U. S. Highway 101.

(36) Since the involved quarry site has been utilized during the past 20 years, DEQ will apply their standards for an "existing industrial or commercial noise source" to the applicant's future activities. The use will have to comply with the standards found in table 7 of the DEQ regulations (OAR 340-35-035).

(37) Contrary to assertions made by the opposition, the area in the vicinity of the request has not been designated as a DEQ "quiet area" as per definitions in OAR 340-35-015 (50).

(38) The applicant has presented a noise study prepared by Larry Hopkins, of dBH Engineering, which documents that the proposed use can be conducted on the subject property in conformance with the applicable DEQ noise standards.

Conclusion

The Board has received extensive testimony upon how the proposed amendments and resulting quarrying activities might impact the fish habitat value of Square and Circle Creeks. Two local S.T.E.P. volunteers (Jensen and Underhill) have suggested that the activities would have negative impacts upon fish habitat. Three individuals with varying fisheries biology backgrounds (Klaumph, Korpela and Pressey) have indicated that the quarrying activities could potentially damage fish habitat. Warren Knispel the ODGW District Fish Biologist notes "expansion will require some caution to protect water quality in nearby Circle Creek."

The major identified fish habitat concern is that runoff waters from the development sites would carry sediments into Square and Circle Creeks. The applicant has provided an engineered development plan which details how site runoff will be contained and filtered. This plan includes a provision for an undisturbed riparian vegetation buffer of 50+ feet from Square Creek, which exceeds the County's habitat protection buffer requirement of 35 feet. The Board concludes that the applicant has adequately addressed the identified fish habitat concerns. With the precautions outlined in the DEA development plan, rain water runoff sediments will be contained in a manner which is probably an improvement upon existing conditions and which is certainly more effective than provisions undertaken during the clearcutting of similar forest lands. Water quality concerns will be further considered and mitigated by the DEQ through the established Department of Geology and Mineral Industries permit process.

The County's QM zone development standards require that applicable State and Federal noise and dust standards be followed. The applicant has submitted a noise study completed by dBH Engineering, which outlines applicable DEQ noise standards and details noise level projections from the proposed quarrying activities. This report concludes that the proposed activities can be conducted within the limitation of established DEQ noise standards. The Board also notes that the four closest residences are all in a forest resource zone and that these residences were constructed after the subject quarry was opened by Crown 10 to 15 years ago. The noise produced by the quarry and hauling units will be similar to that produced by logging equipment during typical logging operations. Due to their proximity to commercially managed forest lands, these residents should anticipate and accept a given level of noise associated with logging activities and/or other resource uses such as quarrying. It should, also, be recognized that the subject quarry could be extensively utilized on a permitted use basis in the F-80 zone, so long as 75% or more of the produced rock was used for forest purposes. The Board concludes that the applicant has properly demonstrated that the future quarrying activities can be conducted within the limits of DEQ noise standards and that the projected noise impacts will not be significant.

The applicant's crusher and asphalt plant equipment will have to satisfy DEQ dust discharge standards. All access roads will have to be maintained in a dust-free condition. The Board concludes that the dust impacts have been properly addressed.

Economic Consequences

Findings

(39) The availability of adequate quarries, dispersed throughout the County in the proximity of future construction projects will encourage competitive aggregate pricing and result in reduced road construction costs.

(40) The goal 5 background report acknowledged this economic fact in stating:

> "Existing rock and aggregate sources, particularly those which are close to a major area of potential new construction, should be kept available for future use because the rock and aggregate industry is vitally needed to the growth of an expanding community."

(41) The quarry operation will create direct economic benefits in the form of three or four jobs.

Conclusion

The County will realize long-term economic benefits from the development of a competitive aggregate source in close proximity to future improvement projects along U. S. 101 and Highway 26. Other potential quarry sites do not have the advantage of being located in close proximity to both U. S. 101 and Highway 26.

Social Consequences

Findings

(42) Minimal social consequences are anticipated by the operation of the quarry.

Conclusion

Social consequences are not an issue in this report.

Energy Consequences

Conclusion

This quarry is in the immediate vicinity of the upcoming Cannon Beach junction improvement project and in the general vicinity of

other future highway improvement projects along Highway 26 and U. S. 101. Other more isolated quarry locations would require longer haul distances and consequently would be less energy efficient.

ESEE General Conclusions

Other potential quarry sites in the vicinity do not have rock deposits of the quantity and quality desired by the applicant. Concerns have been raised regarding fish habitat and noise impacts at the proposed exception site. The applicant has demonstrated that precautionary measures will be taken to reduce these potential adverse impacts to acceptable levels. In general terms, the environmental, economic, social and energy consequences resulting from the use of the proposed site will be similar to, and no more adverse than, the expected consequences from the development of other quarry sites.

As previously determined, the forest production potential of the quarry site is considered to be secondary to its rock resource value. The proposed development will be compatible with forest management activities on surrounding Crown lands. In the long term, the development areas themselves will be reclaimed for future forest uses; the projected 20 year quarry life span is a relatively short-term land use in relation to a typical 40 year timber production cycle. The removal of 30+/- acres from the County's vast timber management resource base for the lifetime of the quarry will have an insignificant impact on the County's economy.

Exception Factor #4

The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts.

Findings

(43) All adjacent lands are managed forest lands. The involved quarry has been utilized in past years as an aggregate source for the construction of logging roads. The forest management activities and rock quarrying land use have co-existed side by side for a number of years. Quarry activities are a listed F-80 permitted use, so long as the quarry output is utilized on a 75/25 forest/nonforest use basis.

Conclusion

As indicated by Finding 6, the proposed rock quarry development would be compatible with forest uses on surrounding F-80 lands.

ZONING ORDINANCE SECTION 5.412 ZONE CHANGE CRITERIA

Amendment Criterion #1

The amendment shall be consistent with the Comprehensive Plan.

Findings

(44) The Conservation Forest Lands Plan Designation includes forest lands that are to be retained for the production of wood fiber and other forest uses. An exception has been taken.

(45) Policy 1 of the Goal 4 element (Forest Lands) states:

> "Forest lands shall be conserved for forest uses. Forest uses and activities include the production of trees and the processing of forest products, watershed protection, fish and wildlife habitat, outdoor recreation, open space and scenic preservation, mineral and aggregate extraction and agriculture." (Emphasis added.)

(46) Policy 11 of the Goal 4 element states:

> "Before designated forest land is converted to another use, the productive capability of the land in each use should be considered and evaluated. . ." The proposed site and surrounding areas consist of site Class II forest lands.

(47) The County's Goal 5 element background report provides the following summary upon quarry demand.

> "The report states that the present quarries, although large, are limited in the amount of rock which can be produced. It is estimated, according to their projections, that these quarries will be able to produce only about one-half to two-thirds of the quantities needed in the County in 1985. In order to provide aggregate, additional quarries of large size will have to be developed. It is likely that gravel also will have to be imported by barge from the upper Columbia River or from other sources outside the State. Existing rock and aggregate sources, particularly those which are close to a major area of potential new construction should be kept available for further use because the rock and aggregate industry is vitally needed for the growth of an expanding community." (Emphasis added.)

(48) Policy 1 of the Goal 5 element states:

> "Mining and mineral extraction should be permitted where it is found that an economic deposit of material exists."

(49) Policy 4 of the Goal 5 element states:

> "Every effort should be made to protect the limited rock resources in the County by assuring that development does not preempt the use of these lands."

(50) Policy 6 of the Goal 5 element states:

> "Preventative measures shall be taken to assure that excessive noise, dust, vibrations and other nuisances associated with mining activities are avoided."

(51) The County's Goal 5 inventory of rock resource sites only identified existing DOGMI permit sites. The inventory did not provide a listing of potential future quarry sites, such as the subject site.

(52) The quarry and mining zone purpose statement in section 3.462 of the Ordinance reads:

> "The intent of this zone is to protect aggregate and other mineral sites from incompatible uses where such material is needed for primarily non-forest uses. Good quality aggregate and mineral sites are uncommon in the County and are vital to a healthy and growing economy. These sites should be protected from conflicting uses, primarily structures which would preempt an extractive resource uses." (Emphasis added.)

(53) Ordinance section 3.464 QM Application further explains:

> "There are a number of existing and potential rock pits and stockpile sites which are not designated on the County map due to lack of adequate information concerning the sites. It is anticipated that many of those sites will be designated QM upon further information and a Goal 5 analysis and Comprehensive Plan amendment."

Conclusion

At the time the County's Goal 5 inventory of rock resources was compiled, only existing DOGMI quarry sites were recognized; other potential developable rock resources were not inventoried. The County's Goal 5 background report recognizes that additional

large quarries will have to be developed to meet the County's rock needs beyond 1985. Goal 5 policies 1 and 4 support the protection and development of identified rock deposits. The Zoning Ordinance also acknowledges that a number of existing and potential quarry sites were omitted from the QM zone due to a lack of background information, and that many of these sites will need to be designated QM in the future. The proposed amendments are consistent with the clear intent of the Comprehensive Plan to identify and develop additional quarries to meet the County's aggregate needs.

Amendment Criterion #2

The revision will not interfere with the development or value of other land in the vicinity when compared to the public interest in allowing the zone change.

Findings

Findings 22 through 30 pertain to fish and wildlife habitat concerns.

Findings 31 through 38 pertain to noise concerns.

Findings 33 and 34 pertain to dust concerns.

Findings 39 through 41 pertain to economic benefits.

(54) The quarry and stockpile sites are located within one mile of U. S. Highway 101. There is an existing logging access road from U. S. 101 to the quarry and stockpile sites.

(55) The public interest could benefit in approving this zone change to allow an additional rock quarry in close proximity to the upcoming Cannon Beach junction highway improvement project.

(56) Forest lands primarily surround the proposed site. The adjoining lands' owner is also the owner of the quarry site. The proposed zone change and future quarrying activities will not conflict with ongoing forest management activities on adjoining lands.

(57) The involved quarry has been utilized for the past 10 to 15 years as a borrow site for forest and general commercial rock. These quarrying activities predate the establishment of the closest three residences.

Conclusion

This criterion involves the balancing of potential impacts upon surrounding properties with the potential public interest

benefits. Measures have been taken to reduce potential fish habitat, noise and dust impacts to acceptable levels. The resulting impacts will not significantly affect the value of residential lands to the east. The proposed use is compatible with forest management activities on adjoining F-80 lands. The positive economic benefits of the proposed amendments clearly outweigh the potential negative impacts upon surrounding properties.

The Board has reviewed the content of the January 13, 1986, letter submitted by Pete Anderson and has reached a determination that the surrounding residential property values will not be significantly impacted by the proposed zone change. The proposed activity areas are located at a greater distance from surrounding residences than the 600 foot distance referenced in the Anderson letter. The applicant has presented expert testimony in the form of the dBH Engineering noise study to demonstrate that the proposed activities can be conducted within the noise limitations established by DEQ. The Board also notes that the quarry site was developed and actively utilized prior to the establishment of the Jensen residential use.

Amendment Criterion #3

A demand exists for the development and uses listed in the proposed zone at the proposed location.

Factors which should be considered in determining whether or not this demand exists include (a) availability, including an assessment of the public facilities and services and roads to supply the area, and (b) an assessment of availability of other appropriately zoned property.

Amendment Criterion #4

The revision will not be detrimental to the interests of the community.

Note: Findings and conclusions pertaining to these two criteria will be combined since the involved information is interrelated.

Previous Findings 7 through 21 and Exception Factor #2 Conclusion pertain to demand.

Findings

(58) The applicant will utilize existing timber access roads to the stockpile area and quarry. These roads will remain open for forest uses.

(59) This use will not require any additional public facilities such as sewer or water and have no impact on public services such as schools or fire protection.

(60) An assessment of the alternative sites has been detailed in Findings 7 through 18 and the Goal Exception Factor #2 Conclusion statement.

(61) A November 20, 1985, letter has been received from Eldon Everton, of the Oregon Department of Transportation, which indicates that this Department has no objection to the proposed commercial rock quarry and that the Circle Creek - U. S. 101 access is acceptable.

(62) A January 10, 1986, letter has been received from Randy Trevillian supporting the proposed amendments and noting the need for additional sources of aggregate to encourage competitive pricing within Clatsop County.

(63) A February 11, 1986, letter has been received from the Oregon Concrete and Aggregate Producers Association documenting the general need for additional aggregate sources along the coast and supporting the Bayview request.

Conclusion

The County's Comprehensive Plan and Zoning Ordinance document the general need for additional quarries in Clatsop County. The County Roadmaster's testimony supports this general demand. The applicant's specific needs have been detailed in the previous exception findings. A demand for the amendment has been demonstrated. The quarry development will not create any public facility or service demands. The proposed amendment will not be detrimental to the general interests of the community, but will instead provide positive economic benefits to the County, as a whole.

CONCLUSION AND DECISION

The record and the findings support the conclusion that the applicant has properly addressed the review criteria from section 20 of Chapter 660 Division 4 of the Oregon Administrative Rules, and section 5.412 of the Clatsop County Land and Water Use and Development Ordinance. The proposed amendments are consistent with the intent of the Clatsop County Comprehensive Plan.

It is the decision of the Clatsop County Board of Commissioners that the Bayview goal exception, Comprehensive Plan amendment, and Land and Water Use and Development map amendment are hereby approved.

BACKGROUND

A public hearing was held before the Clatsop County Board of Commissioners on April 2, 1986 to receive testimony upon whether blasting activities will be permitted in the newly created Quarry and Mining Zone to the west of the Cannon Beach junction.

FINDINGS

(1) The Planning Commission hearing record contains no specific discussion of blasting impacts. Planning Commission approval condition #1 was read into the record without reference to any blasting restrictions.

(2) The Board of Commissioners' record includes no specific discussion of blasting impacts.

(3) The approval ordinance proposed for adoption at the February 26, 1986 board meeting contained a condition which prohibited blasting. The applicant objected to this use limitation.

(4) The applicant anticipates being able to remove rock by means of dozer ripping, but rock formation conditions may necessitate blasting and the applicant must have this option available to him to assure efficient aggregate removal.

(5) Blasting would utilize a subsurface technique with charges placed in rock core drillings. This activity would be controlled by DEQ standards and not be a high noise activity as compared with surface blasting.

(6) Blasting is currently allowed at the same location with quarry developments in the F-80 Zone.

(7) The Quarry and Mining Zone use standards contain no limitations upon rock removal by the means of underground blasting.

CONCLUSION

The records of the previous Planning Commission and Board of Commissioner's public hearings contain no specific discussions upon blasting impacts or the need to restrict blasting activities at the involved quarry site. The Planning Commission's recommended condition of approval #1, as read into the record, did not contain any limitations upon blasting.

If rock conditions are such that blasting is required, the applicant should be allowed to utilize this means of rock removal. Such activities are common to typical quarry operations and should be allowed at the Bayview quarry in the newly created Quarry and Mining Zone.

Staff recommends the following conditions for approval:

1. Preventative measures shall be taken to assure that excessive noise, dust, vibrations, and other nuisances associated with mining activities are avoided. The applicant shall coordinate with the noise pollution control section of the Department of Environmental Quality to mitigate possible excessive noise emissions from rock extraction and sorting operations. Steps to lessen noise pollution impacts on nearby residential/commercial properties should include time of operations.

2. The proposed use will require protection of water quality in nearby Circle Creek and its tributary creeks. The applicant shall coordinate with the Oregon Department of Fish and Wildlife for proper drainage design from the pit so water turbidity levels are not increased in Circle Creek and Square Creek. Settling basins as well as an upland site to dispose of non-usable material shall be required if pit drainage is directed to Circle Creek.

3. Obtain a valid permit from the Oregon Department of Geology and Mineral Industries for the rock quarry operations and the stock pile site.

4. Rock crushing opeartion shall comply with Air Contaminate Discharge Permit issued by the State Department of Environmental Quality and Section 3.470 of Clatsop County Ordinance 80-14.

5. State and Federal Permits. Applicants for developments which require a state or federal permit shall submit to the Planning Director a copy of: the complete permit application, other surrounding material

6. All private access and service roads shall be maintained in a dust-free condition during intensive operations.

7. Prior to operations which will result in open excavation with a depth of ten feet or more and a slope steeper than one vertical foot to two horizontal feet and which is located within 100' of a residentially occupied structure, a fence shall be erected at least ten feet outside the edge of the excavation at least four feet in height, to control access to such excavation.

8. No mining or structural improvements shall occur within the riparian setbacks as specified in S4.502. In no case, however, shall the minimum setback from a waterway be less than 25'.

9. Clatsop County Department of Planning and Development shall be notified in advance by the applicant, lessee or purchaser of rock material of the location of any fill or riprap for which the rock or mined material will be used. This condition is limited to all areas identified in the Clatsop County Comprehensive Plan as an Esturaine Resource Coastal Shorelands, Beach and Dune areas and significant wetland areas. All permits required by local, state and federal agencies for fill or riprap must be approved prior to placement within one of the areas identified above.

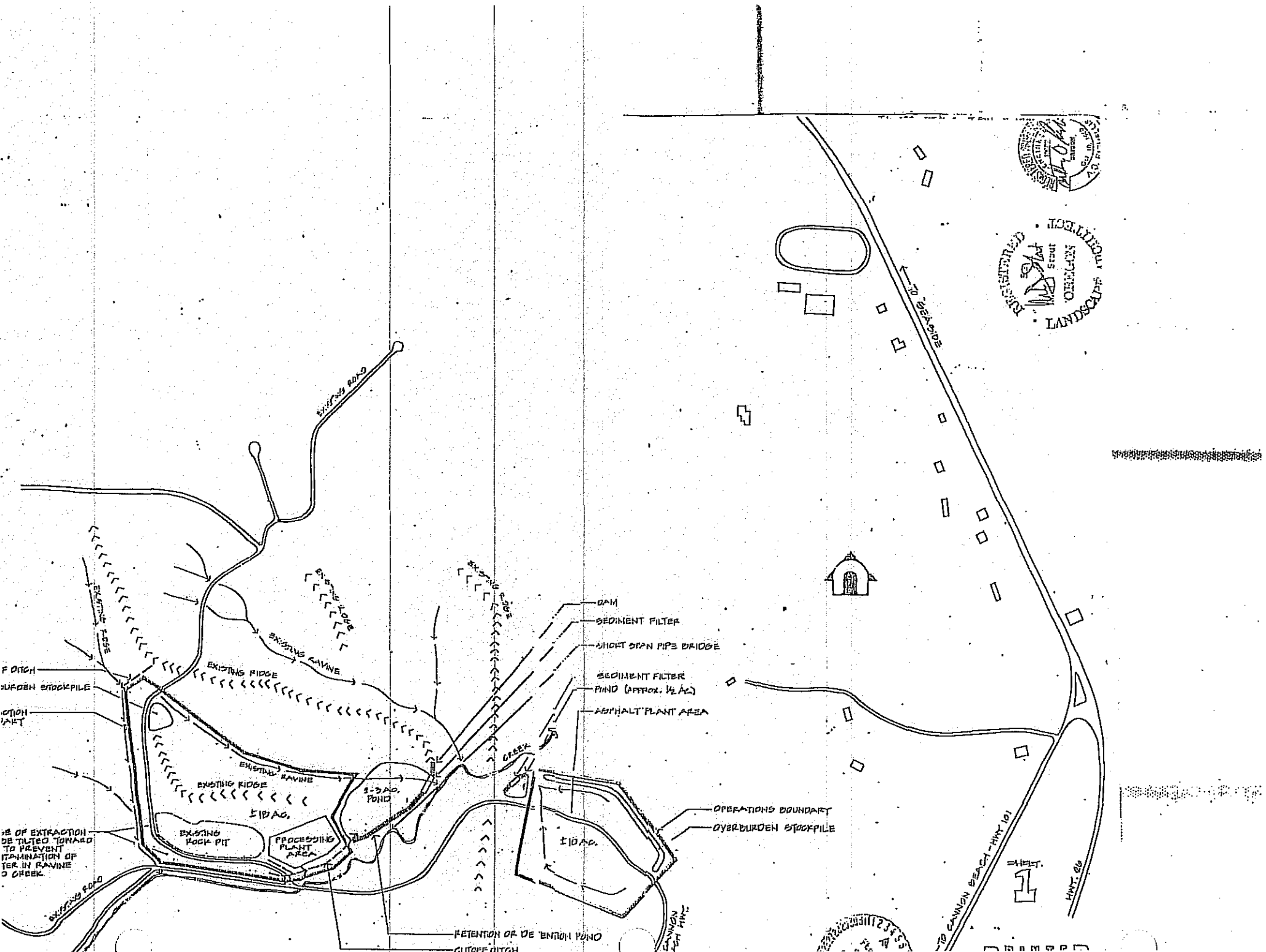
10. Reclamation plans for surface mining opeartions must show that they are consistent with the Comprehensive Plan.

11. Provide boundary line surveys of the quarry and stock pile sites for purposes of defining the affected areas proposed to be re-zoned into the QM zone district.

12. Obtain a Clatsop County Land and Water Development and Use permit to validate that conditions 1,2,3,4,5,6,7,8,and 11 have been completed prior to rock extraction and stock pile operations.

13. Obtain a Clatsop County Land and Water Development and Use permit prior to placement of a concrete, ready-mix, or asphalt batching plant.

14. Obtain a Clatsop County Land and Water Development and Use permit for signs, offices, warehouses and maintenance buildings appropriate to uses permitted in the QM zone.

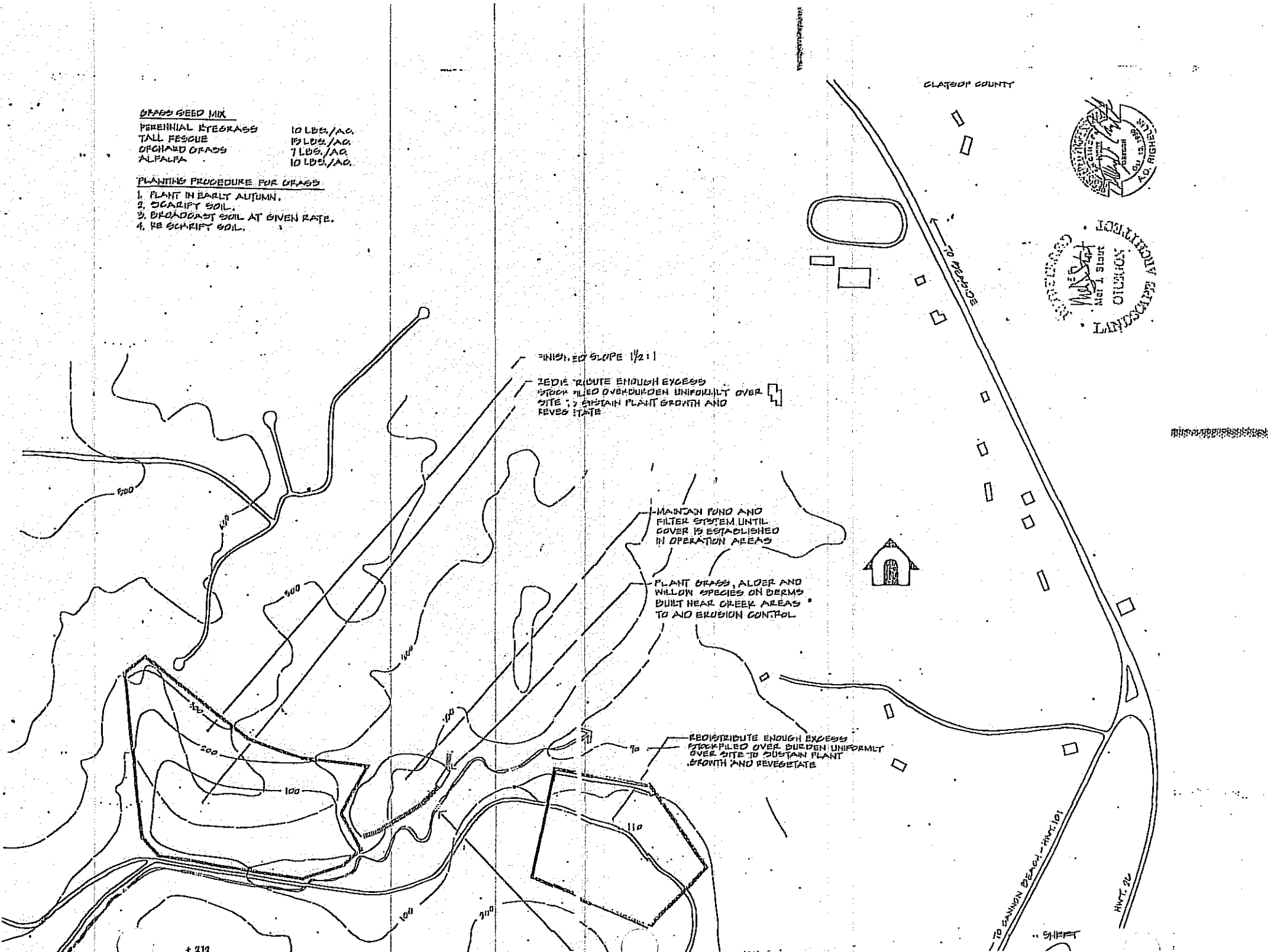

EXISTING ROAD
EXISTING EDGE
EXISTING RAVINE
EXISTING RIDGE
EXISTING RAVINE
EXISTING RIDGE
±10 AC.
EXISTING ROCK PIT
PROCESSING PLANT AREA
±2.5 AC. POND
CREEK
±10 AC.
DAM
SEDIMENT FILTER
SHORT SPAN PIPE BRIDGE
SEDIMENT FILTER
POND (APPROX. ½ AC.)
ASPHALT PLANT AREA
OPERATIONS BOUNDARY
OVERBURDEN STOCKPILE
RETENTION OR DETENTION POND
CUTOFF DITCH
TO SEASIDE
TO CANNON BEACH - HWY 101
HWY. 26
SHEET 1
LANDSCAPE ARCHITECT

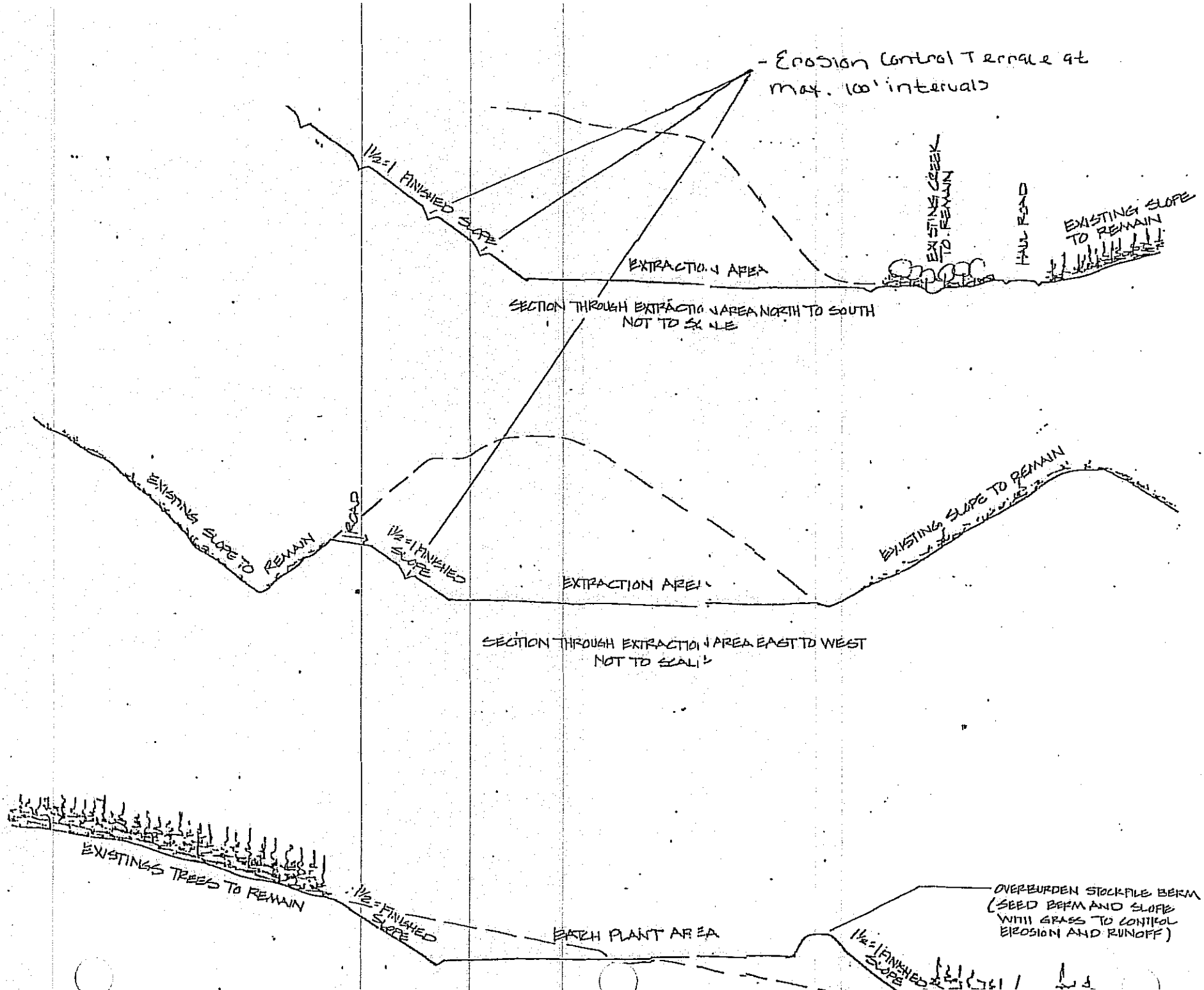
GRASS SEED MIX

PERENNIAL RYEGRASS	10 LBS./AC.
TALL FESCUE	15 LBS./AC.
ORCHARD GRASS	7 LBS./AC.
ALFALFA	10 LBS./AC.

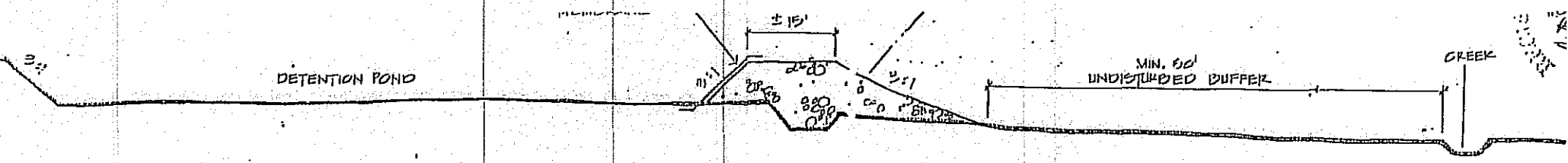
PLANTING PROCEDURE FOR GRASS

1. PLANT IN EARLY AUTUMN.
2. SCARIFY SOIL.
3. BROADCAST SEED AT GIVEN RATE.
4. RE SCARIFY SOIL.



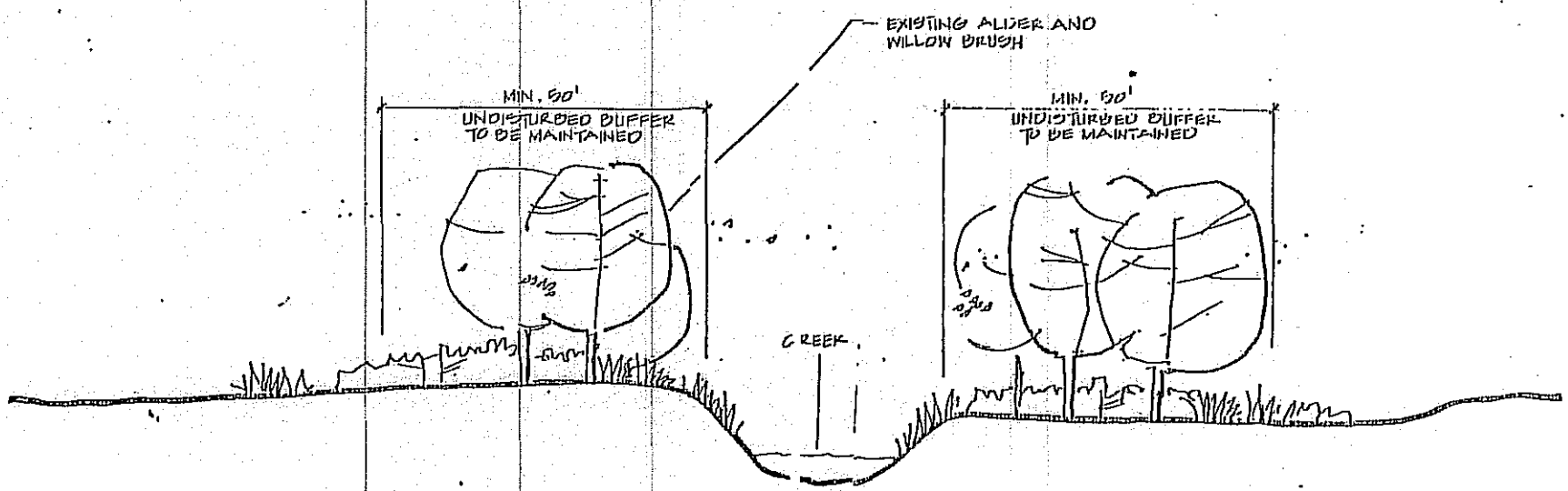

- Erosion Control Terrace at max. 100' intervals
1½:1 FINISHED SLOPE
EXTRACTION AREA
EXISTING CREEK TO REMAIN
HAUL ROAD
EXISTING SLOPE TO REMAIN
SECTION THROUGH EXTRACTION AREA NORTH TO SOUTH
NOT TO SCALE
EXISTING SLOPE TO REMAIN
ROAD
1½:1 FINISHED SLOPE
EXTRACTION AREA
EXISTING SLOPE TO REMAIN
SECTION THROUGH EXTRACTION AREA EAST TO WEST
NOT TO SCALE
EXISTINGS TREES TO REMAIN
1½:1 FINISHED SLOPE
BATCH PLANT AREA
OVERBURDEN STOCKPILE BERM
(SEED BERM AND SLOPE WITH GRASS TO CONTROL EROSION AND RUNOFF)
1½:1 FINISHED SLOPE

SHEET 3



SECTION THROUGH STORM WATER DETENTION FACILITY

NOT TO SCALE



SECTION THROUGH CREEK NEAR PROCESSING PLANT AREA

SCALE

SHEET 4

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

BOOK 685 PAGE 129

ORDINANCE NO. 87-11

(AN ORDINANCE AMENDING THE CLATSOP
(COUNTY COMPREHENSIVE PLAN AND ZONING
(MAP, TAKING AN EXCEPTION TO GOAL 4
(FOREST LANDS, AS ADOPTED BY THE BOARD
(OF COUNTY COMMISSIONERS, ADOPTING
(CERTAIN FINDINGS, RESCINDING
(INCONSISTENT PROVISIONS

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

OCT 28 1987

SECTION 1. SHORT TITLE.

This ordinance shall be known as the Bayview Transit Mix Rock Quarry Project Amendment (LUBA Remand).

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to revise and amend the Clatsop County Comprehensive Plan, Background Reports, Community Plans and Comprehensive Plan/Zoning Map. In the interest of the health, safety and welfare of the citizens of Clatsop County and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the Clatsop County Comprehensive Plan and Zoning Map, amending the Exception Statement.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The Board of County Commissioners has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Board held a public hearing on this ordinance pursuant to law on August 12, 1987 and September 9, 1987.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supercede, control and repeal any inconsistent provision of the Clatsop County Comprehensive Plan, as amended, the Clatsop County Land and Water Development and Use Ordinance, as amended, or any other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force and effective 90 days following the date of recording of this Ordinance.

SECTION 8. ADOPTION CLAUSE.

The Board of Commissioner's hereby adopts the findings and conclusions set forth in Exhibit "A" and attached hereto and by reference herein made a part of this ordinance in its entirety together with the conditions set out in Exhibit C of Exhibit A attached hereto.

ENACTED this 28th day of October, 1987.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

BY _____
Bob Westerberg, Chairman

BY _____
Roger A. Berg, Commissioner

BY _____
Deborah Boone, Commissioner

Vote: Aye: Roger A. Berg & Bob Westerberg

Nay: Deborah A. Boone

Abstention: none

Attest: _____
Recording Secretary to the Board

Date: October 28, 1987

Date of first reading: October 14, 1987

Date of second reading: October 28, 1987

Date Ordinance submitted to Board of Commissioners: October 6, 1987

Ord 87-11

EXHIBIT "A"

STATEMENT OF STANDARDS, FACTS AND JUSTIFICATION IN SUPPORT OF BAYVIEW TRANSIT MIX, INC. REQUEST FOR ZONE CHANGE FROM FOREST-80 ZONE TO QUARRY AND MINING ZONE, INCLUDING EXCEPTION TO GOAL 4, TOWNSHIP 5 NORTH, RANGE 10 WEST, WILLAMETTE MERIDIAN, PORTIONS OF TAX LOTS 700 AND 1,000; TOWNSHIP 5 NORTH, RANGE 10 WEST, WILLAMETTE MERIDIAN SECTION 4, PORTIONS OF TAX LOT 100, CLATSOP COUNTY, OREGON

PART I. LIMITED ISSUES FOR DECISION BEFORE THE BOARD OF COMMISSIONERS

This is a remand proceeding arising out of our approval of Ordinance No. 86-10 dated April 2, 1986. After receiving a substantial amount of testimony, we adopted that ordinance which approved a revision to the Clatsop County comprehensive plan and zoning map by creating a quarry and mining zone. Opponents, Mr. & Mrs. Otto Jensen appealed our decision to the Land Use Board of Appeals ("LUBA"). LUBA remanded the matter on August 6, 1986 for further consideration of specific issues by the County. In this remand matter, opponents, Mr. and Mrs. Jensen, are joined by Howard E. Johnson and Sons, Inc. By resolution and order directed to interested parties dated May 27, 1987, we scheduled further proceedings on this matter. The resolution and order dated May 27, 1987 specifically limited the remand proceeding to matters raised in the opponents First and Third Assignments of Error. After careful consideration of the LUBA opinion and the doctrine of law of the case, we find that LUBA has limited this remand proceeding to the following questions:

A. Alternative site criteria: Can the proposed aggregate use be "reasonably accommodated" on nonresource land that would not require an exception?

LUBA limited this question to three issues:

Issue No. 1.

Can the Johnson QM Zone reasonably accommodate the proposed quarry?

Issue No. 2.

Does substantial evidence support Bayview's cost estimate for crushed rock from the proposed quarry?

Issue No. 3.

Do the Ordway and Darling Quarries have sufficient rock quantity and quality to support the proposed quarry?

B. Alternative site criteria: Does location of the proposed quarry at the Bayview site cause "significantly more adverse" consequences than location of the quarry at another site requiring the goal exception?

LUBA limited this question to three issues:

Issue No. 4.

Do the five alternative sites listed by the County (Cavenham Highway 101 (04-0028), Halvorsen (04-0032), Cavenham Pit Run (04-0036), McEwen Clay Borrow Pit (04-0048), and Stevens River Borrow Pit (04-0049)) have sufficient quantity and quality of rock to support the quarry?

Issue No. 5.

What are the characteristics of the alternative sites?

Issue No. 6.

What are the impacts that would "typically result" from locating the proposed quarry at the sites and are these impacts less severe than location of the quarry at the Bayview site?

C. Compatibility.

Issue No. 7:

Is the proposed quarry "compatible" with the adjacent residential uses?

D. Goal 5 Conflicts.

Issue No. 8:

What are the economic, social, environmental and energy consequences to Goal 5 resources of allowing processing of crushed rock at the proposed site?

Issue No. 9.

Given the economic, social, environmental and energy consequences, the County must "develop a program to achieve the Goal."

We find that these questions are the only matters before the Board as a result of the LUBA remand order. Each question is specifically addressed in Part IV below.

PART II: NATURE OF DEVELOPMENT

1. Action Supported by Statement.

This Statement supports approval of a Plan Designation Amendment and Zone Change Request by Bayview Transit Mix, Inc. The applicant seeks a change in a comprehensive plan designation on the site from Conservation Forest Lands to Conservation Other Resources and a zoning change from F-80 (Forest-80) to QM (Quarry and Mining). The requested changes will permit applicant to establish a quarrying, crushing and stockpiling operation on the site. This approval is accompanied by 21 conditions, a copy of which is attached hereto as Exhibit "C". Applicant intends to use greater than 25 percent of the aggregate extracted from the site in nonforest uses and has requested the comprehensive plan designation change and zoning ordinance change to permit commercial rock extraction activities.

2. Site Description.

The proposed site consists of two irregularly shaped parcels located in Township 5 North, Range 10 West, Willamette Meridian (portions of Tax Lots 700 and 1,000 and portions of Tax Lot 100 of Section 4), Clatsop County, Oregon. The site is located due west of U.S. Highway 101 near the intersection of State Highway 26. The area affected by the proposed changes is approximately 30 acres in size and is owned by Cavenham Forest Industries (formerly Crown Zellerbach). The applicant has obtained a lease from Cavenham Forest Industries ("Cavenham") which will allow it to conduct aggregate extraction and related activities. The proposed site is located concurrent with an existing aggregate pit that has been used by Cavenham for many years as a source of rock. The general area for which the quarry is proposed has been recently logged and does not, at present, support marketable timber.

Applicant has proposed an extraction site which is approximately 20 acres in size and is located on the south side

of an existing ridge coterminous with the west side of the existing Cavenham Quarry site. In addition, approximately 500 feet to the east, applicant has proposed a 10-acre stockpiling site. An existing creek, Square Creek, runs adjacent to the proposed extraction area. Approximately 2,800 feet to the north and east of the proposed extraction area and approximately 800 feet to the north and east of the proposed stockpile area is a mobile home owned by Otto and Pat Jensen ("Jensen"). The Jensen home is located in an AF-20 zone by virtue of obtaining a conditional use permit. Farther to the north and east are other residences and commercial developments.

The Clatsop County Land and Water Development and Use Ordinance ("LWDUO") provides that the proposed site is located in an F-80 (Forest-80) zone. The land use plan designation for the proposed site is Conservation Forest Lands.

3. Summary of Proposed Action.

The applicant has proposed to institute a new commercial extraction and processing operation at the already existing Cavenham aggregate quarrying site and adjacent stockpile area. The aggregate removed from the site will be used in primarily nonforest uses. As a result, applicant has requested a land use plan designation change and zoning change to allow the proposed use to occur on the site. As shown on the applicant's site plan, setbacks, vegetation buffers, berm barriers, sedimentation ponds and other measures will be employed to reduce the environmental impact of the proposed operation. Applicant has applied for a Department of Geology and Mineral Industries ("DOGAMI") Reclamation Permit and has agreed to obtain all necessary Oregon State Department of Environmental Quality ("DEQ") approvals.

PART III: ISSUES FOR DECISION ON REMAND

Issue No. 1.

Can the Johnson QM zone reasonably accommodate the proposed quarry?

With regard to the Johnson QM site, we find the following relevant facts in the record:

The Johnson QM site (located on Exhibit A, attached) is located 3/4 mile north of the Cannon Beach Junction and 1/8 mile east of Highway 101. It has an estimated area of 16 acres and remaining rock at about 155,000 cubic yards. After setbacks,

overburden, safety and reclammation factors are taken into consideration, the Johnson QM Quarry will produce approximately 70,000 cubic yards. The use proposed by the applicant is a long-term aggregate extraction facility which would help to meet Clatsop County's aggregate demand over an extended period of time (20 years). Applicant proposes to produce a full range of commercial aggregate products. A long-term source of supply is required to satisfy several necessary business considerations, including lead time to prepare bids on large projects and amortization of capital equipment costs. The 100,000 cubic yard per year projected use at the site is based on Bayview's own aggregate consumption, sales to the public and allowance for future market expansion. The primary market area to be served by the proposed quarry is the Cannon Beach to Warrenton strip, although aggregate operations in the area, including Bayview and Johnson, successfully compete for projects as far away as Knappa. The demand in this market area is estimated to be 97,000 cubic yards per year by Johnson's geologic consultant. However, production figures supplied by Johnson indicate that Johnson alone has produced a minimum of 86,888 cubic yards of crushed rock per year for the last 10 years. In addition, DOGAMI indicates that aggregate production for nonforest uses in the Cannon Beach-Seaside area alone is approximately 129,000 cubic yards per year. This DOGAMI figure does not include imports into the area. Bayview alone has imported an average of 22,791 cubic yards of crushed aggregate per year for the years 1982-1985. This Bayview import figure does not include round river rock imports. Bayview's project management engineer estimates the annual market demand to be 250,000 cubic yards. We find that the 97,000 cubic yard figure offered by Johnson's geologic consultant is not reliable. Johnson's own production figures, without taking into account imports or other rock produced, indicate that the annual consumption in the market area is significantly higher. In addition, it is unclear how much of the Rippet Quarry production needs to be added to the Johnson curshed rock figures. The DOGAMI production figures for the area are based on actual recorded output by the producers, and we find that the DOGAMI figure presents a more realistic figure for market area demand. However, even the DOGAMI production figures do not take into account rock which is imported into the County. We find that an accurate estimate of the aggregate demand in the market area must include all sources, including aggregate that is imported. Accordingly, we find that the DOGAMI production figures must be increased by the amount of rock that is imported in the County. Bayview alone has imported in excess of 22,791 cubic yards of crushed aggregate material per year in the market area during the years of 1982-1985. We find that

adding this figure to the DOGAMI or Johnson production figures results in an average annual demand in the Cannon Beach to Warrenton market area of approximately 150,000 cubic yards per year. We note that this figure is conservative in that it does not include the rock which is used for forest uses or round rock which is imported by Bayview. We find that our conclusions as to the annual demand in the market area are bolstered by the distances of Astoria, Warrenton and Hammond from the Cannon Beach junction. We find that areas within 20 miles of the Cannon Beach junction can be considered part of the market area to be served by the proposed quarry. Mr. Redfern, in his rebuttal statement, gives distances which would place Astoria, Warrenton and Hammond at least 25 miles from the Cannon Beach junction. We find that Mr. Lampi checked the distance with an odometer and provides a more accurate description of how far each of these cities lies from the Cannon Beach junction. We find that the east boundary of Hammond lies 18.3 miles, not 27 miles, from the Cannon Beach junction. We find that the south boundary of Warrenton lies 13.8 miles, not 25 miles, from the Cannon Beach junction. We find that the south boundary of Astoria is 18.5 miles, not 29 miles, from the Cannon Beach junction. The distance discrepancy in the Redfern report tends to artificially reduce the extent of the market area and is a reason why the demand figure offered by Mr. Redfern is low. The supply available at the Johnson QM Quarry (04-0011) for extraction is approximately 70,000 cubic yards. In the words of the opponents' geologist, this existing quarry is "pretty well used up." It may be possible to extend the life of this quarry by excavating the quarry floor. Excavating the floor could produce approximately 145,000 cubic yards of additional material, but this extraction would add approximately $1.00 to the cost of each cubic yard produced. The average price for aggregate materials produced by Johnson is $6.00 per cubic yard. Although Johnson claims that its average price for aggregate is approximately $5.00 per cubic yard, we find that a number of factors support our conclusion that the average Johnson price is $6.00 a cubic yard. First, Bayview's purchase of rock from Johnson averages approximately $6.00 per yard. Second, price quotes obtained by Mr. Gamble indicate that the average price of Johnson rock is in excess of $6.00 per cubic yard. Third, the Johnson bid price for rock to be incorporated in the Cannon Beach junction job was in excess of $6.00 per cubic yard. Accordingly, we find the $5.00 per cubic yard price claimed by Johnson is unrealistic, and the average price of aggregate produced by Johnson is $6.00 per cubic yard. The average cost for aggregate materials produced by Bayview is $4.30/$4.45 (our discussion of the Bayview price in Issue No. 2 below is incorporated herein).

As demand in the market area is 150,000 cubic yards per year, we find that the Johnson QM Quarry (04-0011) has a service life of less than one-half year because only 70,000 cubic yards of material is located at that quarry. We find that even if below-floor extraction occurs, the total amount of material at the Johnson QM Quarry would be 215,200 cubic yards. Because this combined figure is less than a two-year supply, this quarry does not present a possible long term source of supply for the use proposed by Bayview. Further, economic factors can be considered in determining whether the Johnson QM site can reasonably accommodate the proposed use. Because aggregate material from the Johnson operation is priced at approximately $6.00 per cubic yard, it is considerably more expensive than the projected cost of aggregate ($4.30/$4.45 per cubic yard) at the proposed quarry. The price differential between the price of the Johnson product and the cost of the Bayview product ($1.55 to 1.70) is reflected in the price that consumers in Clatsop County pay for aggregate-based materials and is a sufficient economic reason, in and of itself, to conclude that the Johnson site cannot reasonably accommodate the proposed use. The additional $1.00 per cubic yard cost necessarily incurred by extraction below the quarry floor would serve to enlarge the differential between the price of Johnson's product and the cost of the product produced at the proposed quarry. Such an increase in the price differential makes it economically unreasonable to rely on the higher priced aggregate which could be extracted below the floor of the Johnson QM Quarry. We conclude that the Johnson QM Quarry cannot reasonably accommodate the proposed use, and further conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

As discussed above, we have concluded that LUBA required us to address whether or not Johnson can reasonably accommodate the proposed use. We find that this question is directed only to the Johnson QM zone and have concluded that the Johnson QM Quarry cannot reasonably accommodate the proposed use. In the event LUBA's discussion of "Johnson" on this issue would be deemed to include the Johnson F-80 site (no DOGAMI permit) and/or the existing Rippet Quarry (04-0007) (both located on Exhibit A, attached) operated by Howard E. Johnson and Sons, Inc., we find the following facts in the record:

The Johnson Quarry operation is presently not operating in the QM zone but has advanced into the F-80 zone located to the southeast of the Johnson QM zone. Less than 75 percent of the materials extracted from the Johnson F-80 site are used on forest lands and forest zones. No land use

approvals have been obtained for operation of an aggregate extraction facility in the F-80 zone. The size of the F-80 parcel owned by Johnson is approximately 10.2 acres. A sizeable portion of this parcel is located across the Necanicum River (on the south side) from the Johnson extraction and processing operation. The Necanicum River, a Class I stream, runs directly through this 10.2 acre site. The site is bordered on the west by an RA-5 zone which extends to the Necanicum River to the south. Setbacks for quarry operations are required from an RA-5 zone and from the Necanicum River. Presently, no direct access to the Johnson processing operation exists from the portion of this site located to the south of the Necanicum River. In June, 1987, a blasting episode at the Johnson operation caused fly rock to be placed on top of structures in the area. The source of this fly rock problem was either the Johnson QM zone or the Johnson F-80 zone. As discussed below at pages 9 through 11 of these findings, the Johnson figures concerning the amount of material available for extraction at the Johnson F-80 site and the Rippet Quarry are inherently less credible than the Bayview estimates of available material for the same two sites. The Johnson F-80 zone contains approximately 300,000 cubic yards available for extraction. The Rippet Quarry has been gradually expanded beyond its original existing boundary, but at present, the extraction area is approximately 5 acres in size. No County land use approval has ever been obtained for this extraction site. The nonconforming use area of the Rippet Quarry contains approximately 244,000 cubic yards of aggregate material. A high, nearly vertical development face exists at the Rippet Quarry. This face creates a risk of falling material which jeopardizes safety and causes reclamation problems which may result in additional expense. Material extracted from the Rippet Quarry is transported across U.S. Highway 101 to the Johnson processing operation located in the QM Quarry. Rock extracted from the Johnson F-80 Quarry and the Rippet Quarry both comprise part of the aggregate product mix which Johnson sells in the market area at an average price of approximately $6.00 per cubic yard.

The Johnson operation charges the applicant a different price for raw aggregate to be processed at the Johnson Quarry by applicant's machinery depending on whether that raw material is processed by applicant into a finished product for commercial work (approximately $8.70 per cubic yard) or for governmental work (approximately $7.70 per cubic yard). Johnson's pricing policies for aggregate to be incorporated into bonded jobs create a price contingency of $1.00 per cubic year of material which makes bidding difficult.

Bayview has proposed a long-term, high-quality aggregate quarry which is projected to produce approximately 100,000 cubic yards of aggregate material per year. The Bayview product cost at the proposed quarry is $4.30 per cubic yard. Aggregate products are necessary for a healthy and active economy in Clatsop County. As discussed below at page 9 of our findings, Policy 17 of the County Comprehensive Plan, Goal 4, County-wide Element prevents expansion of nonforest uses under Type II Procedure when such expansion is not substantially confined to the existing site.

The standards set forth in ORS 197.732(1)(c)(B) and OAR 660-04-002(2)(b), and addressed in Issue No. 1 ("reasonably accommodate"), apply only to areas that do not require an exception. Because the Johnson F-80 site and the Rippet Quarry are located in F-80 zones, Policy 17 requires that expansion of the sites can be accomplished only through an exception process. The disturbed area in the Johnson F-80 Quarry is approximately 1 acre. Both the Johnson and the Bayview estimates regarding the amount of rock available at this site contemplate expansion of the site to a minimum of 7.4 acres. We conclude that full use of the Johnson F-80 Quarry requires an exception under Policy 17 of the County-wide Goal 4 element, and the "reasonably accommodate" standard does not apply to the Johnson F-80 site. The extraction area of the Rippet Quarry is approximately 5 acres in size, and the present extraction activity is present on all 5 acres which may be considered a nonconforming use. This nonconforming use is subject to the "reasonably accommodate" standard. However, because the Rippet Quarry is located in a F-80 zone and any expansion beyond 5 acres requires an exception to be taken, both the Rippet Quarry and the Johnson F-80 site will be discussed and analyzed under Issues 5 and 6 below with reference to the alternative "reasons" exception standard concerning significant impacts that would typically result in locating the proposed use at either site.

We find that we must analyze the existing 5-acre Rippet Quarry as a nonconforming use in an F-80 zone under the "reasonably accommodate" standard. Because many of the factors that must be analyzed at Rippet Quarry also are present at the Johnson F-80 site, we will analyze both sites under the "reasonably accommodate" standard. We do this without altering our conclusion that an exception is required to expand the Johnson F-80 site and the Rippet Quarry. The applicant has proposed a long-term extraction facility which would help meet Clatsop County's aggregate demand over an extended period of time (approximately 20 years). The central components of long-term use are the availability of approximately 100,000 cubic

yards of rock per year for a minimum of 20 years and rock which meets test specifications which insure that average production from a site consistently meets necessary contract standards. For purposes of our discussion, we have assumed that the rock extracted from the Johnson F-80 zone and the existing Rippet Quarry meets the necessary test specifications. With regard to the amount of material available at the Johnson F-80 site and the existing Rippet Quarry, we accept the figures provided by Geologist See in conjunction with consultant Mr. Lampi as more credible than the figures of available material offered by the opponents. Messrs. See and Lampi clearly set forth the methodology by which they arrived at their material figures. The opponents' geologists do not make estimates for these two sites on their own, but apparently rely on the estimates of surveyor Crites. Mr. Crites does not provide methodology which would help us to understand how he arrived at his figures. In addition, we find that Mr. Crites has significantly overestimated the quantity available at the Johnson F-80 site. For Mr. Crites' estimate of 2.2 million cubic yards at the Johnson F-80 site to be accurate, the entire 10.2-acre, F-80 parcel would need to be covered with a rock deposit approximately 103 feet deep considering Mr. Crites' expansion factor. We note that the portion of the 10.2-acre site south of the Necanicum River is a low-lying area. In addition, we note that the Necanicum River runs through the site and will not be available for extraction. In addition, we note that setback along the Necanicum River must be preserved, and a setback is required for the RA-5 zone to the west of the Johnson F-80 site. Subtracting these areas unavailable for extraction from the total 10.2-acre site leaves approximately 7.4 acres available for extraction. To obtain the quantity of the estimate bid by Mr. Crites, this 7.4-acre area would need to be covered with a rock deposit of approximately 153 feet in height considering Mr. Crites' expansion factor. The topography of the area shows that an average of 90 feet of extractable material is available down to the established quarry floor. In addition, we find, as shown in the rebuttal analysis of Mr. Lampi, endorsed by Mr. See, the discrepancy in the opponents' figures is also due to their failure to consider setback requirements, reclamation requirements and overburden limitations. We specifically adopt this rebuttal analysis. For these reasons, we find the quantity estimates provided by the Johnson geologists lack credibility, and we specifically adopt the quantity figures developed by Mr. See in conjunction with Mr. Lampi. In addition to the issue of credibility concerning the Johnson estimate of rock available at the Johnson F-80 and Rippet sites, we note that Geologist Redfern, in his oral testimony before us, indicated that the quantity figures for the Rippet Quarry which he endorsed were dependent upon

"reasonable expansion" of the Rippet Quarry. As we have already discussed above, any such expansion would require an exception to be taken. Accordingly, we find that nonconforming use area at the Rippet Quarry has approximately 244,000 cubic yards of material available for extraction, and the Johnson F-80 site has approximately 300,000 cubic yards available for extraction. Consistent with our demand analysis above, the combined volume of these two quarries which is available for extraction represents only approximately a 3-1/2 year supply. Because the applicant has proposed a site that is projected to produce approximately 100,000 cubic yards for 20 years, we find that these two sites, whether considered independently or considered together, do not provide a long-term source of supply that has been requested by Bayview given the average County demand for aggregate. Given the lack of supply present at these two pits, we find it is unwise for the County to continue to rely primarily on Johnson to supply the market area with essential aggregate products. Further, we find that economic factors are important considerations in determining whether the Johnson F-80 site and the existing Rippet Quarry can reasonably accommodate the proposed use. Because aggregate material produced from the Johnson operation is priced at approximately $6.00 per cubic yard, it is considerably more expensive than the cost of aggregate ($4.30/$4.45 per cubic yard) at the proposed quarry. This differential between the price of the Johnson product and the cost of the Bayview product ($1.55-1.70) is reflected in the price consumers in Clatsop County pay for aggregate-based materials and is a sufficient economic reason to conclude that the Johnson site cannot reasonably accommodate the proposed use. In addition, we find other economic factors, which are a part of the Johnson operation, increase the cost of aggregate-based materials to consumers in Clatsop County. Under certain situations, Johnson charges a surcharge for material that is processed by Bayview into a finished product for commercial work (approximately $1.00 per cubic yard), as opposed to raw material that is processed by Bayview into a finished product for government work. We also find that in certain situations, Johnson's pricing policies for aggregate to be incorporated in bonded government jobs create price contingencies of up to $1.00 per cubic yard. We find that such price contingencies prevent the applicant from bidding on projects that are available in the market area. We find these pricing policies have an economic effect on the final price that is paid by the consumer in Clatsop County for products that incorporate aggregate material. We find that at the present time, Johnson is essentially the sole source of supply of high-grade aggregate material in the County. We find that the County roadmaster has indicated that increased competition in the aggregate industry would be good for the

County. Because Johnson's sole source position injects an unacceptable level of uncertainty into project bidding and causes price differences for similar kinds of work which are not related to material costs, the sole source of supply from the Johnson operation has negative economic effect on the price of gravel and aggregate products in the County. Because the Johnson operation, which includes the Johnson F-80 site and the Rippet Quarry, does not have enough quantity of material to sustain long-term County demand, because the price of aggregate produced by Johnson is substantially higher than the projected cost of production at the Bayview Quarry, and because Johnson pricing policies have a negative effect on the price consumers in Clatsop County pay for aggregate based products, we conclude that the Rippet Quarry and the Johnson F-80 site, whether considered independently or together, cannot reasonably accommodate the proposed use. Finally, we conclude that, in the event the existing Rippet Quarry and the Johnson F-80 site were deemed to be subject to the "reasonably accommodate" standard, these two sites, considered independently or together, cannot reasonably accommodate the proposed use. Accordingly, we conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

Issue No. 2.

Does substantial evidence exist to support Bayview's cost estimate from the proposed quarry?

We find the following facts in the record relevant to this issue:

Bayview has estimated that it can produce aggregate from the proposed site at a cost of $4.30 per cubic yard in 1985 dollars. This estimate is based on production of relatively expensive types of rock. The average production cost of Bayview for a full range of products to be produced will be less than the cost of these more expensive types of rock. Bayview's expert, Mr. Walter R. Gamble, has analyzed the Bayview estimate. Mr. Gamble is a registered professional engineer with considerable experience in project management and budget supervision in the aggregate industry. Mr. Gamble's conservative projection of Bayview's cost per yard is $4.30 in 1985 dollars or $4.45 per cubic yard in 1987 dollars. This $4.30/$4.45 cost figure takes into account overhead costs, including a loader and loader operator, all excavation costs at the site (including drilling, blasting, overburden removal and equipment wear and tear), and all costs of compliance with all

relevant local, state and federal regulations. Johnson is slightly closer to destinations north of the Cannon Beach junction. Bayview is slightly closer to destinations south of the Cannon Beach junction.

Bayview has provided expert testimony concerning its $4.30/$4.45 cost figure for aggregate to be produced at the proposed quarry. Johnson has raised contingencies (including loading costs and environmental compliance costs) which it claims negate the Bayview cost estimate. However, Bayview's expert took these production contingencies into account when examining the cost of material to be produced at the Bayview Quarry and verified the cost estimate by three separate methods. Therefore, we accept the Bayview cost figure. Johnson raises the issue of a transportation cost advantage it might have for materials transported to the north of the Johnson Quarry. We find that this transportation cost is not relevant to the verified $4.30 /$4.45 production cost at the proposed quarry. The crucial inquiry is: given Johnson's $6.00 per cubic yard price, can Bayview justify its proposed cost of $4.30/$4.45 per cubic yard? We find the $4.30/$4.45 figure to be amply supported by Bayview's expert testimony. We also note that if transportation costs are relevant to this narrow Issue No. 2, Bayview enjoys a slight transportation cost advantage for material transported south of the Cannon Beach junction. We conclude that Bayview's projected average cost for aggregate at the proposed quarry is $4.30/$4.45 per yard. We further conclude that this figure is supported by expert testimony which we accept. We further conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

Issue No. 3.

Do the Ordway and Darling Quarries have sufficient rock quantity and quality to support the proposed quarry?

We find the following facts in the record relevant to this issue:

The Darling Quarry (04-0038) is an existing pit located on 2.5 acres in an F-80 zone (see Exhibit A, attached) and contains approximately 100,000 cubic yards of material available for excavation. Rock extracted from the Darling Quarry received marginal test results on both the coarse and fine clay lumps and friable particles tests (T-112-C; T-112-F). Marginally acceptable results in these tests can be of extreme detriment to asphalt and concrete products. Aggregate production involving a rock source which has marginal results on these tests can increase costs through added processes and/or

loss and waste of time adjusting mixtures and designs. Material from the Darling Quarry was recently rejected by the Oregon Department of Transportation, Highway Division, because it did not meet specification. The Ordway Quarry is an existing pit located on approximately 3 acres in an AF-20 zone (see attached Exhibits A and D) and has an available quantity of material for extraction of approximately 160,000 cubic yards. Rock from the Ordway Quarry failed the fine sodium sulfate or magnesium sulfate test, failed both the coarse and fine clay lumps and friable particles tests and failed the sand equivalency test. The sodium sulfate or magnesium sulfate tests, the clay lumps and friable particles tests and the sand equivalency test are standard tests which aggregate must pass to be used in Oregon State Highway projects. These standards are widely used as an indication of aggregate's fitness for a variety of projects. The use proposed by the applicant is a long-term aggregate extraction source to help meet Clatsop County's aggregate demand over an extended period of time. The applicant's proposed use requires that the rock exceed testing standards to insure that production from the site will consistently meet necessary contract specifications. As set forth in the discussion under Issue No. 1 above, the average annual demand for aggregate material in Clatsop County is 150,000 cubic yards.

Because of marginal test results on rock material taken from the Darling Quarry, we find that the site does not present assurances that average production from the site will consistently meet necessary contract specifications. In addition, because the Darling site contains only approximately 100,000 cubic yards of material (less than a 1-year supply for Clatsop County demand figures), we find that it does not present a viable alternative for the long-term use (approximately 20 years) proposed by the applicant. Because the Ordway Quarry failed several rock quality tests, we find that the average production from the site will not consistently meet necessary contract specifications. In addition, because we find the Ordway Quarry contains only slightly more than a 1-year supply, it does not present a long-term source as has been proposed by the applicant. We also find that because the Ordway and Darling Quarries, taken together, present less than a 2-year supply of aggregate material, these two quarries, considered together, do not present a long-term source such as that proposed by the applicant. We conclude that the Darling and Ordway Quarries do not have sufficient rock quantity and do not have sufficient rock quality to support the proposed quarry. We further conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

Issue No. 4.

Do the five alternative sites listed by the County, Cavenham Highway 101 (04-0028), Halvorsen Clay Borrow Pit (04-0032), Cavenham Pit Run (04-0036), McEwen Clay Borrow Pit (04-0048), and Stevens River Borrow Pit (04-0049), have sufficient quantity and quality of rock to support the proposed quarry?

We find the following facts in the record relevant to this issue:

Each of these five sites is described in attached Exhibits A and D.

Cavenham Highway 101 Borrow Pit (04-0028) has no commercial quality of rock. Cavenham Pit Run Borrow Pit (04-0036) has no commercial quality of rock. Halvorsen Clay Borrow Pit (04-0032) is an old clay borrow source that was used for fill to complete dike construction along the Necanicum River. Cavenham, the owner of the property, does not consider this site to be a potential rock quarry and has forfeited access rights to the road which serves the site. McEwen Clay Borrow Pit (04-0048) has no commercial quality of rock. Stevens River Rock Borrow Pit (04-0049) contains 45,000 cubic yards of material for extraction. The applicant has proposed a long-term aggregate extraction facility which would help meet Clatsop County's aggregate demand over an extended period of time. The central components of that long-term use are the availability of rock, approximately 100,000 cubic yards per year for a minimum of 20 years, and rock which meets test specifications to insure that average production from the site consistently meets necessary contract specifications.

We find that because the material previously excavated from the Halvorsen Clay Borrow Pit was used as fill to complete dike construction, commercial quality rock is not available at that site. We further find that this pit must be small in size, because it cannot be identified from aerial photos. We find that because no commercial quality of rock exists at the Cavenham Highway 101 Pit, the Halvorsen Clay Borrow Pit and the Cavenham Pit Run Borrow Pit, these sites cannot be used for the proposed use. We further find that because no commercial quality of rock exists at these sites, it is irrelevant how much quantity of rock is available at any of these sites. We find that because the proposed use requires both sufficient rock quantity and rock quality, the presence of quality rock alone, without the necessary quantity, or the presence of quantity of rock alone, without the necessary quality, is insufficient to support the proposed use. As discussed in

Issue No. 1 above (which discussion is incorporated herein by reference), the County-wide demand for rock in Clatsop County is approximately 150,000 cubic yards. We find that the Stevens River Rock Borrow Pit contains less than a 1/3-year supply of material. We find that, even if the quantity of rock available at the Stevens River Rock Borrow Pit is added to the quantity of rock available at the Darling and Ordway Quarries, less than a 2-year supply is available at these 3 sites. We do not mean to imply by adding the Darling and Ordway Quarries in our quantity calculations that we find Darling or Ordway rock to be of adequate quality. To the contrary, we find (as discussed in Issue No. 3 above) that Darling rock is of marginal quality and that Ordway rock is of insufficient quality. We include Ordway rock in our quantity calculation here only to illustrate our conclusion that all these sites, <u>considered together</u>, do not present sufficient quantity to support the proposed use. We conclude that these 5 sites, even considered in conjunction with the Ordway and Darling Quarries, do not present sufficient rock quantity to support the proposed quarry. We further conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

<u>Issue Nos. 5 and 6</u>.

What are the characteristics of the alternative sites that require an exception?

What are the impacts that would "typically" result from locating the proposed quarry at the exception sites, and are these impacts less severe than location of the Quarry at the Bayview site?

We find that the characteristics of the alternative sites are fully described in the geological assessment prepared by Paul D. See, dated July 10, 1987, the Bayview Transit Mix evaluation report, dated July, 1987, prepared by Don Lampi (as updated with supplement dated August, 1987), and the evaluation report of David Evans & Associates (as updated with supplement dated August, 1987). The characterics of the eight sites, as well as the Bayview site, discussed in the LUBA opinion are summarized in Exhibits D and E of these findings. The locations of these alternatives sites are set forth on Exhibit A. We find that these summaries accurately describe the characteristics of each of these eight sites and the Bayview site. We incorporate the characteristics of each of those sites contained in the summary, as well as the information contained in the three reports, by reference as though fully set forth herein. We decline to compare the typical impacts, including environmental, social, economic and energy consequences, of the

Bayview site with the five sites listed in our discussion of Issue No. 4 above, as these sites lack sufficient aggregate resources to support the proposed site. It would be an empty exercise for this Board to describe the characteristics and then weigh typical impacts, including environmental, social, economic and energy consequences, when, in fact, a supervening characteristic (namely lack of quality and quantity of rock) prevents them from being rationally considered as a site for the proposed use. Without adequate rock quality and quantity, a site has no economic value as an aggregate source, and any attempt to locate the proposed use at these sites would have fatal economic impacts. Location of the use at the Bayview site, given the minimal negative impacts which are described under Issues Nos. 7 and 8 below, causes an inherently less severe impact than locating the use at these sites where the use could not be successfully or economically operated. Given the lack of rock quantity and quality of the five sites mentioned in the LUBA remand opinion, Issues Nos. 5 and 6, concerning the characteristics of the sites and the comparative impact of using each of the sites instead of the Bayview site, have no relevancy. We conclude that because there is insufficient rock or no rock at each of these five sites, the characteristics of these sites (lack of rock quality and quantity) dictate typical impacts.

The Johnson QM site (040011) is in a Quarry and Mining zone that does not require an exception for continued operation. Accordingly, we conclude that Issues Nos. 5 and 6 do not apply to the Johnson QM Quarry.

The Darling and Ordway Quarries are existing non-conforming uses. As such, they do not require an exception for continued use. However, as both these quarries are located in forest zones (F-80 and AF-20), any expansion of these quarries to meet the large scale use proposed by the applicant would require an exception under Policy 17 of the Goal 4 County-wide Element of the Comprehensive Plan. Any such expansion of these quarries would fall under this standard. However, as discussed in Issue No. 3 above, we have concluded that a primary characteristic of both the Darling and Ordway Quarries is their lack of large quantities of rock. In addition, under Issue No. 3 above, we concluded that a primary characteristic of the Darling Quarry is its marginal rock quality, and a primary characteristic of the Ordway Quarry is its lack of quality rock. Accordingly, consistent with our analysis above, we decline to analyze the potential expansion of these quarries in terms of typical impacts (such as environmental, social, economic and energy) when a supervening characteristic present at these sites (namely, lack of quality and quantity of rock) prevents them

from being rationally considered as a site for the proposed use. Without adequate rock quantity and quality, an attempt to locate the proposed use at these sites would not be economically sound. Location of the use at the Bayview site, given the minimal negative impacts which are described in Issues Nos. 7 and 8 below, causes inherently less severe impacts than locating the use at these two sites where the use could not be successfully or economically operated.

With respect to the Rippet Quarry and the Johnson F-80 Quarry, we make the following findings of fact and conclusions consistent with our discussion under Issue No. 1, above: The existing 5-acre area of the Rippet Quarry is considered a nonconforming use in a F-80 zone. Under Policy 17 of the Clatsop County Comprehensive Plan, Goal 4, County-wide Element, expansion beyond this 5-acre nonconforming use area requires an exception. Extraction has occurred on approximately 1 acre of the 10.2 acre Johnson F-80 parcel. Any expansion on the site requires an exception to be taken pursuant to Policy 17 of Goal 4 of the County-wide Element of the Clatsop County Comprehensive Plan.

We reach these findings and conclusions as follows. With respect to the Johnson F-80 site, we find that extraction activity on the separate Johnson QM parcel has continued for a number of years. The Johnson QM Quarry has been operated and expanded in a southeasterly direction and in recent years has crossed over into the adjoining Johnson F-80 parcel. No land use approvals have been requested or obtained from the County for the operations on the Johnson F-80 parcel. Comprehensive land use controls were established in Clatsop County in 1980 and provided standards and limits on quarrying uses. Aerial photos in the record attached as Exhibit No. 2 to the July 1987 report of Mr. Lampi demonstrate that in 1980, at the time extensive land use controls were imposed on quarry operations, the Johnson extraction operation was still located within the Johnson QM parcel and had <u>not</u> entered onto the Johnson F-80 parcel. As is shown in the aerial photos, subsequent to 1980, the Johnson extraction operation crossed onto the Johnson F-80 parcel. At this time, it had no land use approval and was an illegal operation under the zoning ordinance. Therefore, we have concluded that the Johnson operation on the Johnson F-80 parcel is an existing use, but not a nonconforming use as it was unlawfully established. We further find and conclude that any expansion of this area requires an exception. With respect to the existing Rippet site, we find that extraction activity has continued on the site for a number of years. The Rippet Quarry has been operated and expanded in a northwesterly direction. Under State law, the operators of the Rippet Quarry are

required to maintain a reclamation plan. This reclamation plan includes the active area of the quarry and defines the extent and limit of the quarry. In 1974, Johnson filed a reclamation plan with DOGAMI which delineated the quarry area. This plan was updated in 1976. In 1980, the active area at Rippet Quarry under the 1976 reclamation plan was 5.8 acres. The County enacted comprehensive zoning in 1980, which regulated and proscribed limits for quarry operators. In 1984, Johnson filed a new reclamation plan which updated and increased the disturbance area. No application was made to Clatsop County to obtain zoning approval for the increased size of the Rippet Quarry. We find and conclude that at the time of the imposition of zoning controls in 1980, the 1976 reclamation plan delineated the Rippet Quarry and defined the nonconforming use portion of the quarry. Significant expansion beyond this defined quarry limit requires an exception to be taken. In addition, we note that Cavenham had expressed a desire that future expansion at Rippet Quarry occur on the backside of the ridge above the existing quarry. Any expansion into this area would be outside the nonconforming use area and would require an exception. Our discussion below is directed to any existing or propsed expansion at the Rippet Quarry beyond the nonconforming use boundary established in the 1976 reclamation plan.

Economic Characteristics and Impacts.

The Bayview, Rippet expansion and Johnson F-80 sites all contain rock which meets the minimum required quality specifications and are close to the Seaside-Warrenton market area. However, Bayview has certain economic characteristics which provide distinct advantages over the Rippet and Johnson F-80 sites. First, the Bayview site contains approximately 2.5 million cubic yards of available material. This is a sufficient amount to meet the projected County demand for a long period of time. The existing Rippet Quarry contains approximately 250,000 cubic yards of available material, with some additional rock available if expansion is permitted. The Johnson F-80 site contains approximately 300,000 cubic yards of material. Even if the Johnson F-80 and the nonconforming Rippet Quarries are considered together, the available material is much smaller than the Bayview Quarry. In addition, average cost of material produced at the Bayview Quarry is projected to be $4.30/$4.45 per cubic yard. Whereas, the price of material produced by the Johnson operation (from the Rippet Quarry and the Johnson F-80 site) averages $6.00 per cubic yard. The Bayview site has a large economic advantage over the other two sites. Further, the existing Rippet Quarry and the Johnson F-80 Quarry essentially provide Johnson with a sole source monopoly in the market. As described in our discussion under Issue

No. 1 above, certain price and supply policies pursued by the Johnson operation create monopoly-like characteristics in the market. The County roadmaster is on record favoring the Bayview site to increase competition in the market area and indicated he was unable to obtain rock from Johnson because of other Johnson commitments. The Bayview site would have a positive economic impact by creating an alternative site for aggregate materials in the market area. This alternative site would have the additional benefit of decreasing the need for rock to be imported into Clatsop County. The Rippet Quarry has a possible overburden problem and a possible high-face reclamation problem. These are potential economic impacts that are not faced by the Bayview site. Considering all these economic factors together, we conclude that the long-term economic consequences resulting from the use at the Bayview site are not significantly more adverse than would typically result from the same proposal being located at the Rippet Quarry or the Johnson F-80 site.

Environmental Characteristics and Impacts.

All three of these sites have room for sediment ponds, are located in elk habitat and have a stream nearby or on the premises. The projected 100-year flood event for the Bayview extraction site can be properly contained in a settlement pond 1.5 acres by 2.8 feet deep. The preliminary Bayview site layout reserves approximately 2 to 3 acres for sedimentation ponds which allows sufficient flexibility to meet siting and construction contingencies. The Bayview extraction site has no timber approaching marketable size. Whereas, the Rippet and Johnson F-80 sites contain larger trees. We find that Johnson geologists claim that landslides are a potential problem at the Bayview site. They point to a fracture on the southwest side of the Bayview site as evidence of landslide potential. However, we find that Geologist See attributes the fracture to man-caused problems during road development. See concludes that the underlying geologist is stable. Of particular importance to this analysis is the fact that tree stumps in the original slope protrude through the man-deposited material without distortion. We find this fact, together with the See analysis of the soil types present at the Bayview site, persuade us that the Bayview geology is stable. In addition, we find it suspect that Geologist Redfern refers to "minor slumping" at the Rippet Quarry and Geologist Schlicker dismisses landslides at the Rippet Quarry when 1984 aerial photos clearly show a large landslide at Rippet Quarry. For these reasons, we place greater credibility in Mr. See's analysis and conclude that the geology at the Bayview site is stable and landslides are not a problem. The geology is also stable at the Johnson F-80

site, but the Rippet Quarry has a history of landslide problems. The Bayview Quarry is not visible from surrounding residences or from U.S. Highway 101 or 26. To the contrary, the Rippet Quarry is clearly visible from both Highways 101 and 26. The Johnson F-80 Quarry is visible from U.S. Highway 101. As described under Issue No. 7 below, the projected noise levels from the Bayview site meet applicable DEQ levels. As the opponents did not provide a sound evaluation of their own operation, it is unknown whether or not operations at the Rippet Quarry and the Johnson F-80 Quarry comply with DEQ standards. Areas which contain vegetation which may be found in wetlands is located near the Bayview site along adjacent Square Creek. No areas described as "wetland" have been identified at the Rippet or Johnson F-80 Quarries. A specific condition, which is made a part of these findings, will protect wetland values at the Bayview site. Geologist Redfern raises questions about stream erosion due to meandering at the Bayview site. However, we find, as pointed out by Geologist See, that Geologist Redfern's analysis is a "unique departure from conventional understanding of stream mechanics." We find that the fact that a river meanders is indicative of long-term stability. We further find that a variety of measures, including riprap and revegetation, are available to control any potential erosion. Finally, the Bayview extraction area is located approximately 2,800 feet from the nearest residence. The Rippet Quarry has two houses within 300 feet, and the Johnson Quarry has seven houses within 1,000 feet. After weighing these characteristics and impacts, we find that aggregate operations at the Bayview site have advantages related to timber, stable geology and visibility. A potential disadvantage at the Bayview site (areas that may contain vegetation which may be found in wetlands) has been addressed and mitigated by a condition which is part of this approval. On the whole, we conclude that the long-term environmental consequences resulting from aggregate extraction use at the proposed site, with measures designed to reduce adverse impacts, are not significantly more adverse than would typically result from the same proposal being located in either the Rippet Quarry or the Johnson F-80 site.

Social Characteristics and Impacts.

We find that the Bayview extraction site is located 2,800 feet from the nearest residence. The Rippet Quarry has two homes within 300 feet, and the Johnson F-80 Quarry has seven homes within 1,000 feet. There is a social advantage in having the extraction operation located farther from existing homes in that noise is reduced. As described under Issue No. 7 below, the Bayview site meets DEQ noise levels. No information is available concerning the noise levels at the

Johnson F-80 and Rippet Quarries. We find that the Bayview site enjoys reduced social impacts in that it cannot be seen from the adjoining highways or residences. Whereas the Rippet and Johnson F-80 Quarries are clearly visible from adjoining homes and highways. We find that land use compliance at the Rippet Quarry and the Johnson F-80 Quarry is unclear. The Bayview Quarry enjoys a social advantage as it has applied for a land use permit before extracting aggregate in a forest zone. We also find that the Rippet Quarry has potential problems with reclamation which may make it difficult to reclaim the slope to reduce its visibility. Bayview has reduced social impacts in that its access to Highway 101 will be along a newly-aligned portion of that road just south of the existing Highway 26 junction. To the contrary, truck traffic hauling unprocessed aggregate from the Rippet Quarry must cross U.S. Highway 101 on a curve to take the material for processing to the Johnson QM Quarry site. Access from the Rippet Quarry and to the Johnson F-80 site is on a two-lane portion of U.S. Highway 101 near a curve. Blasting noise and vibration may affect nearby residences. The Bayview site may have a slight social advantage in that blasting may not be needed at the site. Whereas, blasting is necessary at the Rippet and Johnson Quarries. We also find that Bayview has presented an extraction plan which will maintain a lip of rock between the Bayview extraction area and nearby residences to the north and east. This reduces social impacts for the Bayview Quarry, as opposed to the Rippet Quarry and Johnson F-80 site whose extraction activities directly face residential uses. After weighing the relative advantages and disadvantages of the sites, we conclude that the long-term social consequences resulting from aggregate extraction at the Bayview site (with measures designed to reduce adverse setbacks) are not significantly more adverse than what would typically result in the same proposal being located at either the Rippet or Johnson F-80 Quarry.

Energy Characteristics and Impacts.

All three areas are a short distance from the Cannon Beach junction and are located close to the market area. Mechanical extraction, using similar equipment, will be required at all three sites. The Rippet Quarry has a potential disadvantage due to the overburden problems at the site which may require additional energy during the handling of material. Weighing these characteristics, we conclude that the energy consequences present at each of the three sites are similar. Accordingly, we conclude that the long-term energy consequences resulting from aggregate extraction at the Bayview site are not significantly more adverse than would typically result from the same proposal being located at the Rippet or Johnson F-80 site.

Issue No. 7.

Is the proposed quarry "compatible" with the adjacent residential uses?

We find the following facts in the record relevant to this issue:

Several houses are located within approximately 3,000 feet of the proposed extraction area. The closest residence belongs to Jensen and is located approximately 2,800 feet from the extraction area and approximately 800 feet from the proposed stockpile. The Jensen residence is surrounded by trees as are the other residences in the vicinity. Neither the extraction area nor the stockpile area is visible from any of the residences. "Quiet Area," as used by DEQ, is land designated by the Environmental Quality Commission where quiet is of an extraordinary significance to serve a public need, such as a wilderness area, a national park, or a state park. The area surrounding the Jensen home has not been designated quiet area by the Environmental Quality Commission. The existing rock quarry at the Bayview site has been frequently used intermittently during the last 20 years, with the last use being in 1986. The applicable DEQ noise standards for the general area near the Jensen residence are as follows: L(1) 75 dBA, L(10) 60 dBA, and L(50) 55 dBA. The crusher or process plant proposed by applicant is projected to generate the following levels of noise as measured at the Jensen residence: L(1) 40 dBA, L(10) 36 dBA, and L(50) 32 dBA. The applicable noise levels generated by the asphalt batch plant which may accompany the proposed operation as measured at the Jensen residences projected to be: L(1) 37 dBA, L(10) 33 dBA, and L(50) 29 dBA. Given the applicant's extraction plan, the aggregate extraction activity proposed by applicant is projected to generate the following levels of noise as measured at the Jensen residence: L(1) 44 dBA, L(10) 44 dBA, and L(50) 43 dba. The opponents' sound expert projected that higher levels of noise from the extraction operation would be received at the Jensen residence. Mr. Duble, the opponents' sound expert, did not take into consideration the extraction plan presented by the applicant in which a lip in the form of an earth berm will be maintained between the drilling and extracting operation and the Jensen residence. In addition, the mouth of the excavation area at the Bayview site will be oriented away from the residences to the southeast. Further, we find that Mr. Duble assumed that two bulldozers and two front-end loaders would be working at the extraction area when the actual proposed operation at the Bayview site will include only one bulldozer. The design feature of the extraction plan will significantly reduce

projected sound levels to be received at the Jensen residence. The opponents' sound expert also projected a sound level of 98 dba from hypothetical rock drilling equipment which would be located at the extraction site. The Bayview sound expert, Mr. Standlee, measured the actual drilling equipment proposed to be used at the site. This equipment generates only 90 dBA. In addition, the mouth of the excavation area at the Bayview site will be oriented away from the residences to the southeast. Further, we find that Mr. Duble assumed that two bulldozers and two front-end loaders would be working at the extraction area when the actual proposed operation at the Bayview site will include only one bulldozer. For these reasons, we adopt the noise figures provided by Mr. Standlee. Thus, we find the sum of the projected noise levels at the Jensen residence of all activity at the Bayview site to be L(1) 46, L(10) 45, and L(50) 44, well within the DEQ standards. Bayview's trucks are regularly maintained (including muffler inspection) at the Bayview shop in Gearhart and meet applicable licensing requirements. Bayview trucks will not use Jake brakes on the roads near the Jensen residence and will maintain reduced speeds to minimize vibration. Roads to the quarry will be maintained in a dust-free fashion. The actual crusher, which is considered for use at the Bayview site, has current DEQ operating permits. Windrose data prepared by the Office of the State Climatologist indicates that prevailing winds will carry any dust generated at the Bayview site away from nearby residences. The Jensen residence and nearby residences are within approximately 1,500 feet of U.S. Highway 101 and are approximately 1,000 feet from a bulk oil facility. Large trucks frequently travel U.S. Highway 101, and large trucks call at the bulk oil facility. The extraction plan proposed by Bayview will minimize blasting impacts by maintaining a lip on the existing hillside between the blasting operation and any residence to the east. Blasting may not be necessary at the proposed quarry, and, in any event, blasting is an infrequent activity at the quarry. Extraction operations at the quarry will be confined between the hours of 7:00 a.m. and 10:00 p.m.

We find that impacts on the Jensen residence will be very similar to the impacts on the other residences in the area. Because the Jensen residence is the closest to the proposed extraction site, the impacts are analyzed with reference to the Jensen's residence as it will be the one most likely to receive adverse effects, if any. We note that compatibility as referred to in ORS 197.732(b), and OAR 660-04-020(d) is not intended as an absolute term meaning no interference or adverse impacts of any type may affect adjacent uses. Opponents' sound expert, Mr. Duble, concludes that the potential noise generated by the crusher/processing plant and a potential asphalt batch plant will not exceed applicable DEQ standards at the site.

In addition, Mr. Duble concludes that the summation of the projected L(1) sound levels for the extraction activity at the proposed site will not exceed the applicable sound levels. Bayview's sound expert, Mr. Standlee, agrees with these conclusions. Mr. Duble, however, indicated that the projected L(10) and L(50) noise levels generated by the extraction activity would exceed the applicable DEQ standard. Because we find that Mr. Duble did not consider the noise-inhibiting design features contained in Bayview's extraction plan, the orientation of the operation away from residences, the appropriate extraction equipment or the appropriate noise level for extraction equipment, we find that Mr. Duble's conclusions concerning the L(10) and L(50) projected noise levels are incorrect. Data submitted by Bayview's sound expert indicates that, considering all the factors that would attenuate sound, noise generated by the applicant's extraction operation is well below the applicable DEQ standard. We also conclude from examining the data of Messrs. Duble and Standlee, that even if the applicable DEQ noise standard were deemed to be 10 dBA over ambient levels (which we specifically conclude is <u>not</u> the case), all facets of the proposed use would meet that standard. Because we find that roads will be maintained in a dust-free fashion, the Bayview crusher will meet all DEQ dust standards, and prevailing winds will carry dust away from the Jensen residence, we find that no significant dust impact will occur at the Jensen residence as a result of the applicant's operations. We find that vibration might occur at the Jensen residence because of two sources: blasting impulses and truck traffic. Because we find that Jensen is approximately 1,500 feet from the truck traffic on U.S. Highway 101 and 1,000 feet from truck traffic at a commercial oil facility and because Bayview will reduce speed of its trucks to reduce vibration, we find applicant's truck traffic will result in no substantial increase in truck vibration. Because we find that blasting is not a frequent occurence, because the applicant's extraction plan will minimize the effect of blasting and because Jensen would receive only slight vibration from any blasting impulse, we find that any impact from blasting will be minimal at the Jensen residence. We further find that extraction operation at the Bayview site will be limited from 7:00 a.m. to 10:00 p.m. This will serve to make the operation more compatible with the adjacent residential uses. We find that because the site is not visible from any of the residences, because noise will be within acceptable limits, because the gravel quarry on the site is a long-term existing use and because aggregate activity will be located more than 600 feet away, property values of the nearby residences will not suffer as a result of locating the proposed use at the Bayview site. Because we find that noise will be within acceptable limits, dust will meet DEQ standards and be

taken away by prevailing winds, vibrations will be similar to existing truck traffic and blasting vibration will be slight and infrequent, we conclude the proposed use is compatible with adjacent residential uses. We further conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

Issue No. 8.

What are the economic, social, environmental and energy consequences to Goal 5 resources of allowing processing of crushed rock at the proposed site?

We find the following facts on the record relevant to this issue:

Bayview has proposed rock extraction and stockpiling operations that are 30 acres in total. Twenty acres of this area will be devoted to rock extraction, and approximately 10 acres will be devoted to a stockpile operation. The proposed use is designed to produce quality rock at a rate of approximately 100,000 cubic yards per year for a 20-year period. The rock from the pit will be produced at a cost below the average price from presently existing sources, including Johnson and imported rock from outside the County. An existing quarry is present at the proposed extraction site. The quarry has been used on numerous occasions in the past, and approximately 100,000 cubic yards of aggregate material has been removed from the site. No merchantable timber exists on the extraction site or on approximately 3 acres of the stockpile site. Seven acres of the stockpile site contains trees that are approximately 30 feet in height. The stockpile area and the extraction area are distinct areas and are separated by forest uses which will be maintained. The two areas are completely surrounded by forest land. Areas described as "wetland" have been briefly discussed by the opponents during this remand proceeding. We find, as described in the site analysis of the area by Mr. Lampi, that vegetation which might be found in wetland is primarily contiguous with Square Creek. One pocket containing vegetation which might be found in wetlands is located near the extraction area. We find that no significant wetlands, as indicated on Department of the Interior maps or in Clatsop County Goal 5 or Goal 17 inventories, are located at the Bayview site. We find that the extent of area which contains vegetation which might be found in wetlands is delineated on the map as attached to Mr. Lampi's August 25, 1987 report, and we adopt this description of the area. We note that our own staff has reported that

Mr. Redfern's wetland contention is without merit. The Bayview Quarry site is located in major big game habitat. No barriers will be constructed during the operation of the quarry which would affect big game migration. Square Creek, a perennial stream, runs adjacent to the extraction area. It is considered fish habitat as it has a summer flow of .5 cubic foot per second. Up to nine salmon have been seen in the creek during winter months. Salmonoid fish fry have been released into Square Creek by STEP volunteers. Square Creek is adequate fish habitat but not excellent or ideal habitat. Bayview has provided a sediment control plan which is designed to handle a 100-year flood event. In January of 1986, the Oregon Department of Fish and Wildlife suggested conditions for a plan to reduce impacts on Square Creek. After reviewing the Bayview sediment control plan, an Oregon Department of Fish and Wildlife biologist described the plan as a good plan. Other facts concerning the Bayview site contained in Parts I through IV of these findings are incorporated herein by reference. Identified resources at the Bayview site are elk, anadromous fish, wetlands, trees and aggregate.

Economic Factors.

A. Trees. Loss of overburden due to prior operations at the existing aggregate quarry has prevented the growth of trees over a large portion of the extraction site. The remainder of the extraction area was recently clear-cut and now supports very young trees. There will be no economic loss of trees approaching market value on the extraction area. The stockpile area contains 7 acres of trees approaching marketable size. In the short term, aggregate operations on the site will cause the loss of these trees. Cumulative impact of tree loss should be minimized by development of this quarry as it will present a long-term quarry site and may alleviate the need for development of other aggregate sites in forest lands. In the short term, forest economic uses of the 30-acre area will be replaced by mining uses. In the long term, the reclamation plan for the quarry area will insure that the majority of the area is returned to forestry uses.

B. Elk and Fish. Hunting for elk and the provision of household meat produces some economic value from this habitat parcel. The applicant intends to construct no barriers on the site, and development of the quarry does not prevent elk from coexisting on this site. A small temporary loss of habitat does not necessarily entail a loss of elk. Elk migrate freely and can take advantage of the surrounding forest area. As with timber, development of this quarry may result in less cumulative loss of elk habitat, because the large capacity of

this quarry may limit the need for other smaller pits on forest land. Adjacent Square Creek provides habitat for up to nine salmon and provides an area for STEP volunteers to release salmonoid fry. Square Creek flows between the extraction and stockpile areas. It has an August flow of .5 cubic feet per second ("CFS"). It passes under the access road via a permanent culvert. These are not uses of the area which provide specific economic benefits. However, enhancement efforts on small streams may help restore salmon runs which would provide economic benefit. The applicant will need variable amounts of water, up to 3,000 gallons of water per day for dust control, and possibly up to 2,000 gallons per day for other uses. Possible sources are Square Creek, on-site sump collection and hauling water to the site. Because of low summer flows in Square Creek and the impact of any further activities on fish habitat, it may not be possible to take this water from Square Creek. A condition of approval is that the State Water Resources Department establish a minimum stream flow for Square Creek, and removal in excess thereof is prohibited. Applicant currently owns a 4,000-gallon water truck and intends to place a 10,000-gallon tank at the site. If the water must be hauled to the site, the cost is approximately 6.3 cents a cubic yard of rock product, a minimal effect on overall costs. Cut-off ditches, berms, erosion-control mechanisms and sediment-trapping ponds at both the extraction area and the stockpile site will be constructed or placed to handle a 100-year storm event. The ponds will be draped with filter fabric to insure sediment is trapped. The applicant's sediment control plans are designed to insure that any economic gains associated with fish can coexist at the same time if rock is extracted at this site.

C. Wetlands. Areas near the proposed extraction site that contain vegetation which might be found in wetlands are not inventoried in the County-wide Goal 5 Element. These areas also do not appear on the U.S. Department of the Interior National Wetland Inventory maps used for establishing significant wetlands in the Clatsop County Comprehensive Plan. No part of the Bayview site contains wetlands identified in the Comprehensive Plan. Wetlands can have an economic value as furbearing animal and wetland bird habitats, but there is no evidence of furbearing animals or wetland birds at this site. Wetlands can also have marginal economical benefits as flood buffers. However, the areas near the extraction area that contain vegetation which might be found in wetlands are too small to be needed as flood protection. As with elk and fish, the conditions imposed by Clatsop County provide the necessary steps to insure that wetland habitat will be protected to preserve any economic value that may be assigned to it.

D. Aggregate. Aggregate is a necessary commodity for the economy of Clatsop County. This particular site has enormous economic value because of the quality of rock and quantity of rock that are present. As recognized in the Clatsop County Comprehensive Plan, rock sources are scarce in Clatsop County and should be developed where feasible. Use of this site for aggregate extraction would provide high-quality rock for a number of years at a favorable price in Clatsop County markets. Development of this quarry will increase competition in the market area and may lessen the need for imported aggregate products in Clatsop County. Development of the site may also create four jobs. As noted in Parts I-V of these findings, other aggregate pits in the area have limited quantity and quality of material available for extraction. To not use this site would have significant negative economic impacts, including continued higher aggregate prices and uncertain future supplies.

Social Impacts.

A. Trees. An adequate timber base is important to preserve County jobs and to provide areas for recreation. Because the Bayview extraction area has recently been clear-cut and the area supports an existing aggregate pit, this area is not an ideal choice for timber production or forest recreation. Loss of seven acres of timber on the stockpile site will reduce the County timber base. Clatsop County has approximately 474,000 acres of timberland. The reduction in timber base caused by Bayview is a miniscule fraction of the amount of timber available in Clatsop County, and development of this site may prevent a larger cumulative loss of timber due to reduced need for smaller aggregate pits in other forest areas. In addition, nearly all the alternative sites would entail loss of productive forest while aggregate is being extracted. The reclamation plan for the Bayview site insures that the area will be returned to forest uses after extraction has stopped.

B. Elk and Fish. Although the land is private, public access has not been generally limited by the landowner. Access to the extraction and stockpile areas might be restricted if operations are ongoing. This could, in turn, limit elk hunting. However, as stated above, although use of this area for an extraction site may affect habitat, such use does not necessarily cause a decrease in the number of elk. Indiscriminate operation on this site could cause problems to fish habitat and the success of the STEP program. However, the sediment control plan proposed by the applicant mitigates any potential negative social effects in this regard.

C. Wetlands. Social and recreational values are sometimes assigned to wetlands if they are large enough to support animal populations. The small size of the area associated with the site on which vegetation might be found in wetlands would limit any such recreational value. Further, it is unlikely that the areas which might contain vegetation found in wetlands would provide large social value, as they were discovered only at the very end of this remand proceeding. In addition, the areas are small and directly adjacent to an existing forest gravel pit which limits their recreational value.

D. Aggregate. One of the principal reasons for developing this quarry is to eliminate reliance on the sole source of aggregate in the County which provides relatively high-priced materials to consumers. Unlike existing commercially operated sites considered in this proceeding, this proposed site is well away from people, being approximately 2,800 feet from the nearest residence. The extraction plan provided by Bayview indicates that use of this area for rock be handled in such a manner to minimize any effects, including dust and noise, on nearby residents. The evidence produced in this proceeding indicates that other rock sources in the County have limited life spans, and, eventually, other new sites must be developed for aggregate use. Finally, it is possible that four jobs would be created in the use of this pit for its aggregate resource.

Environmental Impacts.

A. Trees. As discussed in the economic portion of this analysis above, trees provide potential habitat for elk on the site. However, as the applicant will construct no barriers and reclaim the area for forestry uses, this habitat value will be reestablished through reclamation in the future. Aggregate uses on the site will create more dust and noise than tree production on the site, but the applicant has proposed measures to control both dust and noise. As discussed above, the site will remove approximately 30 acres from the timber base in the County. However, the site has been designed to allow trees to grow between the extraction area and the separate stockpiling area. Applicant's extraction plan is designed to minimize any adverse environmental effects on forest resources, and development of this site may limit the need for a larger number of smaller pits on forest lands. Forest uses might provide shade for Square Creek, but the proposed plan of operation at this site has preserved a 50-foot setback which will also provide shade for Square Creek. Use of the area for aggregate extraction will prevent periodic herbicide spraying which would accompany forest uses. As most of the site has been clear-cut, no major

habitat changes or loss of trees will accompany aggregate uses. There will be a premature harvest of trees on seven acres of the stockpile site, but no market-size trees will be lost at the extraction site.

B. Elk and Fish. The existing rock pit on the site is still used by elk. These habitat values will gradually change as the proposed aggregate use expands on the site. However, no barriers will be constructed to prevent elk from using the remainder of the site, and the area will be returned to forest uses and elk habitat after it has been reclaimed. Aggregate use on the site will entail some dust and noise emissions. However, the applicant will abide by the appropriate DEQ standards and will keep the road in a dust-free condition. In 20 years, the surrounding forest areas will support larger trees, and the small vegetation on the reclaimed portions of the proposed quarry will present habitat variety. Nine adult salmon have been counted in the lower one-half mile of Square Creek, and approximately 25,000 Coho and 10,000 Cutthroat Fry were released into Square Creek in 1987 as part of the STEP program. The creek provides an adequate, but not excellent, habitat. Low summer flows are a limiting factor, and maintaining minimum stream flows is important to sustain fish habitat. We have imposed a condition which will prohibit the applicant from removing water from Square Creek in excess of the proscribed minimum stream flow developed by the Water Resources Department. Indiscriminate operation at the site could cause sediment problems and damage to fish values in the nearby stream. However, the applicant has proposed a sediment containment program which will prevent any adverse impacts on the stream. This program has been described by the representative of the Oregon Fish and Wildlife Department as a good plan. Environmental values associated with fish will be able to coexist with the operation of the aggregate site.

C. Wetlands. The area which contains vegetation which might be found in wetlands primarily consists of a narrow strip along Square creek and one pocket near the extraction area. We find that the area containing vegetation which might be found in wetlands consists of riparian strips and small isolated pockets. These areas are shown on the map attached to Mr. Lampi's August 25, 1987 report, and we adopt that map as delineating the extent of any area at the Bayview site containing vegetation which might be found in wetlands. In the event that any of these areas would be determined to be wetlands, we have imposed a condition that will protect them by imposing a condition designated to maintain minimum setbacks from areas determined to be wetlands. Indiscriminate operation of the proposed use could cause damage to these areas. However,

However, the applicant has proposed acceptable setbacks from Square creek and has also proposed to keep all activities out of wetland areas.

D. Aggregate. As is recognized by the comprehensive plan, the geology of the Oregon coast limits good aggregate sites in Clatsop County. The Bayview site is one of the few sites with high quality and high quantity of rock. The site is already disturbed and has been used for a number of years as a rock pit for forest uses.

Energy Impacts.

A. Trees. Little energy use accompanies the growing of trees, with the exception of occasional spraying, pruning and harvesting activities. Rock extraction and processing would require more energy consumption.

B. Elk and Fish. Elk and fish resource uses entail no energy use. Extraction and processing of rock material requires more energy than these uses.

C. Wetlands. Wetlands uses require no energy use. Extraction processing of rock requires more energy than these uses.

D. Aggregate. Energy expenditure necessarily accompanies aggregate extraction, but aggregate provides a correspondingly greater economic return. The proposed site is close to the market area which reduces fuel consumption and provides a superior choice in terms of energy consumption from sites that are farther away from the market area.

Considering the economic, social, environmental and energy impacts and consequences of locating the proposed use at the Bayview site, we make the following findings. Aggregate is a scarce resource in Clatsop County. It requires an energy consumptive extraction process and necessarily creates some dust and noise. However, we find that the limited sites available for aggregate extraction in Clatsop County make the economic value of a good quality, long-term site, such as the Bayview site, extremely high. We find that 30 acres of timbered land, nearby fish and wildlife habitats, and areas which contain vegetation which might be found in wetlands will be affected by allowing the proposed aggregate use. However, we find the effects on the forest resources will be temporary, and the reclamation plan will return the area to forest uses in the long-term. Similarly, any effects on the elk habitat will be reduced, because no steps will be taken to prevent movement

of the elk across the site. As with forest uses, once the area is reclaimed, it will return to its prior elk habitat value. The applicant has proposed an adequate sediment control plan which will allow fish uses to continue and coexist with the aggregate extraction uses. Similarly, the applicant has given necessary assurances that wetlands will be protected by adequate setbacks. We determine, on balance, and giving consideration of the steps taken by Bayview to reduce any adverse impacts, that the economic, social, environmental and energy analysis mitigates in favor of allowing the use at this site, with conditions. As discussed below, we have developed a program to achieve Goal 5 purposes.

Issue No. 9.

Given the economic, social, environmental and energy consequences to Goal 5 resources, the County must "develop a program to achieve the Goal."

Our initial decision in this matter was accompanied by 14 conditions which were designed to limit the adverse impacts of the proposed quarry operation. We specifically adopt those 14 conditions by reference herein as part of the program to achieve Goal 5 purposes. These conditions include compliance with DEQ noise standards. We note that this condition will help to mitigate any impacts on Goal 5 wildlife resources. In addition, we note that this condition will help insure compatibility of the operation with adjacent forest and residential uses. These conditions also contain a requirement that the operator obtain all State and federal permits. This would include the appropriate DOGAMI permits, including a reclamation plan. This condition will help to preserve Goal 5 values by returning the area to forest and habitat uses once the aggregate extraction operation has terminated. These conditions also contain the requirement that sedimentation ponds be installed so that water turbidity levels in Square Creek are not increased. Applicant has agreed to construct ponds in such a manner that they will handle a 100-year flood event without adverse effect on Square Creek. This condition is designed to protect Goal 5 fishery resources in the adjacent creek. We find that after consideration of the applicant's proposed settlement control plan, the Oregon Department of Fish and Wildlife indicated the applicant's plan for sediment control was a good plan. Conditions also require that roads shall be maintained in a dust-free condition during intensive operations. This condition is designed to reduce dust impacts on adjacent wildlife and fishery uses and minimize any impact on forest resources. Conditions also require observance of riparian setbacks. This condition insures that riparian values

(fish and wetland) are protected. Finally, the original conditions include the requirement that the applicant provide adequate boundary line delineation of the quarry and stockpile sites. This condition allows the applicant flexibility in locating sediment ponds to maximize the effectiveness of the sedimentation pond design. We hereby add the following conditions which are designed to implement and achieve Goal 5 purposes:

First: No barriers will be constructed to prevent wildlife migration, unless required by adjacent residential uses. (This condition will protect Goal 5 wildlife values by allowing continued migration and access by elk to the site.)

Second: Extraction operations on the site will be limited to the hours of 7:00 a.m. through 10:00 p.m. (This condition will help reduce noise impacts on adjacent Goal 5 wildlife values, as well as increase compatibility with adjacent residential uses.)

Third: No extraction activities will occur during the months of December and January. (This condition will eliminate sediment impacts during rainy months and preserve Goal 5 fish values. In addition, this condition will reduce noise and dust impacts upon residences located to the northeast in the event that winds would come from the southwest during this period of time.)

Fourth: The toe of any development will be located according to regulatory approval to protect wetlands. (In conjunction with the setback requirement of the original 14 conditions, this condition is to preserve and protect Goal 5 wetland values.)

Fifth: Rock drilling equipment no louder than 90 dBA [L(50)] will be used at the extraction site. This condition will insure that quieter equipment will be used and thereby eliminate noise impacts on Goal 5 wildlife resources and increase compatibility with nearby residential uses.

Sixth: Minimum stream flow for Square Creek needs to be established by the Oregon Water Resources Department. Water in excess of the prescribed minimum stream flow developed by the Water Resources Department shall not be removed from Square Creek. (This condition will preserve water during low flow periods for fishery purposes.)

Seventh: Extraction shall be in accordance with the staged extraction plan as submitted by applicant as prepared by David Evans & Associates, Inc. on August 26, 1987. (This condition will result in the mouth of the quarry being oriented away from residences and will result in a lip of rock being maintained between the resources and the quarry. This will insure sound levels are within DEQ standards.)

We conclude that these conditions, together with the conditions imposed and adopted by us in the prior proceeding and together with the Bayview excavation plan and sedimentation control plan, constitute a program designed to achieve Goal 5 purposes.

PART IV. ALTERNATIVE EXCEPTION ANALYSIS

As set forth in Part I of these findings, we have concluded that the only issues open for discussion in this remand proceeding are the ones we have discussed in Part III above. However, without prejudice to our conclusion, in the event that all exception standards would be deemed to apply to this limited remand proceeding, we make the following analysis of the statutory and regulatory factors necessary to take an exception. We specifically note that our conclusion in Part I of these findings limiting the scope of this hearing proceeding is the correct analysis of the scope of the hearing. Nonetheless, to avoid creating the grounds for subsequent appeal on this matter, we make the following analysis.

We find that the 14 alternative sites which have been examined in these proceedings, and are discussed as part of these findings, are divided into three fundamental areas: (1) uses located in Quarry and Mining Zones; (2) nonconforming uses; and (3) uses located in exception areas. Depending on how each site is classified, the primary standard which is applicable differs. The two QM Zones, Johnson QM and Seaside Reservoir QM, do not require an exception to receive a Quarry and Mining use. Accordingly, these sites are analyzed under the "reasonably accommodate" standard as found in ORS 197.732(1)(c)(B) and OAR 660-04-02(1)(b). Nonconforming uses are uses that lawfully existed at the time that the Clatsop County Land and Water Development Use Ordinance became applicable to the development, but that would otherwise not be lawful in the zone in which they are located. Aggregate extraction at several of the alternative sites occurred before the institution of the Clatsop County zoning ordinance and are classified, for the purposes of these findings, as nonconforming uses. These include the existing Rippet Quarry, the Ordway Quarry, the Darling Quarry, the Forked Horn Quarry, the

McEwen Clay Borrow Pit and the Bear Cat Quarry. Each of these sites has an existing DOGAMI permit and has a history of recent activity. As we have previously noted with respect to the Rippet Quarry and the Johnson F-80 site, any significant expansion of these sites beyond their present size, or beyond the parameters of their DOGAMI reclamation plans, will require an exception. The nonconforming use portions of these quarries, because no exception is needed to continue operation there, must be analyzed under the "reasonably accommodate" standard found in ORS 197.732(1)(c)(B) and OAR 660-04-02(1)(b). The remaining sites are areas for which an exception is necessary to conduct any further aggregate extraction operations. These sites include the Rippet Quarry (expansion), Johnson F-80, Silver Point, Stevens River Rock Borrow Pit, Cavenham Pit Run, Cavenham Highway 101 Borrow Pit and Halverson Clay Borrow Pit. The Rippet expansion and Johnson F-80 sites have no County permits. The Silver Point site has no DOGAMI permit. The Stevens River, Cavenham Pit Run, Cavenham Highway 101, and Halverson sites have been closed by DOGAMI and have no DOGAMI permit. Under Issue No. 1 above, we have previously explained our rationale for analysis of the Rippet expansion and the Johnson F-80 sites. Each of the other sites in this classification is an existing pit that has been used in the past. However, at this point, none of the pits have DOGAMI authorizations. Any attempt to use these previously-existing sites necessarily entails a new start-up and, therefore, a significant expansion of allowable activities at the site. Accordingly, under Policy 17 of the County Comprehensive Plan, Goal 4, County-wide Element, an exception is needed to extract rock at these sites. Accordingly, these sites must be analyzed under the "significantly more adverse" standard found in ORS 197.732(1)(c)(C) and OAR 660-04-020(1)(c). We find that the Ordway Quarry contains approximately 160,000 cubic yards of aggregate available for extraction. This represents approximately a one-year supply for the demand we have found in the market area. In addition, we note that it would make no sense to expand the Ordway Quarry, because the rock found there does not meet specifications. The Darling Quarry contains approximately 100,000 cubic yards of rock which is significantly less than a one-year supply for the demand in the market area. Given this limited quantity and the fact that the Darling material is of marginal quality, it makes no sense to consider this site for expansion for the proposed use. The Forked Horn Quarry contains approximately 100,000 cubic yards of material available for aggregate extraction. Again, this represents less than a one-year's supply, given the market area demand. Accordingly, it makes no sense to consider this quarry for expansion. The McEwen Clay Borrow Pit is a clay borrow source which is extremely small in size (less than one acre) and has

no commercial quality of rock. It is not reasonable to consider this pit for expansion when adequate quality of rock does not exist. Finally, the Bear Cat Pit contains approximately 148,000 cubic yards available for aggregate extraction. This is approximately a one-year supply, given the demand in the market area. It is not logical to consider this area for expansion, given the limited supply that is available. We decline to consider expansion of the Ordway, Darling, Forked Horn, McEwen and Bear Cat pits under the standard. Our reasoning is that they have deficient quantity to merit consideration for expansion.

Standard No. 1.

"Areas which do not require a new exception cannot reasonably accommodate the use" (ORS 197.732(1)(c)(B); OAR 660-04-02(1)(b)).

We find the following facts in the record relevant to this standard:

Exhibit A, attached and made part of these findings, is a map which describes each of the alternative sites under consideration. Exhibits D and E, attached and made part of these findings, are summaries of our findings concerning the characteristics of all alternative sites under consideration in this matter. These exhibits contain a summary of facts that we have examined and adopted from the initial and supplemental reports of Messrs. Lampi, See, Price, Gamble, and of the opponents' geologists. We specifically adopt as part of these findings each of the factual determinations which are set forth in Exhibits D and E.

The characteristics of the Seaside Reservoir QM zone (no DOGAMI permit) which we find relevant to this standard are summarized on Exhibit E. We note that a fair quantity of rock (1 million cubic yards) appears to be available for excavation at the Seaside Reservoir QM site. However, we note several important reasons why this site would be an extremely poor choice for a rock quarry. First, three residences are immediately adjacent to this zone, and a multi-space trailer park is located 350 feet from the border of the zone. One of these residences is surrounded on three sides by this site. An additional residence is located 600 feet from the western edge of this zone. Extraction and crushing on this site cannot meet DEQ noise standards, given the close proximity of the zone to existing residences. Of equal importance, the sole water

source for the City of Seaside (a large reservoir) sits directly adjacent to the zone. Two water transmission lines traverse the zone, and a treatment center is located nearby. The City of Seaside has expressed great concern over aggregate extraction activities on this site. In addition, the landowner of the property (Cavenham) has stated that this site will not be considered for a quarry and mining. Finally, deep overburden and vibration control present additional costs of operating on this site. The negative factors present at the site would not only increase the cost of material extracted from this site, but also provide a separate reason for allowing NO mining activity on the site. Because of all these negative factors, we conclude that the Seaside Reservoir QM zone cannot reasonably accommodate the use proposed by applicant.

We have previously analyzed the ability of the Johnson QM zone to reasonably accommodate the proposed quarry in Issue No. 1, Parts III and IV above. We incorporate by reference herein that entire analysis. Based on the findings and conclusions in that analysis, we conclude that the Johnson QM Quarry cannot reasonably accommodate the proposed use.

As with our discussion of the Johnson QM zone above, for the purpose of our discussion of this standard relative to the Rippet Quarry (04-0007), we incorporate by reference our previous analysis of the Rippet Quarry as set forth in Issue No. 1, Part III above. We find that the amount of material available for extraction at this nonconforming site is less than a 2-years' demand for aggregate materials in the market area. We find that two residences are located within 300 to 400 feet of the property and that an additional two residences are located within 800 feet of the property. Extraction activities at this site have considerable negative impacts on residences located this close. We find that aggregate from this pit is part of the product mix of the Johnson operation and that the average price from the Johnson operation is $6.00 per cubic yard. We find this to greatly exceed the projected cost of aggregate to be produced at the proposed site. Differential between the two figures represents additional cost to the consumers of aggregate-based products in Clatsop County. We find several environmental problems which limit development at the Rippet Quarry. Overburden at the site is relatively deep and causes handling problems during aggregate extraction. We find that the high, near-vertical face of the quarry presents reclamation difficulties. The site is clearly visible from U.S. Highway 101 and Highway 26 and cannot be screened, because it is a prominent topographic feature. The material from this quarry is presently being transported across U.S. Highway 101 for processing at the Johnson QM Quarry. Because we find only a small

amount of aggregate is available at this site (250,000 cubic yards) and because of the high price of the aggregate produced from this site in the market area, we find the Rippet Quarry does not meet two necessary requirements for the proposed use (i.e., large quantity and low cost). In addition, because we find that the Rippet Quarry presents environmental problems (possible overburden problems, reclamation problems, visibility problems and adjacent residences), we find that environmental restrictions exist here which are not present at the Bayview site and which would increase production costs and present operation difficulties. We conclude that a lack of material, the high price of material, and increased environmental impacts prevent this site from reasonably accommodating the proposed use.

With respect to the Ordway and Darling Quarries, we specifically incorporate by reference our discussion under Issue No. 3 of Part III above. As set forth in that analysis, the Darling Quarry contains rock which produced marginal test results that indicate that the average production from the site will not consistently meet necessary contract specifications. In addition, we find that aggregate recently produced at the site was rejected by the State of Oregon, because it failed to meet specifications. In addition, the Darling site contains only 100,000 cubic yards of material which is less than a one-year supply for the market area demand. We find that the Ordway Quarry failed several rock quality tests which indicates that the average production from the site will not consistently meet necessary contract specifications. In addition, we find that the Ordway Quarry contains approximately 160,000 cubic yards of material available for extraction which represents only approximately a one-year supply based on the market area demand. The applicant has proposed a use which is projected to use 100,000 cubic yards of aggregate material per year for a 20-year period and must have rock which meets necessary contract specifications. Because of the limited amount of material available at the Darling and Ordway sites, and because of the marginal quality, or lack of quality, at the two sites, we conclude that the Darling Quarry and the Ordway Quarry cannot reasonably accommodate the proposed use.

The Forked Horn Quarry is located on approximately four acres in an F-80 zone, 13 miles from the Cannon Beach junction. It is visible from Highway 26, and it contains a limited quantity of rock, approximately 100,000 cubic yards. The available quantity of rock at the Forked Horn Quarry is less than a one-year supply based on the demand in the market area and is significantly less than the amount of material needed to support the proposed use. In addition, the distance

of the Forked Horn Quarry from the market area adds a significant amount to the cost of the aggregate to be produced at that area if transported to the market area. We find that any material produced at that quarry and transported to the market area will add significant cost to the delivered product (approximately $2.60 to $3.50 per cubic yard), and we find that the Bayview site does not present this increased cost if it is located at the proposed site. Because we find that the Forked Horn Quarry does not contain sufficient material to support the proposed use and because of the increase in price due to this quarry's location outside the market area, we conclude that the Forked Horn Quarry cannot reasonably accommodate the proposed use.

The Bear Cat Quarry is approximately one acre in size and is located in an F-80 zone directly adjacent to U.S. Highway 26. Residences are located within 200 feet of the site. It is six miles distant from the Cannon Beach junction and contains a limited quantity of rock estimated to be approximately 148,000 cubic yards. Consistent with our analysis above, we find that the limited quantity of rock available at this quarry will not support the long-term use proposed by the applicant. In addition, we find that the proximity of this pit and its orientation toward nearby residences does not allow for adequate barriers to reduce sound from extraction equipment. Because of its physical location, the Bear Cat Pit will exceed existing DEQ standards for the nearby residences if extraction is allowed at the site. Because we find that the limited quantity of rock available at the Bear Cat Pit does not provide for a long-term use and because extraction operations at the site are not likely to meet DEQ noise standards due to the close proximity of residences, we conclude that this site cannot reasonably accommodate the proposed use.

The McEwen Clay Borrow Pit is less than one acre in size and is located in an F-80 zone directly adjacent to U.S. Highway 101. It is located in a scenic highway corridor and is approximately 900 feet from the closest residence. No commercial quality of rock is available at this site. We find that the applicant has proposed a long-term extraction use which requires quality rock which will meet State Highway Specifications. The McEwen Pit does not have this kind of rock. Accordingly, we conclude that the McEwen Clay Borrow Pit cannot reasonably accommodate the proposed use.

It has been the suggestion by the opponents in this matter that the cumulative amount of aggregate available in the market area is sufficient to meet the County's needs and that a

new production site is not warranted. We find that the annual demand in the market area to be served by the proposed quarry is 150,000 cubic yards per year. We find that the amount of aggregate available at all the sites analyzed under this standard totals 578,000 cubic yards. The figure does not include any additional material that could be produced at additional expense at the Johnson QM zone by digging below the floor of the existing quarry. We find that the additional expense associated with extracting that material makes this prohibitively expensive. The figure also does not include any material that might be available at the Seaside QM Quarry. We find that the negative factors present at that site are so overwhelming that no aggregate mining use shall be allowed at the site. The total amount of aggregate actually available for extraction at these sites represents less than a 4-years' supply based on the market area demand. This does not present the sufficient long term supply the County needs of an essential construction material. In addition, the applicant has proposed a central processing area where it may establish its operations and conduct sales to the public. If the applicant were forced to exhaust each of the various sites, it would be forced to change its location approximately once a year and would lose the advantage of a long-term centralized location. In addition, locations, such as the Forked Horn Quarry, would involve considerable expense for transportation of aggregate to the market area. Also, an extraction operation could not take place at the Bear Cat Quarry, because it would not be able to meet DEQ standards. Even if the material available in the exception areas (Rippet Quarry, approximately 250,000 cubic yards; Stevens River Rock Borrow Pit, 45,000 cubic yards; and Johnson F-80, 300,000 cubic yards) were added to the cummulative total, the amount of material available for extraction in the market area would only total 1,173,000 cubic yards. This provides less than an 8-year supply based on the market area demand. This is not a long term supply that is needed by the County for the strategic material in the future. The addition of these three pits also entails other difficulties which make it impractical to consider them cumulative. First, the Stevens River Pit has ground water near the surface and would not involve the same type of extraction that the applicant has proposed. In addition, to obtain the long-term quantities, the applicant would be forced to move its operations three additional times during an 8-year period. In addition, relying on existing sources would do nothing to address the sole source supply problem presented by the Johnson Quarry. The County roadmaster has indicated that at times the County has been unable to get rock from Johnson and that increased competition would be good for the county. Finally, with ownership of each of the cumulative quarries held by different people, there is no guarantee that the

applicant would be able to obtain the necessary quantity and quality or be able to locate his equipment at the various quarries. In fact, the record demonstrates that it costs the applicant additional money to locate his equipment at the Johnson operation under certain circumstances. The record also indicates that there is insufficient room at the Darling Quarry for a centralized operation. We find that all these negative factors make it unreasonable for the County to demand that the applicant obtain its rock from a series of different extraction areas over the next eight years. Accordingly, we conclude that the available alternative sites, considered cumulatively, cannot reasonably accommodate the proposed use.

In the event that any of the areas that we have determined should be analyzed under the "significantly more adverse" standards would be deemed to fall under the "reasonably accommodate" standard, we make the following findings. With regard to any expansion of the Rippet Quarry, we incorporate our analysis under Issues Nos. 1, 5 and 6 above. For our limited analysis discussion here, we find that it is sufficient to point to a single factor at the Rippet Quarry which prevents it from reasonably accommodating the proposed use. As is set forth in our analysis above, rock from the Rippet Quarry is part of the raw material mix which goes into the Johnson crushed aggregate product which is priced at approximately $6.00 per cubic yard. This price is considerably more than the $4.30/$4.45 per cubic yard cost for crushed aggregate that will be produced at the Bayview Quarry. We also find that in certain situations, Johnson's pricing policies for aggregate to be incorporated into bonded government jobs create price contingencies of up to $1.00 per cubic yard which prevent applicant from getting projects that are available in the market area. We find these two differentials to have an economic effect on the final price it is paid by the consumer in Clatsop County for products that incorporate aggregate materials. Any expansion in the Rippet Quarry is part of the Johnson operation which produces aggregate that is priced substantially higher than the cost of material produced at the Bayview Quarry. Johnson pricing policies have a negative effect on the price consumers in Clatsop County pay for aggregate products. These factors are related to the fact that Johnson is essentially a source of supply for high-grade aggregate in the County. We find that it is unreasonable to prevent competition, given the potential benefits to consumers in Clatsop County, and we conclude that any expansion of the Rippet Quarry cannot reasonably accommodate the proposed use.

The Johnson F-80 site (no DOGAMI permit) is previously discussed in our analysis under Issue No. 1 in Part III above.

We incorporate that analysis herein by reference. Consistent with that analysis, we conclude that the high price of the rock produced at this quarry and the low quantity of rock available for extractions prevent this site from reasonably accommodating the proposed use.

The Stevens River Rock Borrow Pit (04-0049) is located in a lake and wetland zone. A large portion of this site is identified significant wetlands in the County Goal 5 resource inventory. Ground water is encountered at approximately 3 to 5 feet below the surface of the ground at this site. Several residences and commercial establishments are located within 150 feet of the site. The site has approximately 45,000 cubic yards of material available for extraction. We find that rock extraction is incompatible with wetlands which are identified as <u>significant</u> wetlands in the County Goal 5 County-wide Element. We further find that the use proposed by the applicant is a long-term, high-volume aggregate use which could not be met by the limited quantity of material that is available for extraction at this site. We further find that rock extraction should not occur in areas that are indentified as <u>significant</u> wetlands in the County Goal 5 resource inventory. For these reasons, we conclude that the Stevens River Rock Borrow Pit cannot reasonably accommodate the proposed use.

We find that the Silver Point Quarry is approximately 1 acre in size and has approximately 100,000 cubic yards available for extraction. We find that the Silver Point Quarry presents significant danger of landslide damage in the surrounding area. We find that the amount of material available at the Silver Point Quarry is less than a 1-year's supply based on the market area demand. The Cavenham Pit Run, Cavenham Highway 101 and Halvorsen Quarry are extremely small (less than 1 acre or not visible in aerial photographs) and have no commercial quality of rock available. Because there is no commercial quality of rock available at the Cavenham Pit Run, Cavenham Highway 101 and Halvorsen Pits which meets the necessary quality specifications and because the Silver Point Quarry has a limited quantity available and has significant landslide dangers, we find that these sites cannot reasonably accommodate the proposed use.

As all the areas which do not require a new exception cannot reasonably accommodate the proposed use, we conclude that this standard has been met.

Standard No. 2.

OAR 660-04-020.

"(2) The four factors in Goal 2 Part II(c) required to be addressed when taking an exception to a Goal are:

* * *

"(b) 'Areas Which Do Not Require a New Exception Cannot Reasonably Accommodate the Use':

"(A) The exception shall indicate on a map or otherwise describe the location of possible alternative areas considered for the use, which do not require a new exception. The area for which the exception is taken shall be identified."

We find, consistent with our discussion in Parts I-V herein, that possible alternative areas which might conceivably accommodate the use have been located, described, and indicated on a map which is part of the hearings record and is made a part of these findings as Exhibit A. We also find that the area from which exception is taken has been similarly identified. Accordingly, we find that this Standard has been met.

Standard No. 3.

OAR 660-04-020(2)(b)(B).

"(B) To show why the particular site is justified, it is necessary to discuss why other areas which do not require a new exception cannot reasonably accommodate the proposed use. Economic factors can be considered along with other relevant factors in determining that the use cannot reasonably be accommodated in other areas. Under the alternative factor the following questions shall be addressed:

"(i) Can the proposed use be reasonably accommodated on nonresource land that would not require an exception, including increasing the density of uses on nonresource land? If not, why not?"

We find that the only proposed alternative sites that are located on nonresource land are Stevens River Rock Borrow

Pit (04-0049, L&W zone), the Johnson QM zone (04-0011, QM zone), and the Seaside Reservoir QM zone (no DOGAMI permit, QM zone). We find that all the other proposed sites are located in F-80 or AF-20 zones and, therefore, are located on resource land. In our analysis under Standard No. 1 above, we concluded that none of the three sites specifically listed above could reasonably accommodate the proposed use. We incorporate the analysis of Standard No. 1 by reference herein and reaffirm our conclusion that none of these sites can reasonably accommodate the proposed use.

The three sites listed above constitute the only nonresource land identified in this hearing where aggregate resources might exist. Increasing the density of the uses on this nonresource land is not a logical exercise, given the fact that aggregate extraction is a consumptive use of the nonresource land. The extraction of aggregate actually consumes the land on which it is located. It does not make sense to attempt to increase the density of uses on the parcel of land that will be consumed as a result of the use activity. In addition, aggregate extraction cannot occur without proper regard for reclamation of this site or without regard to physical limitations of the extraction operation, including the necessity of blasting. Increasing the density of aggregate use would create problems with physical operation of a quarry and reclamation. It has been suggested by the opponents of the proposed site that the life of the Johnson QM zone could be extended by extracting beneath the existing quarry floor. In the event that this would be deemed to be an increase of the density uses on the Johnson QM site, we find that it is impracticable. The size of the property would restrict the below-grade extraction to a very small surface area, and no more than 145,000 cubic yards of additional material would be available. Limited area at the site available for extraction would limit the width and the height of face for blasting. Increased costs due to physical restraints of the size of the area and the blasting required will increase the cost of the material produced by approximately $1.00 per cubic yard. Material produced at this site is already priced at $1.55-$1.70 more than the proposed cost of material at the Bayview site. We find that one of the primary reasons for developing the Bayview Quarry is to make aggregate material available at a lower cost in the market area. This reason is defeated by attempting to extract beneath the floor of the Johnson QM Quarry. Because of the inherent impossibility of increasing the density of consumptive uses and because of the increased costs associated with

extracting below established quarry floors, we conclude that the proposed use cannot be reasonably accommodated by attempts at increasing the density of the uses on nonresource land. We find that the appropriate definition of "resource land" is found in OAR 660-040-005(2). For the purposes of this decision, we find that resource land includes only forest and agricultural lands. However, QM and LW zones are described as "resource zones" at pages 29a and 52 of LWDUO. In the event the classifications in the zoning ordinance would be deemed to supersede the statutory classifications in OAR 660-040-005(2), this standard would not apply because all the potential alternative sites would be located on resource land.

Standard No. 4.

OAR 660-04-020(2)(b)(B).

"(B) To show why the particular site is justified, it is necessary to discuss why other areas which do not require a new exception cannot reasonably accommodate the proposed use. Economic factors can be considered along with other relevant factors in determining that the use cannot reasonably be accommodated in other areas. Under the alternative factor the following questions shall be addressed:

* * *

"(ii) Can the proposed use be reasonably accommodated on resource land that is already irrevocably committed to nonresource uses, not allowed by the applicable Goal, including resource land in existing rural centers, or by increasing the density of uses on committed lands? If not, why not?"

We find that land is irrevocably committed to nonresource use when uses not allowed by the applicable goal (in this case Goal 4) make uses allowed by the applicable goal impracticable. We find that we must examine the characteristics of the potential nonexception area in relationship to the characteristics of the adjacent lands to determine whether the physical improvements in the area make the resource land unsuitable for its resource use. We limit this discussion to the existing Rippet Quarry (04-0007), because all the other potential nonexception alternative sites are either located on nonresource land (Johnson QM Zone; Seaside Reservoir QM Zone;

Stevens River Rock Borrow Pit) or lack the necessary quality and/or quantity of materials to serve as a logical choice for the proposed use. (The existing portions of Ordway; Darling; Forked Horn; McEwen and Bear Cat, see analysis in Parts III and IV above). We incorporate our analysis under Standard No. 1 above, and our analysis in Part III, in support of this conclusion. We find that alternative sites which lack DOGAMI permits or have been closed by DOGAMI (Silver Point, Johnson F-80, Cavenham Highway 101, Cavenham Pit Run, Halvorsen and Stevens River Rock Borrow Pit) need not be analyzed because an exception is required for their use. In any event, these sites lack the necessary quality and/or quantity to reasonably accommodate the proposed use. We incorporate our analysis in Parts III and IV above in support of these conclusions.

Our review of the site description of the Rippet Quarry indicates that it is adjoined by timbered slopes. Review of aerial photographs submitted as exhibits in this matter shows that the Rippet Quarry is surrounded to the west by forest uses. The aerial photographs indicate that some tree removal activity has taken place on the site, but that the disturbed surface area is easily ascertainable and is surrounded by existing stands of trees. To the west of the Rippet Quarry are uninterrupted forest lands. The size of the disturbed surface area is small in comparison with the surrounding forest covered lands. Furthermore, there are no man-made features (such as highway or structures) that distinctly separate the Rippet Quarry from the adjacent resource land. We conclude that it is not impracticable for forest uses to continue around the Rippet Quarry and conclude that the adjoining resource land is not irrevocably committed to nonresource use. We find that no potential aggregate resource has been identified on land which is designated a Rural Center. As discussed under Standard No. 3 above, increasing the density of uses is not a concept that readily can be applied to a consumptive use, such as aggregate extraction. We conclude that increasing the density of uses is not an option for consumptive uses, such as aggregate extraction. Accordingly, we conclude that this standard is met. As discussed in Standard No. 3 above, we find that the appropriate definition of "resource land" is found in OAR 660-040-005(2). For the purposes of this decision, resource land includes only forest and agricultural lands. However, QM and LW zones are described as "resource zone" at pages 29a and 52 of LWDUO. In the event the classifications in the zoning ordinance would be deemed to apply under this standard, we find that our conclusions would not be changed. As discussed in Part III above and Standard No. 1 of Part IV

above, we find that Seaside Reservoir QM zone, the Johnson QM zone and the Stevens River Rock Borrow Pit cannot reasonably accommodate the proposed use. Accordingly, this standard is met under either definition of resource land.

Standard No. 5.

OAR 660-04-020(2)(b)(B).

"(B) To show why the particular site is justified, it is necessary to discuss why other areas which do not require a new exception cannot reasonably accommodate the proposed use. Economic factors can be considered along with other relevant factors in determining that the use cannot reasonably be accommodated in other areas. Under the alternative factor the following questions shall be addressed:

* * *

"(iii) Can the proposed use be reasonably accommodated inside an urban growth boundary? If not, why not?"

None of the 14 potential alternative sites are located inside an urban growth boundary. The Stevens River Rock Borrow Pit is located adjacent to, but outside of, the Seaside urban growth boundary. We conclude that no sites have been identified inside an urban growth boundary and that this Standard is not applicable.

Standard No. 6.

"The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site, with measures designed to reduce adverse impacts, are not significantly more adverse than would typically result from the same proposal being located in areas requiring a Goal exception rather than the proposed site; ORS 197.732(1)(c)(C); OAR 660-04-020(1)(c)."

As set forth under Issues Nos. 5 and 6, Part III of these findings, we find that the characteristics of the alternative sites are fully described in the record, and the characteristics of the 14 sites, which have been identified as potential alternative locations for the proposed use, as well as the Bayview site, are summarized in Exhibits D and E, which we have adopted as part of our findings. We find that

these summaries accurately describe the characteristics of each site. We also find that the locations of these sites are shown on Exhibit A which we have made part of these findings. We incorporate by reference herein the materials contained in the summaries and the map. Under Issue Nos. 5 and 6, we discussed the characteristics, advantages and disadvantages of the Cavenham 101 Borrow Pit (04-0028), the Cavenham Pit Run Borrow Pit (04-0036), the McEwen Clay Borrow Pit (04-0046), the Stevens River Rock Borrow Pit (04-0049), and the Halvorsen Clay Borrow Pit (04-0032). Our analysis of findings and conclusions relative to these 5 sites is incorporated herein by reference and will not be repeated. Under Issues Nos. 5 and 6, Part III above, we also analyzed the characteristics and impacts of the Rippet Quarry and the Johnson F-80 site as compared to the proposed Bayview site. That analysis is incorporated herein by reference and will not be repeated.

Typical Advantages and Disadvantages of an Alternative Site.

All the 14 alternative sites which have been identified during this proceeding are typically located in an F-80 forestry zone. Only the Seaside QM Reservoir, Johnson QM Quarry, Ordway and Stevens River Rock Pit have different zoning (QM, AF-20 or L&W). The typical quality of rock from the 14 alternative sites varies greatly. Many of the sites have no commercial quality of rock which is available for extraction. Other sites which were tested had marginal or nonpassing results in critical indicator tests. The Bayview site contains rock which meets the necessary State of Oregon specification, and it is assumed that the Rippet, Johnson QM, Johnson F-80 and Forked Horn Quarries also provide State specification rock. The typical quantity available at the alternative sites is small. Many of the sites have less than 1 acre of extraction area available. Several of the mid-range sites present quantities of rock which range from 100,000 cubic yards to 160,000 cubic yards. The Johnson F-80 and Rippet Quarries contain between 240,000 and 300,000 cubic yards. Some additional material may be available at the Rippet Quarry if expansion is allowed. Overburden at the sites varies widely. It ranges from a 10 to 15 foot depth at the Bayview Quarry to as much as 30 feet at other quarries. Storage and disposal area varies widely among the alternative sites. Several of the sites are so small that it is difficult to project the amount of area that might be available for storage. Other areas, such as the Darling Quarry, have a demonstrated lack of disposal and storage area. Still other areas, such as Bayview and the Johnson QM Quarries, have ample storage and disposal areas. Operational area varies in the same manner as storage and disposal area varies among the alternative sites. Water availability is not generally

uniform among all the sites. Some sites, such as Forked Horn or Ordway Quarries, have no water supply nearby. Other sites, such as the Johnson QM site, are located adjacent to large streams. Bayview is adjacent to a small stream which may provide water that will be supplemented by importation during periods of low flow. Drainage and sediment treatment facilities vary greatly among the alternative sites. Some sites, such as the Darling Quarry, have a demonstrated problem with drainage control and cause sedimentation in nearby water bodies. Other sites, such as Forked Horn and Ordway Quarries, are remote from water sources, and drainage and sedimentation problems are not apparent. Still other sites, such as Bayview and the Johnson QM Quarry, are located near water bodies but have implemented or proposed adequate drainage and sediment treatment facilities. Blasting is typically needed at sites which will produce high-quality rock. However, it is possible that the Bayview site may be developed without the need for blasting. Similar equipment would be required to operate all the sites, except the Stevens River Borrow Pit, and noise that would be typically generated during the extraction and crushing phases of aggregate production are similar at most of the sites. However, the location and orientation of the quarry area provides advantages at some sites and disadvantages at others. For example, the mouth of the Bayview Quarry is oriented away from nearby residences. Whereas, the mouths of the Rippet and Johnson QM Quarries are oriented toward nearby residences. With the exception of the Stevens River Rock Pit, the alternative sites are generally located as part of, or adjacent to, relatively steep slopes. Stability of these slopes varies widely. For example, the Silver Point site has extremely unstable geology, and the Rippet Pit has experienced substantial landslides in the last five years. Other quarries, such as the Johnson QM zone and the proposed Bayview site, demonstrate slope stability. Surface and stream erosion vary at the sites depending on the steepness of the slope, the presence of vegetation and the location of adjacent streams. The Darling Quarry is located directly adjacent to Circle Creek and has had problems with sedimentation due to surface and stream erosion in the past. At the other end of the spectrum, the Johnson Quarry and the Bayview site, while adjacent to nearby streams, are not presented with large problems in erosion. This surface erosion does not appear to be a large problem with the Johnson QM site, and steps have been taken at the Bayview site to prevent any erosion problems. Flood possibilities depend on nature and extent of adjacent water bodies. Typically, the smaller alternative pits have no nearby body of water. Other pits have streams which are located nearby, and the Johnson F-80 site has a Class I stream which flows directly through the property. Wetland areas have typically not been

identified at any of the alternative sites. Areas which support vegetation which might be found in wetland areas occur at the Bayview site. A condition is included in the Bayview approval to insure protection of any areas determined to be wetlands. Riparian vegetation is present only at those sites which are located near a body of water. The County Comprehensive Plan defines the extent of riparian vegetation which typically extends 50 feet from the high-water mark of an adjacent stream. Fisheries and wildlife considerations are present at most of the sites. Virtually all the sites are classified as elk habitat. Fishery values are a consideration at sites located near Class I streams. Typically, there have been no adverse impacts on fisheries by the operation of aggregate quarries. In the past, the Darling Quarry has had some siltation problems. The Bayview application has proposed significant measures which will prevent adverse impact on fishery resources. Economic advantages related to extraction on the alternative sites vary widely. Some sites are so small and contain poor quality of rock so that they cannot economically support an aggregate use. Other sites have larger quantities of rock but are unable to produce rock which meets necessary highway specifications. The sites associated with the Johnson operation are at a disadvantage due to the high priced charge for the material. The Bayview operation has a distinct advantage in that the cost of materials produced is significantly lower than is available at the present time in the market area. Similar technology will be needed to extract rock at all sites except the Stevens River Borrow Pit. The energy consequences generally associated with the extraction process are similar at all the sites. However, some of the sites such as Bear Cat, Silver Point and Forked Horn Quarries, are located more distant from the market area and would require greater amounts of energy to transport the raw materials to the market area.

We find that many of the alternative sites which have been suggested typically result in less favorable environmental, economic, social and energy consequences if the Bayview use were located at the site. For example, many of the small sites simply do not have the quantity or quality of rock necessary to sustain the proposed use. This creates a severe long-term economic consequence which would result from any attempted location of the proposed use at these sites. Other sites have inferior rock quality or insufficient rock quantity. Again, this creates a long-term economic disadvantage that is not present at the Bayview site. Many of the sites are clearly visible from adjoining highways or have residences nearby. The Bayview extraction area is located approximately 2,800 feet from the nearest residence and cannot be seen from highway. Any site which is located closer to nearby residences or a

highway will generally have long-term social consequences which are not present at the Bayview site. Typical long-term energy consequences of using any particular site are roughly the same in terms of the amount of energy needed to extract the raw material. However, certain pits are located at greater distances from the market area which provides greater energy consumption in the long term. The Bayview site is located in the market area and is no less strategically placed in terms of energy consequences than any of the other sites. Long-term environmental consequences vary with each of the sites. However, given the measures proposed by Bayview and the conditions imposed by the County, the long-term environmental consequences of the Bayview site are small. Other sites would have difficulty with visibility, sedimentation and timber destruction problems.

We find that the attached Exhibit D summarizes the typical long-term environmental, economic, social and energy consequences that are related with each of the alternative sites which require an exception. Our analysis of Exhibit D, consistent with our findings in Parts III and IV herein, lead us to the conclusion that the Bayview site with measures to reduce noise, protect fisheries and stream values, protect wetlands and prevent dust does not present long-term environmental, economic, social or energy consequences that are more significantly adverse than would typically result from the same proposal being located at any other identified site that requires a goal exception.

Economic Characteristics and Impacts.

The Darling Quarry contains rock which received marginal test reports on standard tests used to determine whether average quality of rock will meet necessary construction standards. In addition, the Oregon Department of Transportation, Highway Division, recently rejected a lot of rock produced at the Darling Quarry, because it did not meet specifications. The rock at the Ordway Quarry failed four test specifications. Rock from the Bayview Quarry received acceptable test results on several indicator tests, and we find that the rock meets the necessary specifications for widespread use. No test results are available from the Forked Horn Quarry, the Silver Point site or the Bear Cat Pit. Rock quality at the Johnson F-80 and Rippet Quarries (expansion) are assumed to meet specifications. The quantity of rock available at the Darling Quarry, the Forked Horn Quarry and the Silver Point Pit are each limited to approximately 100,000 cubic yards. Rock available at the Bear Cat Quarry for extraction is limited to approximately 148,000 cubic yards. Rock available for extraction at the

Ordway Quarry is limited to 160,000 cubic yards. The Johnson F-80 Quarry has only approximately 300,000 cubic yards available for extraction. The active portion of the Rippet Quarry contains approximately 244,000 cubic yards, and some additional material is available if the quarry receives approval to expand. By contrast, the Bayview Quarry has approximately 2.5 million cubic yards of material available for excavation. For aggregate uses, Bayview Quarry would be the most productive, and the alternative quarries, on their own, would not provide sufficient rock to meet the use proposed at the Bayview site, given County demand of approximately 150,000 cubic yards per year. As discussed under Part IV above, we have determined that it is impracticable to attempt to consider the quantities available in the alternative pits in a cummulative fashion. Because of the lack of rock available for extraction at these other quarries, we conclude that they cannot produce sufficient rock to sustain the proposed use and that attempting to locate the proposed use at these sites would entail significant negative economic consequences. The negative economic consequences are not present at the Bayview site, and we find no other negative consequences at the Bayview site. We conclude that the long-term economic consequences resulting from the use at the Bayview site are not significantly more adverse than the consequences which would typically result from the same proposal being located at any one of these five quarries.

Environmental Characteritics and Impacts.

The Bayview site has sufficient room for sedimentation ponds to control sediment runoff into adjacent streams. By contrast, the Darling Quarry has insufficient space for sediment ponds. Sediment ponds are not a consideration at the Ordway Quarry, the Forked Horn Quarry or the Silver Point Quarry, because they are located away from nearby streams. In addition, sediment ponds are not a consideration at the Bear Cat Quarry, because the Necanicum River lies across Highway 26 from the site. The Johnson F-80 Quarry and Rippet Quarry (expansion) also appear to have sufficient room to locate sediment ponds. The ponds at the Bayview site are designed to meet to 100 year storm event. We find this to be an objective standard that will allow us to assess compliance with the conditions imposed by these findings. As discussed in Part III above, the geology at the Bayview site is stable, and landslides are not a problem. With the exception of the Silver Point Quarry, where landslides present a danger to U.S. Highway 101 and nearby residences, and the Rippet Quarry (expansion) where a large slide occurred in 1984, landslides do not appear to be a problem at the other sites. The Bayview Quarry is located away from highways and cannot be seen from any major traffic artery

or any residences. All the other quarries can be clearly seen from either U.S. Highway 101 or State Highway 26. The Rippet Quarry in particular is an eyesore which is widely visible and cannot be screened because of the topography present at the site. In addition, the Rippet (expansion), Johnson F-80, Ordway, Silver Point and Bear Cat Quarries also can be seen by nearby residences. The extraction area at the Bayview Quarry has been recently clearcut and no marketable timber is present. By contrast, the Rippet (expansion), Johnson F-80, Darling, Ordway and Silver Point Quarries have timber surrounding the extraction sites. The Forked Horn and Bear Cat sites appear not to be heavily timbered. Whereas, interruptions of the timber-growing cycle is not a problem at the Bayview site, development of the Rippet (expansion), Johnson F-80, Darling, Ordway and Silver Point Quarries would require removal of trees approaching market size. The reclamation plan at the Bayview site will limit any long-term effect of removing land from the County resource base by returning the area back to forest uses after the aggregate is exhausted. Similar reclamation appears to be possible at each of the other sites, with the possible exception of Rippet (expansion), where high faces may make reclamation difficult. An area which contains vegetation that might be found in wetlands has been described at the Bayview site. This type of area has not been described at any of the other sites. However, a condition imposed by the County will require that all the activities at the Bayview site take place above any wetland areas. Square Creek is directly adjacent to the Bayview Quarry site. The Ordway, Silver Point and Forked Horn Quarries do not have a stream in the vicinity. The Necanicum River runs directly through the Johnson F-80 site, and Circle Creek runs directly adjacent to the Rippet (expansion) Quarry. Anadromous fish and cutthroat trout have been identified in the waters adjacent to these areas. Bayview has proposed sedimentation ponds to control any adverse effect on the stream or the fisheries values. This sedimentation control plan has been described by the Oregon Department of Fish and Wildlife as a good plan and is designed to contain a 100-year storm event. All areas, including the Bayview site, are located within elk habitat. No actions will be taken at the Bayview site, such as fencing, which will inhibit the passage or migration of elk through the area. In addition, Bayview has agreed to maintain riparian vegetation setbacks which will both help preserve stream and fish values and enhance elk habitat. After weighing these characteristics and impacts, we find that the Bayview site has significant advantages related to its lack of visibility, its stable geology and lack of timber on the extraction area. A potential disadvantage at

the Bayview site (areas which contain vegetation which might be found in wetlands) has been addressed and mitigated by a condition which is a part of these findings. Stream values, riparian vegetation an fisheries values near the Bayview site will be protected by conditions and setbacks. On the whole, we conclude that the long-term environmental consequences resulting from aggregate extraction use at the proposed site, with measures designed to reduce adverse impacts, are not significantly more adverse than would typically result from the same proposal being located in any of these other sites.

Social Characteristics and Impacts.

Only the Bayview site cannot be seen from adjacent highways. The Bayview, Darling and Forked Horn Quarries are the only sites that cannot be seen by nearby residences. The Ordway Quarry has two residences within 1,500 feet, the Silver Point Quarry can be seen from resort motels, and the Bear Cat Quarry has a residence within 200 feet. The Rippet (expansion) Quarry has residences within 300 feet, and the Johnson F-80 site has several residences within 1,000 feet. Bayview's distance from the nearby residences and highways presents a smaller social impact than is presented at the other quarries. Activity at the Bayview site will be well within the sound limitations imposed by DEQ. In addition, we find that Ecola State Park, which is approximately 11,880 feet south of the Bayview site, is separated from the site by a ridge which will block view and sound. Sound levels from both machinery and blasting at the park will be well below the standards set by DEQ. Bayview has agreed to limit its hours of operation to between 7:00 a.m. and 10:00 p.m. to reduce noise impacts. Other sites, such as Bear Cat, may not be able to meet DEQ standards. A blasting accident has occurred on or near the Johnson F-80 Quarry which placed fly rock on neighboring property. The orientation of the Bayview extraction area is away from nearby residences. Bayview has agreed to maintain all roads in a dust-free fashion, and the crusher proposed for use at the site has all necessary DEQ permits. Prevailing winds will normally take dust impacts away from residences, and Bayview will not operate during December and January when winds might bring dust toward nearby residences. We also find that the Bayview operation may create in-County jobs by reducing imports. Weighing the relative advantages and disadvantages that are presented by each of these sites, we find that the long-term social consequences resulting from aggregate extraction at the Bayview site do not present any particular problems that are significantly more adverse than would occur at other areas. Bayview has several advantages which are not found at other sites. Any potentially adverse problems at Bayview

(i.e., sedimentation) have been addressed with measures designed to reduce adverse impacts. We conclude that the long term consequences of locating the proposed use at Bayview are not significantly more adverse than would typically result in the same proposal being located at any of the other sites.

Energy Characteristics and Impacts.

The Bayview, Rippet (expansion), Johnson F-80, and Darling sites are very near the market area to be served by the proposed use. The Ordway Quarry is 3 miles distant, the Silver Point and Bear Cat Quarries are approximately 6 miles distant, and the Forked Horn Quarry is 13 miles distant. We find that the sites closer to the intended market area enjoy an energy benefit in that additional fuel need not be expended to transport aggregate material. The mechanical extraction of aggregate to be used at the Bayview site would be necessary at any of the other sites and the extraction methods used at any site would be similar to those used at the Bayview site. Weighing these characteristics, we conclude that the long-term energy consequences resulting from aggregate extraction at the Bayview site are not significantly more adversed than what typically result from the same proposal being located at the other sites.

Given the lack of mature trees on the Bayview site, the short-term ability of this site to produce marketable trees is less than other sites under consideration (with the exception of Forked Horn and Bear Cat where no trees are present). Only these two areas where trees are not present would be less productive than the Bayview site in terms of timber production in the short run. The Bayview site, like most of the other sites under consideration, is located in a forest (F-80 or Af-20) Zone. Each of the sites is generally surrounded by forest land. The Darling and Bear Cat Quarries directly adjoin major highways on one side. The Rippet (expansion) Quarry is bordered by a County road on the east, and the Johnson F-80 Quarry is bordered by lowland on the south side of the Necanicun River. Activities on any of the sites will not inhibit the ability to sustain forest resources on adjacent forest lands. We note that at the Bayview site, the proposed quarry layout creates an extraction area with a separate stockpiling area. This will enable forest uses to continue in the space between the two areas. This design feature will help to sustain forest resources near the proposed use. The long-term effect of removing various extraction areas from the timber resource base is not very significantly different between the sites. The reclamation plan at the Bayview site insures that upon the cessation of aggregate activities, the area will be

returned to forest uses. Similar reclamation could be obtained at any of the other sites with the possible exception of the Rippet (expansion) Quarry. We find that none of these sites has a particular advantage resulting from a smaller long-term effect on the forest resource base. We find that Geologist See indicates that the Bayview site will not effect the spring located on the Jensen property. In addition, we find that a condition in the Bayview approval will help preserve any wetland sites that might exist on the site. Bayview has agreed to maintain appropriate setbacks from adjacent Square Creek. We find that because of these factors, the Bayview site will not have any effect on water resources or the water table. Finally, as indicated in the statement of Mr. Perrigo, there will be no need for City services at the Bayview site. In the event the water imported to the site would come from the City of Seaside, we find that Seaside has existing supply lines near the Cannon Beach junction which could supply water, and no new capital construction would be required. Access to the site is gained by private road which will not be maintained at public expense. In addition, we find that access to U.S. Highway 101 is presently undergoing improvements and that no additional expense will be involved in providing access to the major transportation artery in the County.

Standard No. 7.

"The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts." ORS 197.732(1)(c)(D); OAR 660-04-020(2)(d).

The compatibility of the proposed use with adjacent forest and residential uses has been previously analyzed in the County's approval findings from the first hearing dated February 26, 1986 and in Issue No. 7, Part III above. Both analyses are incorporated by reference herein as though fully set forth. Given the findings and conclusions in those analyses, we conclude that this standard has been met.

Standard No. 8.

ORS 197 and OAR Chapter 660, Division 14 require consideration of Goal 5 resources. Resources must be inventoried, conflicting uses must be identified and a program to achieve the goal must be developed. These issues, with respect to the Bayview site, hve been analyzed under Issues Nos. 7 and 8 in Part III above. This analysis is incorporated herein by reference. Given the finding and conclusions in that analysis, we conclude this Standard has been met.

PART V: SUMMARY AND CONCLUSIONS

The County will gain significant economic advantage by allowing the proposed use to proceed. Not only will the proposed site be able to produce materials at a lower cost, but the extistence of an additional independent extraction operation will increase competition in the County and help to reduce the County dependence on imported aggregate supplies. We have examined 15 sites and concluded that the Bayview site presents the largest quantity of high-quality material in the market area which it will serve. The opponents argue that all the alternative sites should be exhausted before a new site is approved. In response, we note that simultaneous use of varied sites across the market area does not allow for business planning and control, nor does it make allowances for future County needs. We find that demand in the market area is 150,000 cubic yards per year and that the alternative sites will provide approximately an 8-year supply of aggregate. Over two years have passed since Bayview first applied for this land use approval. If it took an additional two years to establish a site for alternative supply, a significant portion of the available rock reserve in the County would be exhausted. Our Comprehensive Plan recognizes that good aggregate sites are rare in Clatsop County and should be developed where possible. Our review of the facts concerning the 15 sites indicates that some of the sites can produce aggregate, but that none of the sites offer the advantages presented by the Bayview site. As such, the Bayview site is a unique combination of quality and quantity of aggregate resource located on forest lands. The short-term extraction of the aggregate resource will displace timber production on the area, but because of the assurances of reclamation at the site, the present use of the site for aggregate extraction does not entail a permanent loss of forest land. By approving the Bayview site, the County is in a position to enjoy the economic benefits of the aggregate resource in the short-term while enjoying the return of long-term forestry use benefits after the reclamation. We also note that approval of the proposed quarry will lessen the County's dependence on the Johnson operation as the sole source for aggregate in the Cannon Beach - Warrenton market area. Certain pricing policies by Johnson have the effect of raising prices to the consumers in Clatsop County. Our own roadmaster is on record as favoring the proposed quarry to increase competition in the aggregate market in the County. We find that approval of this use will lessen the County's dependence on imported aggregate material. We also find and conclude that aggregate extraction is a consumptive use of resources that is necessarily accompanied by impacts, including noise. We find this site is

specially suited, considering the applicant's extraction plan, to reduce the noise impacts. The applicant's proposed use will provide a second source of a necessary commodity in the County. This commodity is not widely available in Clatsop County and is generally available only in forest zones. The commodity will be produced at a lower cost than is presently available in the County. The proposed use will be conducted in an environmentally sound manner that will return the land to forest production once extraction is terminated. The location of the site is away from scenic highways and heavily populated areas. The applicant has taken special steps to design its project so that DEQ noise levels will be met which will lessen or eliminate adverse impacts that might be experienced by neighbors. The applicant has taken special steps to eliminate any adverse impact on fish, wildlife and foresty uses. We conclude that the forgoing reasons justify why the State policy embodied in Goal 4 (to preserve forest lands for forest uses) should not apply to the proposed Bayview site. We find that we have addressed all the appropriate and relevant standards in these findings and that there are no others.

LIST OF EXHIBITS TO FINDINGS

A. Location of Alternative Aggregate Resource Sites (Exhibit 97 of the Record)

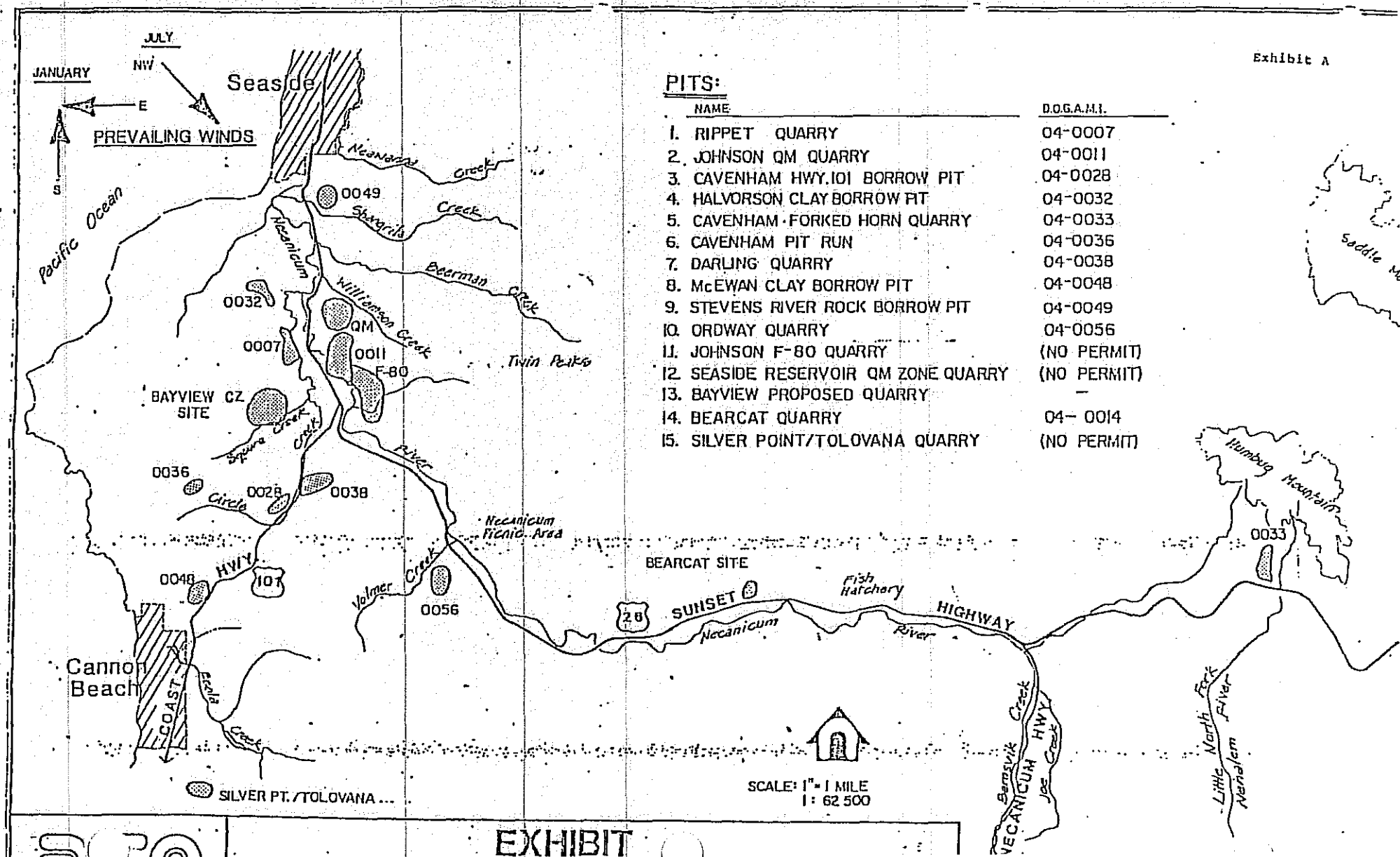
B. Bayview Staged Extraction (Page 2 of Exhibit 93 of the Record)

C. Conditions of Approval (Pp 98-99 of Exhibit 11 of the Record)

D. Summary of Characteristics and Impacts of Uses on Alternative Sites (Exhibit 4 to Exhibit 90 of the Record)

E. Fact Summary, Alternatives/Reasonably Accommodate (Exhibit 3 to Exhibit 90 of the Record)

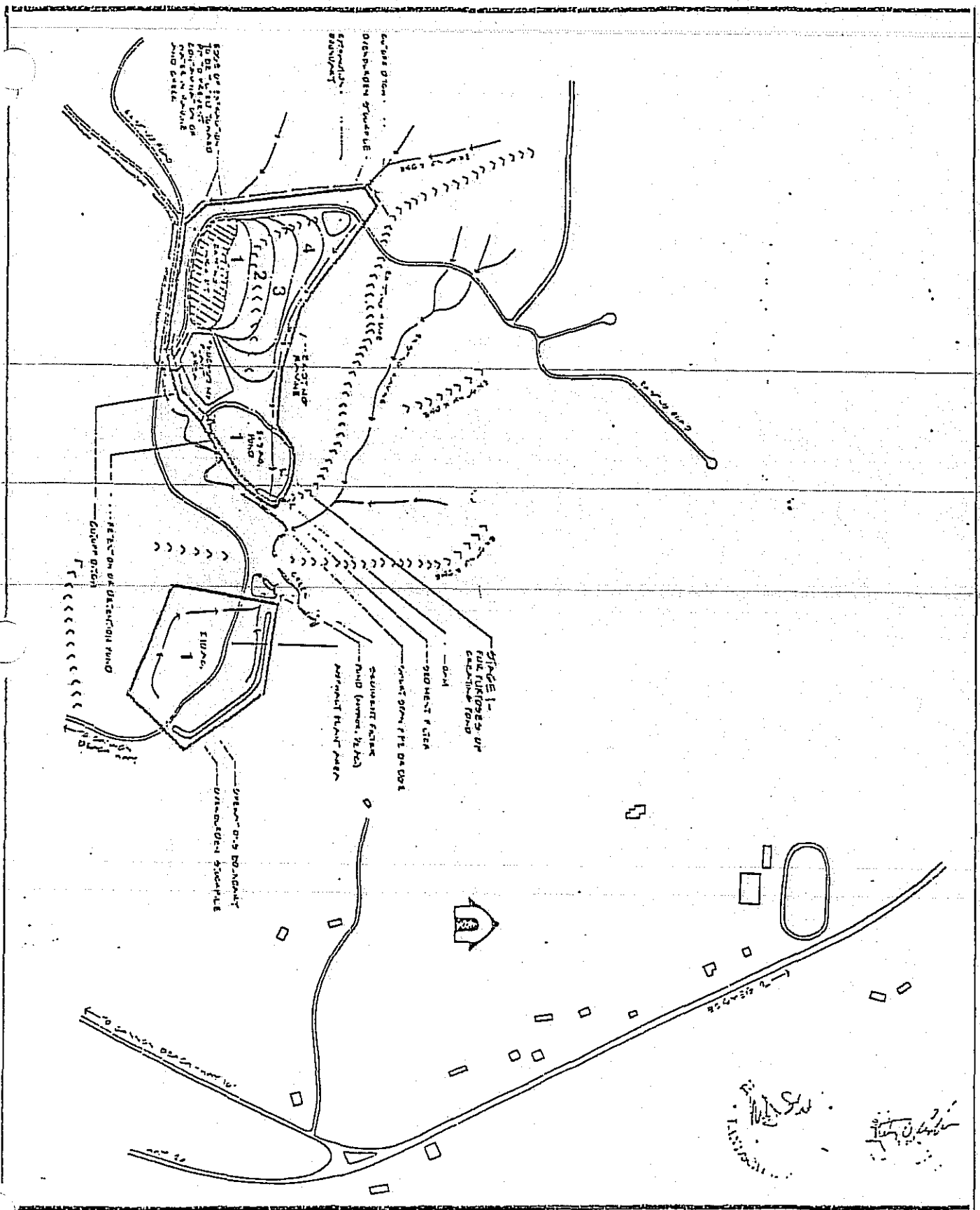
Exhibit A



PITS:

NAME	D.O.G.A.M.I.
1. RIPPET QUARRY	04-0007
2. JOHNSON QM QUARRY	04-0011
3. CAVENHAM HWY.101 BORROW PIT	04-0028
4. HALVORSON CLAY BORROW PIT	04-0032
5. CAVENHAM - FORKED HORN QUARRY	04-0033
6. CAVENHAM PIT RUN	04-0036
7. DARLING QUARRY	04-0038
8. McEWAN CLAY BORROW PIT	04-0048
9. STEVENS RIVER ROCK BORROW PIT	04-0049
10. ORDWAY QUARRY	04-0056
11. JOHNSON F-80 QUARRY	(NO PERMIT)
12. SEASIDE RESERVOIR QM ZONE QUARRY	(NO PERMIT)
13. BAYVIEW PROPOSED QUARRY	—
14. BEARCAT QUARRY	04- 0014
15. SILVER POINT/TOLOVANA QUARRY	(NO PERMIT)

EXHIBIT



2 0 6

DAVID EVANS and ASSOCIATES, INC.

Staged Extraction Plan

BAYVIEW TRANSIT MIX, INC.

Seaside, Oregon

Exhibit B

taff recommends the following conditions for approval:

1. Preventative measures shall be taken to assure that excessive noise, dust, vibrations, and other nuisances associated with mining activities are avoided. The applicant shall coordinate with the noise pollution control section of the Department of Environmental Quality to mitigate possible excessive noise emissions from rock extraction and sorting operations. Steps to lessen noise pollution impacts on nearby residential/commercial properties should include time of operations.

2. The proposed use will require protection of water quality in nearby Circle Creek and its tributary creeks. The applicant shall coordinate with the Oregon Department of Fish and Wildlife for proper drainage design from the pit so water turbidity levels are not increased in Circle Creek and Square Creek. Settling basins as well as an upland site to dispose of non-usable material shall be required if pit drainage is directed to Circle Creek.

3. Obtain a valid permit from the Oregon Department of Geology and Mineral Industries for the rock quarry operations and the stock pile site.

4. Rock crushing opeartion shall comply with Air Contaminate Discharge Permit issued by the State Department of Environmental Quality and Section 3.470 of Clatsop County Ordinance 80-14.

5. State and Federal Permits. Applicants for developments which require a state or federal permit shall submit to the Planning Director a copy of: the complete permit application, other surrounding material

6. All private access and service roads shall be maintained in a dust-free condition during intensive operations.

7. Prior to operations which will result in open excavation with a depth of ten feet or more and a slope steeper than one vertical foot to two horizontal feet and which is located within 100' of a residentially occupied structure, a fence shall be erected at least ten feet outside the edge of the excavation at least four feet in height, to control access to such excavation.

8. No mining or structural improvements shall occur within the riparian setbacks as specified in S4.502. In no case, however, shall the minimum setback from a waterway be less than 25'.

9. Clatsop County Department of Planning and Development shall be notified in advance by the applicant, lessee or purchaser of rock material of the location of any fill or riprap for which the rock or mined material will be used. This condition is limited to all areas identified in the Clatsop County Comprehensive Plan as an Esturaine Resource Coastal Shorelands, Beach and Dune areas and significant wetland areas. All permits required by local, state and federal agencies for fill or riprap must be approved prior to placement within one of the areas identified above.

. Reclamation plans for surface mining opeartions must show that they are consistent with the Comprehensive Plan.

11. Provide boundary line surveys of the quarry and stock pile sites for purposes of defining the affected areas proposed to be re-zoned into the QM zone district.

12. Obtain a Clatsop County Land and Water Development and Use permit to validate that conditions 1,2,3,4,5,6,7,8,and 11 have been completed prior to rock extraction and stock pile operations.

13. Obtain a Clatsop County Land and Water Development and Use permit prior to placement of a concrete, ready-mix, or asphalt batching plant.

14. Obtain a Clatsop County Land and Water Development and Use permit for signs, offices, warehouses and maintenance buildings appropriate to uses permitted in the QM zone.

CONDITIONS OF APPROVAL

1. No barriers will be constructed to prevent wildlife migration, unless required by adjacent residential uses.

2. Extraction operations on the site will be limited to the hours of 7:00 a.m. through 10:00 p.m.

3. No extraction activities will occur during the months of December and January.

4. The toe of any development will be located according to regulatory approval to protect wetlands.

5. Rock drilling equipment no louder than 90 dBA [L(50)] will be used at the extraction site.

6. Minimum stream flow for Square Creek needs to be established by the Oregon Water Resources Department. Water in excess of the prescribed minimum streamflow developed by the Water Resources Department shall not be removed from Square Creek.

7. Extraction shall be in accordance with the staged extraction plan as submitted by applicant as printed by David Evans & Associates, Inc. on August 26,1987.

Site Name	Bayview	Pierce	Steven Pit	Darling	Cooper	Robertson	Robertson	Gardner Pit Site	Gardner Pit Site	Nelson Clay Mine	Green River Junk Yard	Silver Mine	Everett
Site Type	Dump	Dump	Dump	Dump	Dump	Dump	Closing Dump	Closed by District	Closed by District	Dump	Closed by District	Dump	Dump
Study	F-II	F-II	F-II	F-II	F-II	F-II	F-II	F-II	F-II	F-II	F-II	F-II	F-II
Protection Area Size	20 Acres	3 Acres	Approximately 6 Acres	1 Acres	3 Acres	6 Acres	Beyond well, not within line wetland plant	Less than 1 Acre	Less than 1 Acre	Less than 1 Acre	6 Acres	Approximately 1 acre	Approximately 1 acre
Power Protection Activity	1 Acres	3 Acres	Approximately 1 Acre	1 Acres	3 Acres	6 Acres	None	None	None	None	None	None	None
Environmental Activities Nature Importance	- Moderate thickness of vegetation only - Not on Atlantic path - Water table (depth to land level) - Wildlife attracted act	- None for endangered species	- None for endangered species - No habitat	- No endangered species	- No species nearby	- No species nearby - No species nearby	—	- No endangered species - No species nearby	- No endangered species - No species nearby	—	—	- No species nearby	- No threat of extinction site - Some species highway 4
Environmental Activities Habitat Importance	- None nearby - No threat - Wildlife attracted	- Forest - Bordered shore - Open nearby - Forest habitat - No threat - Wildlife within 100 feet	- Natural shore - Open nearby - No habitat - Wildlife from highway 101	- Natural shore - No habitat - Open nearby - No species or endangered species	- Natural shore nearby - No habitat - Wildlife from highway 4 and Anderson	- No habitat - Wildlife from highway 4	- No habitat - Wildlife nearby - Forested area	- No habitat	- No habitat	- No habitat - Forest shore nearby - Wildlife from highway 101 shore wetlands - Resources nearby	- Near city limits area - Low habitat area - Limited habitat wetlands - Grass vegetation (no trees) - Open nearby, good access - Structures and personal buildings within 100 feet	- Under at extinction site - Foothills - Wildlife from shore outside and shore wetlands - No habitat	- Adjacent to highway 4 - Wildlife within 100 feet - No habitat
Human Activities Nature Importance	- Fire risk - Residential area, partially - Low use 100,101 - Close to market area - Natural operation in rural area - Low need for open area	- Fire risk - Close to rural area	- Fire risk - Close to rural area	- Close to rural area	—	- Risk around in rural area	—	—	—	—	- Risk around in rural area	—	—
Human Activities Nature Importance	- None	- High price of sale 100,101 - Polluted other pits from additional site expansion - Permit there point area 100 for permanent - Restrict possible problems - Surface reclamation problems - Power supply	- High price - Limited quality 100,101 close point - Supply on site	- Partial risk quality - Limited quality 100,101 close point No available area	- Low spec. area - Limited quality 100,101 close pit - Close to town - Site preservation area Quality natural	- Limited close peak area - Limited quality 100,101 close pit	- City water not accessary - No access	- No essential quality of area - Highway change	- No essential quality of area - Relatively small size 1 acre	- No essential quality of area - Small size 1 acre	- Accessible and water - Operating required - Limited quality 100,101 close pit.	- Limited closure - Limited quality 101 limited highway 101 - Limited quality 100,101 close pit.	- Limited closure - Limited quality 101 area
Social Activities Nature Importance	- Increase visitors by military visitors - No visible from highway - 100 visitor movements are at nearest residence 200 feet - No visitors from residence - Until highway 101 access	—	—	- No endangered species	—	- No endangered species	—	- No endangered species	- No endangered species	—	—	—	—
Social Activities Nature Importance	- Increase residence 200 feet - Hunting may be needed	- Safety looking of horizon - Fishing within 100 feet - Safety visibility - Open hill well 4 - Break hedge growth 101 - Cultivation grass shelter - Limited recovery - 101 access or state	- Fly area position - Hiking trails within 100,101 feet - Hunting open and fishing within 100 feet - Wildlife from highway 101 - Cultivation grass shelter - Limited recovery - 101 access or state	- Wildlife from access highway - Very quality access	- Residence within 100 feet - Wildlife from highway 4 and Anderson	- Wildlife from highway 101 - Very closed Douglas fence	- Residence nearby	- Wildlife from highway 101 in access outside	—	- Residence 70 ft - 101 residence within 100,101 feet - Wildlife from highway 101 outside outside	- Hiking, hunting, open area within 100 feet - Limited use city limits	- Wildlife from access highway - Wildlife from open access - Limited shore system, open physical safety - Increase nearby - Fence system with 100 feet	- Residence within 100 feet - Quality access to highway
Human Activities Nature Importance	- Close to market area - Social promoting access transport	- Close to market	- Close to market - Social promoting transport	- Close to market	—	—	—	- Close to market	- Close to market	—	- Close to market	—	—
Human Activities Nature Importance	- Hunting may be needed	- Recreational shore point area 101 for processing - Hiking recovery - Detraction similar to proposed site	- Hunting recovery - Detraction similar to proposed site	- Detraction similar to proposed site	- Slightly farmed from event - Site preservation with processing daily area	- Farm field used to meet event - Detraction similar to proposed site	- Detraction similar to proposed site	- Detraction similar to proposed site	- Detraction similar to proposed site	- Detraction similar to proposed site	- Detraction may be recovery - Situation may be recovery	- Limited closure - Detraction similar to proposed site - Hunting recovery	- Limited closure - Detraction similar to proposed site - Hunting recovery
Heavy Metal Access	- None	—	—	- Possible access isolation	—	—	—	—	—	—	- Detraction similar groundwater contact	—	—
Human Concept to Public Aspects	- Attitude unknown public - Interaction plan family cover - 101 access from access 4 - No site barriers - Access area proposed known 1 separate area - Detraction similarity proposed access related area	—	—	- Perhaps Bayview junk	—	—	—	—	—	—	—	—	—

Sources: Lowell, "Bayview Transit Site Evaluation Report" (July, 1979) (including update)
David Evans & Assoc., "Compatibility Study, etc." (1987) (including update)
Sue, "Ecological Assessment" (July 10, 1981) (including update)
Gamble, "Feasibility Bayview Transit Site Survey" (July, 1981) (including update)
Hamilton, "Impact Analysis" (August, 1981)
Schlicker, "Ecologic Assessments" (August 6, 1981)
Sullivan, "Investigation at Bayview Transit Site Survey" (August 11, 1987)
Bailey, "Noise Impact Analysis (August, 1981)

Exhibit D

Exhibit E

FACT SUMMARY

ALTERNATIVES/"REASONABLY ACCOMMODATE"

	Bayview	Johnson QM	Johnson Rippett (No Expansion)	Seaside Reservior QM Zone
DOGAMI No.	Pending	04-0011	04.0007	None
Rock Quality	OK	OK	OK	OK
Commercial Rock Quantity (Cubic yards)	2.85 Million	70,000* (215,000 w/below-level extraction)	250,000*	1 Million
Transportation (stock pile to Cannon Beach Jct.)	1.2 mi.	.75 mi.	1 mi.**	.75 mi. (if access allowed through Johnso
Overburden Depth	Minimal (10-15 ft)	Minimal (15-20 ft)	Possible problem	Problem 20-30 feet)
Reasonableness of Reclamation	OK	Difficult	Problem	-
Residence/Distance (in feet) from Crusher or Mining	1/2400	1/200 6/400 4/1000 Riverside Trailer Park/300	2/3-400 1/700 1/800	Riverside Trailer Park/350* 3/adjacent* 1/600*
Acreage Available	30	16.3	5	12.79
Present acres used	3	15+	5	None
Zoning	F-80	QM	F-80	QM
County permit	Pending	Authorized	Nonconforming use (no expansion)	No permit
Economics	Low cost $4.30	High price $6.00* Cost increase if below-level extraction occurs)	High price $6.00*	Overburden problem High price if developed by Johnson
Other Problem	DEQ noise levels met	1.5 to 1 slope difficult Blasting impacts	High face 1.5 to 1 slope difficult Cross 101 on curve eyesore/screening/ material is transported for processing	Landowner reluctance Sole water source Seaside Reservior* 2 water transmission pipes on site, Cannot meet DEQ noise

* The main reasons for eliminating the pit
** If crushed at QM add .2 mi.
- means information not available

Source: [illegible]ampi, "Bayview Transit Mix Evaluation [illegible]ort" (July, 1987) (including update)
[illegible]avid Evans & Assoc., "Compatibility St[illegible] etc," (1987) (including update)

FILE

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

DEC 23 1987

42

ORDINANCE NO. 87-18

(AN ORDINANCE AMENDING THE CLATSOP
(COUNTY COMPREHENSIVE PLAN AND ZONING
(MAP, TAKING AN EXCEPTION TO GOAL 4
(FOREST LANDS, AS ADOPTED BY THE BOARD
(OF COUNTY COMMISSIONERS, ADOPTING
(CERTAIN FINDINGS, RESCINDING
(INCONSISTENT PROVISIONS AND DECLARING
(AN EMERGENCY

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the Amended Findings to Bayview Transit Mix Rock Quarry Project Amendment (LUBA Remand).

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to revise and amend the Clatsop County Land and Water Development and Use Ordinance. In the interest of the health, safety and welfare of the citizens of Clatsop County and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the Clatsop County Land and Water Development and Use Ordinance.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Planning Commission has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Board of County Commissioners has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Board held a public hearing on this ordinance pursuant to law on December 23, 1987.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supercede, control and repeal any inconsistent provision of the Clatsop County Comprehensive Plan, as amended, the Clatsop County Land and Water Development and Use Ordinance, as amended, or any other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force immediately upon adoption as set forth in the emergency clause.

SECTION 7. EMERGENCY CLAUSE.

In order to implement the findings of the Board with the greatest expedience and in order to realize the benefits to be derived from the adotion of this ordinance amending the Clatsop County Comprehensive Plan and Land and Water Development and Use Ordinance Map an emergency is declared to exist and this ordinance shall become effective immediately upon its passage.

SECTION 8. ADOPTION CLAUSE.

The Board of Commissioner's hereby adopts the findings and conclusions set forth in Exihibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ENACTED this 23rd day of December, 1987.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

BY _____
Bob Westerberg, Chairman

BY _____
Roger A. Berg, Commissioner

BY _____
Deborah Boone, Commissioner

Vote: Aye: Bob Westerberg - Roger Berg - Deborah Boone

Nay: - 0 -

Abstention: - 0 -

Attest: _____
Recording Secretary to the Board

Date: December 23, 1987

Date of first reading: December 23, 1987

Date of second reading: December 23, 1987

Date Ordinance submitted to Board of Commissioners: December 11, 1987

EXHIBIT "A"

STATEMENT OF STANDARDS, FACTS AND JUSTIFICATION IN SUPPORT OF BAYVIEW TRANSIT MIX, INC. REQUEST FOR ZONE CHANGE FROM FOREST-80 ZONE TO QUARRY AND MINING ZONE, INCLUDING EXCEPTION TO GOAL 4, TOWNSHIP 5 NORTH, RANGE 10 WEST, WILLAMETTE MERIDIAN, PORTIONS OF TAX LOTS 700 AND 1,000; TOWNSHIP 5 NORTH, RANGE 10 WEST, WILLAMETTE MERIDIAN SECTION 4, PORTIONS OF TAX LOT 100, CLATSOP COUNTY, OREGON

PART I. LIMITED ISSUES FOR DECISION BEFORE THE BOARD OF COMMISSIONERS

This is a remand proceeding arising out of our approval of Ordinance No. 86-10 dated April 2, 1986. After receiving a substantial amount of testimony, we adopted that ordinance which approved a revision to the Clatsop County comprehensive plan and zoning map by creating a quarry and mining zone. Opponents, Mr. & Mrs. Otto Jensen appealed our decision to the Land Use Board of Appeals ("LUBA"). LUBA remanded the matter on August 6, 1986 for further consideration of specific issues by the County. In this remand matter, opponents, Mr. and Mrs. Jensen, are joined by Howard E. Johnson and Sons, Inc. By resolution and order directed to interested parties dated May 27, 1987, we scheduled further proceedings on this matter. The resolution and order dated May 27, 1987 specifically limited the remand proceeding to matters raised in the opponents First and Third Assignments of Error. After careful consideration of the LUBA opinion and the doctrine of law of the case, we find that LUBA has limited this remand proceeding to the following questions:

A. Alternative site criteria: Can the proposed aggregate use be "reasonably accommodated" on nonresource land that would not require an exception?

LUBA limited this question to three issues:

Issue No. 1.

Can the Johnson QM Zone reasonably accommodate the proposed quarry?

Issue No. 2.

Does substantial evidence support Bayview's cost estimate for crushed rock from the proposed quarry?

Issue No. 3.

Do the Ordway and Darling Quarries have sufficient rock quantity and quality to support the proposed quarry?

B. Alternative site criteria: Does location of the proposed quarry at the Bayview site cause "significantly more adverse" consequences than location of the quarry at another site requiring the goal exception?

LUBA limited this question to three issues:

Issue No. 4.

Do the five alternative sites listed by the County (Cavenham Highway 101 (04-0028), Halvorsen (04-0032), Cavenham Pit Run (04-0036), McEwen Clay Borrow Pit (04-0048), and Stevens River Borrow Pit (04-0049)) have sufficient quantity and quality of rock to support the quarry?

Issue No. 5.

What are the characteristics of the alternative sites?

Issue No. 6.

What are the impacts that would "typically result" from locating the proposed quarry at the sites and are these impacts less severe than location of the quarry at the Bayview site?

C. Compatibility.

Issue No. 7:

Is the proposed quarry "compatible" with the adjacent residential uses?

D. Goal 5 Conflicts.

Issue No. 8:

What are the economic, social, environmental and energy consequences to Goal 5 resources of allowing processing of crushed rock at the proposed site?

Issue No. 9.

Given the economic, social, environmental and energy consequences, the County must "develop a program to achieve the Goal."

We find that these questions are the only matters before the Board as a result of the LUBA remand order. Each question is specifically addressed in Part IV below.

PART II: NATURE OF DEVELOPMENT

1. Action Supported by Statement.

This Statement supports approval of a Plan Designation Amendment and Zone Change Request by Bayview Transit Mix, Inc. The applicant seeks a change in a comprehensive plan designation on the site from Conservation Forest Lands to Conservation Other Resources and a zoning change from F-80 (Forest-80) to QM (Quarry and Mining). The requested changes will permit applicant to establish a quarrying, crushing and stockpiling operation on the site. This approval is accompanied by 21 conditions, a copy of which is attached hereto as Exhibit "C". Applicant intends to use greater than 25 percent of the aggregate extracted from the site in nonforest uses and has requested the comprehensive plan designation change and zoning ordinance change to permit commercial rock extraction activities.

2. Site Description.

The proposed site consists of two irregularly shaped parcels located in Township 5 North, Range 10 West, Willamette Meridian (portions of Tax Lots 700 and 1,000 and portions of Tax Lot 100 of Section 4), Clatsop County, Oregon. The site is located due west of U.S. Highway 101 near the intersection of State Highway 26. The area affected by the proposed changes is approximately 30 acres in size and is owned by Cavenham Forest Industries (formerly Crown Zellerbach). The applicant has obtained a lease from Cavenham Forest Industries ("Cavenham") which will allow it to conduct aggregate extraction and related activities. The proposed site is located concurrent with an existing aggregate pit that has been used by Cavenham for many years as a source of rock. The general area for which the quarry is proposed has been recently logged and does not, at present, support marketable timber.

Applicant has proposed an extraction site which is approximately 20 acres in size and is located on the south side

of an existing ridge coterminous with the west side of the existing Cavenham Quarry site. In addition, approximately 500 feet to the east, applicant has proposed a 10-acre stockpiling site. An existing creek, Square Creek, runs adjacent to the proposed extraction area. Approximately 2,800 feet to the north and east of the proposed extraction area and approximately 800 feet to the north and east of the proposed stockpile area is a mobile home owned by Otto and Pat Jensen ("Jensen"). The Jensen home is located in an AF-20 zone by virtue of obtaining a conditional use permit. Farther to the north and east are other residences and commercial developments.

The Clatsop County Land and Water Development and Use Ordinance ("LWDUO") provides that the proposed site is located in an F-80 (Forest-80) zone. The land use plan designation for the proposed site is Conservation Forest Lands.

3. Summary of Proposed Action.

The applicant has proposed to institute a new commercial extraction and processing operation at the already existing Cavenham aggregate quarrying site and adjacent stockpile area. The aggregate removed from the site will be used in primarily nonforest uses. As a result, applicant has requested a land use plan designation change and zoning change to allow the proposed use to occur on the site. As shown on the applicant's site plan, setbacks, vegetation buffers, berm barriers, sedimentation ponds and other measures will be employed to reduce the environmental impact of the proposed operation. Applicant has applied for a Department of Geology and Mineral Industries ("DOGAMI") Reclamation Permit and has agreed to obtain all necessary Oregon State Department of Environmental Quality ("DEQ") approvals.

PART III: ISSUES FOR DECISION ON REMAND

Issue No. 1.

Can the Johnson QM zone reasonably accommodate the proposed quarry?

With regard to the Johnson QM site, we find the following relevant facts in the record:

The Johnson QM site (located on Exhibit A, attached) is located 3/4 mile north of the Cannon Beach Junction and 1/8 mile east of Highway 101. It has an estimated area of 16 acres and remaining rock at about 155,000 cubic yards. After setbacks,

overburden, safety and reclammation factors are taken into consideration, the Johnson QM Quarry will produce approximately 70,000 cubic yards. The use proposed by the applicant is a long-term aggregate extraction facility which would help to meet Clatsop County's aggregate demand over an extended period of time (20 years). Applicant proposes to produce a full range of commercial aggregate products. A long-term source of supply is required to satisfy several necessary business considerations, including lead time to prepare bids on large projects and amortization of capital equipment costs. The primary market area to be served by the proposed quarry is the Cannon Beach to Warrenton strip, although aggregate operations in the area, including Bayview and Johnson, successfully compete for projects as far away as Knappa. The demand in this market area is estimated to be 97,000 cubic yards per year by Johnson's geologic consultant. However, production figures supplied by Johnson indicate that Johnson alone has produced a minimum of 86,888 cubic yards of crushed rock per year for the last 10 years. In addition, DOGAMI indicates that aggregate production for nonforest uses in the Cannon Beach-Seaside area alone is approximately 129,000 cubic yards per year. This DOGAMI figure does not include imports into the area. Bayview alone has imported an average of 22,791 cubic yards of crushed aggregate per year for the years 1982-1985. This Bayview import figure does not include round river rock imports. Bayview's project management engineer estimates the annual market demand to be 250,000 cubic yards. The Oregon Concrete and Aggregate Producers Association ("OCAPA") data and testimony supports an annual per capita consumption figure of 12 to 13 cubic yards per year, which would produce an annual demand in this market area of 161,000 cubic yards. We find that the 97,000 cubic yard figure offered by Johnson's geologic consultant is not reliable. Johnson's own production figures, without taking into account imports or other rock produced, indicate that the annual consumption in the market area is significantly higher. In addition, it is unclear how much of the Rippet Quarry production needs to be added to the Johnson crushed rock figures. The DOGAMI production figures for the area are based on actual recorded output by the producers, and provide a more accurate figure of market area demand than that figure offered by Johnson's geologists. However, even the DOGAMI figures do not take into account rock which is imported into the County (including round rock) or rock used for forest uses. We find that an accurate estimate of the aggregate demand in the market area must include all sources, including aggregate that is imported, round rock, and rock used for forest uses. Accordingly, we find that the DOGAMI production figures must be

increased to be accurate. Bayview alone has imported in excess of 22,791 cubic yards of crushed aggregate material per year in the market area during the years of 1982-1985. This figure does not include round rock imported by Bayview. Accordingly, we believe that even the OCAPA production figure of 161,000 cubic yards is conservative, and we find that average annual demand in the Cannon Beach to Warrenton market area lies between OCAPA's estimate of 161,000 cubic yards and the estimate of Bayview's project management engineer of 250,000 cubic yards.

We find that our conclusions as to the annual demand in the market area are bolstered by the distances of Astoria, Warrenton and Hammond from the Cannon Beach junction. We find that areas within 20 miles of the Cannon Beach junction can be considered part of the market area to be served by the proposed quarry. Mr. Redfern, in his rebuttal statement, gives distances which would place Astoria, Warrenton and Hammond at least 25 miles from the Cannon Beach junction. We find that Mr. Lampi checked the distance with an odometer and provides a more accurate description of how far each of these cities lies from the Cannon Beach junction. We find that the east boundary of Hammond lies 18.3 miles, not 27 miles, from the Cannon Beach junction. We find that the south boundary of Warrenton lies 13.8 miles, not 25 miles, from the Cannon Beach junction. We find that the south boundary of Astoria is 18.5 miles, not 29 miles, from the Cannon Beach junction. The distance discrepancy in the Redfern report tends to artificially reduce the extent of the market area and is a reason why the demand figure offered by Mr. Redfern is low. The supply available at the Johnson QM Quarry (04-0011) for extraction is approximately 70,000 cubic yards. In the words of the opponents' geologist, this existing quarry is "pretty well used up." It may be possible to extend the life of this quarry by excavating the quarry floor. Excavating the floor could produce approximately 145,000 cubic yards of additional material, but this extraction would add approximately $1.00 to the cost of each cubic yard produced. The average price for aggregate materials produced by Johnson is $6.00 per cubic yard. Although Johnson claims that its average price for aggregate is approximately $5.00 per cubic yard, we find that a number of factors support our conclusion that the average Johnson price is $6.00 a cubic yard. First, Bayview's purchase of rock from Johnson averages approximately $6.00 per yard. Second, price quotes obtained by Mr. Gamble indicate that the average price of Johnson rock is in excess of $6.00 per cubic yard. Third, the Johnson bid price for rock to be incorporated in the Cannon Beach junction job was in excess of $6.00 per cubic yard. Accordingly, we find the $5.00 per cubic yard price claimed by Johnson is unrealistic, and the average price of aggregate produced by Johnson is $6.00 per cubic yard. The <u>projected</u> average cost for aggregate materials produced by Bayview is $4.30/$4.45 (our discussion of the Bayview price in Issue No. 2 below is incorporated herein).

As demand in the market area is between 161,000 and 250,000 cubic yards per year, we find that the Johnson QM Quarry (04-0011) has a service life of less than one-half year because only 70,000 cubic yards of material is located at that quarry. We find that even if below-floor extraction occurs, the total amount of material at the Johnson QM Quarry would be 215,200 cubic yards. Because this combined figure is less than a 16 month supply, this quarry does not present a possible long term source of supply for the use proposed by Bayview. Further, economic factors can be considered in determining whether the Johnson QM site can reasonably accommodate the proposed use. Because aggregate material from the Johnson operation is priced at approximately $6.00 per cubic yard, it is considerably more expensive than the projected cost of aggregate ($4.30/$4.45 per cubic yard) at the proposed quarry. The price differential between the price of the Johnson product and the cost of the Bayview product ($1.55 to 1.70) is reflected in the price that consumers in Clatsop County pay for aggregate-based materials and is a sufficient economic reason, in and of itself, to conclude that the Johnson site cannot reasonably accommodate the proposed use. The additional $1.00 per cubic yard cost necessarily incurred by extraction below the quarry floor would serve to enlarge the differential between the price of Johnson's product and the cost of the product produced at the proposed quarry. Such an increase in the price differential makes it economically unreasonable to rely on the higher priced aggregate which could be extracted below the floor of the Johnson QM Quarry. We conclude that the Johnson QM Quarry can-not reasonably accommodate the proposed use, and further conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

As discussed above, we have concluded that LUBA required us to address whether or not Johnson can reasonably accommodate the proposed use. We find that this question is directed only to the Johnson QM zone and have concluded that the Johnson QM Quarry cannot reasonably accommodate the proposed use. In the event LUBA's discussion of "Johnson" on this issue would be deemed to include the Johnson F-80 site (no DOGAMI permit) and/or the existing Rippet Quarry (04-0007) (both located on Exhibit A, attached) operated by Howard E. Johnson and Sons, Inc., we find the following facts in the record:

The Johnson Quarry operation is presently not operating in the QM zone but has advanced into the F-80 zone located to the southeast of the Johnson QM zone. Less than 75 percent of the materials extracted from the Johnson F-80 site are used on forest lands and forest zones. No land use

approvals have been obtained for operation of an aggregate extraction facility in the F-80 zone. The size of the F-80 parcel owned by Johnson is approximately 10.2 acres. A sizeable portion of this parcel is located across the Necanicum River (on the south side) from the Johnson extraction and processing operation. The Necanicum River, a Class I stream, runs directly through this 10.2 acre site. The site is bordered on the west by an RA-5 zone which extends to the Necanicum River to the south. Setbacks for quarry operations are required from an RA-5 zone and from the Necanicum River. Presently, no direct access to the Johnson processing operation exists from the portion of this site located to the south of the Necanicum River. In June, 1987, a blasting episode at the Johnson operation caused fly rock to be placed on top of structures in the area. The source of this fly rock problem was either the Johnson QM zone or the Johnson F-80 zone. Based on the record before us, we find that the Johnson F-80 zone contains approximately 300,000 cubic yards available for extraction. The Rippet Quarry has been gradually expanded beyond its original existing boundary, but at present, the extraction area is approximately 5 acres in size. No County land use approval has ever been obtained for this extraction site. The nonconforming use area of the Rippet Quarry contains approximately 244,000 cubic yards of aggregate material. A high, nearly vertical development face exists at the Rippet Quarry. This face creates a risk of falling material which jeopardizes safety and causes reclamation problems which may result in additional expense. Material extracted from the Rippet Quarry is transported across U.S. Highway 101 to the Johnson processing operation located in the QM Quarry. Rock extracted from the Johnson F-80 Quarry and the Rippet Quarry both comprise part of the aggregate product mix which Johnson sells in the market area at an average price of approximately $6.00 per cubic yard.

The Johnson operation charges the applicant a different price for raw aggregate to be processed at the Johnson Quarry by applicant's machinery depending on whether that raw material is processed by applicant into a finished product for commercial work (approximately $8.70 per cubic yard) or for governmental work (approximately $7.70 per cubic yard). Johnson's pricing policies for aggregate to be incorporated into bonded jobs create a price contingency of $1.00 per cubic year of material which makes bidding difficult.

Bayview has proposed a long-term, high-quality aggregate quarry. The Bayview product cost at the proposed quarry is $4.30 per cubic yard. Aggregate prod-ucts are necessary for a healthy and active economy in Clatsop County. As discussed below at page 9 of our findings, Policy 17 of the County Comprehensive Plan, Goal 4, County-wide Element prevents expansion of non-forest uses under Type II Procedure when such expansion is not substantially confined to the existing site.

The standards set forth in ORS 197.732(1)(c)(B) and OAR 660-04-002(2)(b), and addressed in Issue No. 1 ("reasonably accommodate"), apply only to areas that do not require an exception. Because the Johnson F-80 site and the Rippet Quarry are located in F-80 zones, Policy 17 requires that expansion of the sites can be accomplished only through an exception process. The disturbed area in the Johnson F-80 Quarry is approximately 1 acre. Both the Johnson and the Bayview estimates regarding the amount of rock available at this site contemplate expansion of the site to a minimum of 7.4 acres. We conclude that full use of the Johnson F-80 Quarry requires an exception under Policy 17 of the County-wide Goal 4 element, and the "reasonably accommodate" standard does not apply to the Johnson F-80 site. The extraction area of the Rippet Quarry is approximately 5 acres in size, and the present extraction activity is present on all 5 acres which may be considered a nonconforming use. This nonconforming use is subject to the "reasonably accommodate" standard. However, because the Rippet Quarry is located in a F-80 zone and any expansion beyond 5 acres requires an exception to be taken, both the Rippet Quarry and the Johnson F-80 site will be discussed and analyzed under Issues 5 and 6 below with reference to the alternative "reasons" exception standard concerning significant impacts that would typically result in locating the proposed use at either site.

We find that we must analyze the existing 5-acre Rippet Quarry as a nonconforming use in an F-80 zone under the "reasonably accommodate" standard. Because many of the factors that must be analyzed at Rippet Quarry also are present at the Johnson F-80 site, we will analyze both sites under the "reasonably accommodate" standard. We do this without altering our conclusion that an exception is required to expand the Johnson F-80 site and the Rippet Quarry. The applicant has proposed a long-term extraction facility which would help meet Clatsop County's aggregate demand over an extended period of time (approximately 20 years).

For purposes of our discussion, we have assumed that the rock extracted from the Johnson F-80 zone and the existing Rippet Quarry meets the necessary test specifications. With regard to the amount of material available at the Johnson F-80 site and the existing Rippet Quarry, based on the record before us, we accept the figures provided by Geologist See in conjunction with consultant Mr. Lampi as more credible than the figures of available material offered by the opponents. Messrs. See and Lampi clearly set forth the method-ology by which they arrived at their material figures. The opponents' geologists do not make estimates for these two sites on their own, but apparently rely on the estimates of surveyor Crites. Mr. Crites does not provide methodology which would help us to understand how he arrived at his figures. In addition, we find that Mr. Crites has significantly overestimated the quantity available at the Johnson F-80 site. For Mr. Crites' estimate of 2.2 million cubic yards at the Johnson F-80 site to be accurate, the entire 10.2-acre, F-80 parcel would need to be covered with a rock deposit approximately 103 feet deep considering Mr. Crites' expansion factor. We note that the portion of the 10.2-acre site south of the Necanicum River is a low-lying area. In addition, we note that the Necanicum River runs through the site and will not be available for extraction. In addition, we note that setback along the Necanicum River must be preserved, and a setback is required for the RA-5 zone to the west of the Johnson F-80 site. Subtracting these areas unavailable for extraction from the total 10.2-acre site leaves approximately 7.4 acres available for extraction. To obtain the quantity of the estimate bid by Mr. Crites, this 7.4-acre area would need to be covered with a rock deposit of approximately 153 feet in height considering Mr. Crites' expansion factor. The topography of the area shows that an average of 90 feet of extractable material is available down to the established quarry floor. In addition, we find, as shown in the rebuttal analysis of Mr. Lampi, endorsed by Mr. See, the discrepancy in the opponents' figures is also due to their failure to consider setback requirements, reclamation requirements and overburden limitations. We specifically adopt this rebuttal analysis. For these reasons, we find the quantity estimates provided by the Johnson geologists lack credibility, and we specifically adopt the quantity figures developed by Mr. See in conjunction with Mr. Lampi. In addition to the issue of credibility concerning the Johnson estimate of rock available at the Johnson F-80 and Rippet sites, we note that Geologist Redfern, in his oral testimony before us, indicated that the quantity figures for the Rippet Quarry which he endorsed were dependent upon

"reasonable expansion" of the Rippet Quarry. As we have already discussed above, any such expansion would require an exception to be taken. Accordingly, we find that nonconforming use area at the Rippet Quarry has approximately 244,000 cubic yards of material available for extraction, and the Johnson F-80 site has approximately 300,000 cubic yards available for extraction. Consistent with our demand analysis above, the combined volume of these two quarries which is available for extraction represents only approximately a 2 to 3-1/2 year supply. Because the applicant has proposed a site that we find will produce between 1.5 to 2.0 million cubic yards over a 20 year period, we find that these two sites, whether considered independently or considered together, do not provide a long-term source of supply that has been requested by Bayview given the average County demand for aggregate. Given the lack of supply present at these two pits, we find it is unwise for the County to continue to rely primarily on Johnson to supply the market area with essential aggregate products. Further, we find that economic factors are important considerations in determining whether the Johnson F-80 site and the existing Rippet Quarry can reasonably accommodate the proposed use. Because aggregate material produced from the Johnson operation is priced at approximately $6.00 per cubic yard, it is considerably more expensive than the projected cost of aggregate ($4.30/$4.45 per cubic yard) at the proposed quarry. This differential between the price of the Johnson product and the projected cost of the Bayview product ($1.55-1.70) is reflected in the price consumers in Clatsop County pay for aggregate-based materials and is a sufficient economic reason to conclude that the Johnson sites alone cannot reasonably accommodate the proposed use. In addition, we find other economic factors, which are a part of the Johnson operation, increase the cost of aggregate-based materials to consumers in Clatsop County. Under certain situations, Johnson charges a surcharge for material that is processed by Bayview into a finished product for commercial work (approximately $1.00 per cubic yard), as opposed to raw material that is processed by Bayview into a finished product for government work. We also find that in certain situations, Johnson's pricing policies for aggregate to be incorporated in bonded government jobs create price contingencies of up to $1.00 per cubic yard. We find that such price contingencies prevent the applicant from bidding on projects that are available in the market area. We find these pricing policies have an economic effect on the final price that is paid by the consumer in Clatsop County for products that incorporate aggregate material. We find that at the present time, Johnson is essentially the sole source of supply of high grade aggregate material in the County. We find that the County roadmaster has indicated that increased competition in the aggregate industry would be good for the

County. Because Johnson's sole source position injects an unacceptable level of uncertainty into project bidding and causes price differences for similar kinds of work which are not related to material costs, the sole source of supply from the Johnson operation has negative economic effect on the price of gravel and aggregate products in the County. Because the Johnson operation, which includes the Johnson F-80 site and the Rippet Quarry, does not have enough quantity of material to sustain long-term County demand, because the price of aggregate produced by Johnson is substantially higher than the projected cost of production at the Bayview Quarry, and because Johnson pricing policies have a negative effect on the price consumers in Clatsop County pay for aggregate based products, we conclude that the Rippet Quarry and the Johnson F-80 site, whether considered independently or together, cannot reasonably accommodate the proposed use. Finally, we conclude that, in the event the existing Rippet Quarry and the Johnson F-80 site were deemed to be subject to the "reasonably accommodate" standard, these two sites, considered independently or together, cannot reasonably accommodate the proposed use. Accordingly, we conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

Issue No. 2.

Does substantial evidence exist to support Bayview's cost estimate from the proposed quarry?

We find the following facts in the record relevant to this issue:

Bayview has estimated that it can produce aggregate from the proposed site at a cost of $4.30 per cubic yard in 1985 dollars. This estimate is based on production of relatively expensive types of rock. The average production cost of Bayview for a full range of products to be produced will be less than the cost of these more expensive types of rock. Bayview's expert, Mr. Walter R. Gamble, has analyzed the Bayview estimate. Mr. Gamble is a registered professional engineer with considerable experience in project management and budget supervision in the aggregate industry. Mr. Gamble's conservative projection of Bayview's cost per yard is $4.30 in 1985 dollars or $4.45 per cubic yard in 1987 dollars. This $4.30/$4.45 cost figure takes into account overhead costs, including a loader and loader operator, all excavation costs at the site (including drilling, blasting, overburden removal and equipment wear and tear), and all costs of compliance with all

relevant local, state and federal regulations. Johnson is slightly closer to destinations north of the Cannon Beach junction. Bayview is slightly closer to destinations south of the Cannon Beach junction.

Bayview has provided expert testimony concerning its $4.30/$4.45 cost figure for aggregate to be produced at the proposed quarry. Johnson has raised contingencies (including loading costs and environmental compliance costs) which it claims negate the Bayview cost estimate. However, Bayview's expert took these production contingencies into account when examining the cost of material to be produced at the Bayview Quarry and verified the cost estimate by three separate methods. Therefore, we accept the Bayview cost figure. Johnson raises the issue of a transportation cost advantage it might have for materials transported to the north of the Johnson Quarry. We find that this transportation cost is not relevant to the verified $4.30 /$4.45 production cost at the proposed quarry. The crucial inquiry is: given Johnson's $6.00 per cubic yard price, can Bayview justify its proposed cost of $4.30/$4.45 per cubic yard? We find the $4.30/$4.45 figure to be amply supported by Bayview's expert testimony. We also note that if transportation costs are relevant to this narrow Issue No. 2, Bayview enjoys a slight transportation cost advantage for material transported south of the Cannon Beach junction. We conclude that Bayview's projected average cost for aggregate at the proposed quarry is $4.30/$4.45 per yard. We further conclude that this figure is supported by expert testimony which we accept. We further conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

Issue No. 3.

Do the Ordway and Darling Quarries have sufficient rock quantity and quality to support the proposed quarry?

We find the following facts in the record relevant to this issue:

The Darling Quarry (04-0038) is an existing pit located on 2.5 acres in an F-80 zone (see Exhibit A, attached) and contains approximately 100,000 cubic yards of material available for excavation. Rock extracted from the Darling Quarry received marginal test results on both the coarse and fine clay lumps and friable particles tests (T-112-C; T-112-F). Marginally acceptable results in these tests can be of extreme detriment to asphalt and concrete products. Aggregate production involving a rock source which has marginal results on these tests can increase costs through added processes and/or

ss and waste of time adjusting mixtures and designs. Material from the Darling Quarry was recently rejected by the Oregon Department of Transportation, Highway Division, because it did not meet specification. The Ordway Quarry is an existing pit located on approximately 3 acres in an AF-20 zone (see attached Exhibits A and D) and has an available quantity of material for extraction of approximately 160,000 cubic yards. Rock from the Ordway Quarry failed the fine sodium sulfate or magnesium sulfate test, failed both the coarse and fine clay lumps and friable particles tests and failed the sand equivalency test. The sodium sulfate or magnesium sulfate tests, the clay lumps and friable particles tests and the sand equivalency test are standard tests which aggregate must pass to be used in Oregon State Highway projects. These standards are widely used as an indication of aggregate's fitness for a variety of projects. The use proposed by the applicant is a long-term aggregate extraction source to help meet Clatsop County's aggregate demand over an extended period of time. The applicant's proposed use requires that the rock exceed testing standards to insure that production from the site will consistently meet necessary contract specifications. As set forth in the discussion under Issue No. 1 above, the average annual demand for aggregate material in Clatsop County is between 161,000 and 250,000 cubic yards.

Because of marginal test results on rock material taken from the Darling Quarry, we find that the site does not present assurances that average production from the site will consistently meet necessary contract specifications. In addition, because the Darling site contains only approximately 100,000 cubic yards of material (less than a 1-year supply for Clatsop County demand figures), we find that it does not present a viable alternative for the long-term use (approximately 20 years) proposed by the applicant. Because the Ordway Quarry failed several rock quality tests, we find that the average production from the site will not consistently meet necessary contract specifications. In addition, because we find the Ordway Quarry contains only an approximate 8 to 12 month supply, it does not present a long-term source as has been proposed by the applicant. We also find that because the Ordway and Darling Quarries, taken together, present less than a 2-year supply of aggregate material, these two quarries, considered together, do not present a long-term source such as that proposed by the applicant. We conclude that the Darling and Ordway Quarries do not have sufficient rock quantity and do not have sufficient rock quality to support the proposed quarry. We further conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

Issue No. 4.

Do the five alternative sites listed by the County, Cavenham Highway 101 (04-0028), Halvorsen Clay Borrow Pit (04-0032), Cavenham Pit Run (04-0036), McEwen Clay Borrow Pit (04-0048), and Stevens River Borrow Pit (04-0049), have sufficient quantity and quality of rock to support the proposed quarry?

We find the following facts in the record relevant to this issue:

Each of these five sites is described in attached Exhibits A and D.

Cavenham Highway 101 Borrow Pit (04-0028) has no commercial quality of rock. Cavenham Pit Run Borrow Pit (04-0036) has no commercial quality of rock. Halvorsen Clay Borrow Pit (04-0032) is an old clay borrow source that was used for fill to complete dike construction along the Necanicum River. Cavenham, the owner of the property, does not consider this site to be a potential rock quarry and has forfeited access rights to the road which serves the site. McEwen Clay Borrow Pit (04-0048) has no commercial quality of rock. Stevens River Rock Borrow Pit (04-0049) contains 45,000 cubic yards of material for extraction. The applicant has proposed a long-term aggregate extraction facility which would help meet Clatsop County's aggregate demand over an extended period of time. The central component of that long-term use is the availability of steady supply of Oregon Department of Transportation ("ODOT") specification rock over a 20 year period.

We find that because the material previously excavated from the Halvorsen Clay Borrow Pit was used as fill to complete dike construction, commercial quality rock is not available at that site. We further find that this pit must be small in size, because it cannot be identified from aerial photos. We find that because no commercial quality of rock exists at the Cavenham Highway 101 Pit, the Halvorsen Clay Borrow Pit and the Cavenham Pit Run Borrow Pit, these sites cannot be used for the proposed use. We further find that because no commercial quality of rock exists at these sites, it is irrelevant how much quantity of rock is available at any of these sites. We find that because the proposed use requires both sufficient rock quantity and rock quality, the presence of quality rock alone, without the necessary quantity, or the presence of quantity of rock alone, without the necessary quality, is insufficient to support the proposed use. As discussed in

Issue No. 1 above (which discussion is incorporated herein by reference), the County-wide demand for rock in Clatsop County is approximately 161,000 to 250,000 cubic yards. We find that the Stevens River Rock Borrow Pit contains less than a 1/3-year supply of material. We find that, even if the quantity of rock available at the Stevens River Rock Borrow Pit is added to the quantity of rock available at the Darling and Ordway Quarries, less than a 2-year supply is available at these 3 sites. We do not mean to imply by adding the Darling and Ordway Quarries in our quantity calculations that we find Darling or Ordway rock to be of adequate quality. To the contrary, we find (as discussed in Issue No. 3 above) that Darling rock is of marginal quality and that Ordway rock is of insufficient quality. We include Ordway rock in our quantity calculation here only to illustrate our conclusion that all these sites, considered together, do not present sufficient quantity to support the proposed use. We conclude that these 5 sites, even considered in conjunction with the Ordway and Darling Quarries, do not present sufficient rock quantity to support the proposed quarry. We further conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

Issue Nos. 5 and 6.

What are the characteristics of the alternative sites that require an exception?

What are the impacts that would "typically" result from locating the proposed quarry at the exception sites, and are these impacts less severe than location of the Quarry at the Bayview site?

We find that the characteristics of the alternative sites are fully described in the geological assessment prepared by Paul D. See, dated July 10, 1987, the Bayview Transit Mix evaluation report, dated July, 1987, prepared by Don Lampi (as updated with supplement dated August, 1987), and the evaluation report of David Evans & Associates (as updated with supplement dated August, 1987). The characterics of the eight sites, as well as the Bayview site, discussed in the LUBA opinion are summarized in Exhibits D and E of these findings. The locations of these alternatives sites are set forth on Exhibit A. We find that these summaries accurately describe the characteristics of each of these eight sites and the Bayview site. We incorporate the characteristics of each of those sites contained in the summary, as well as the information contained in the three reports, by reference as though fully set forth herein. We decline to compare the typical impacts, including environmental, social, economic and energy consequences, of the

Bayview site with the five sites listed in our discussion of Issue No. 4 above, as these sites lack sufficient aggregate resources to support the proposed site. It would be an empty exercise for this Board to describe the characteristics and then weigh typical impacts, including environmental, social, economic and energy consequences, when, in fact, a supervening characteristic (namely lack of quality and quantity of rock) prevents them from being rationally considered as a site for the proposed use. Without adequate rock quality and quantity, a site has no economic value as an aggregate source, and any attempt to locate the proposed use at these sites would have fatal economic impacts. Location of the use at the Bayview site, given the minimal negative impacts which are described under Issues Nos. 7 and 8 below, causes an inherently less severe impact than locating the use at these sites where the use could not be successfully or economically operated. Given the lack of rock quantity and quality of the five sites mentioned in the LUBA remand opinion, Issues Nos. 5 and 6, concerning the characteristics of the sites and the comparative impact of using each of the sites instead of the Bayview site, have no relevancy. We conclude that because there is insufficient rock or no rock at each of these five sites, the characteristics of these sites (lack of rock quality and quantity) dictate typical impacts.

The Johnson QM site (040011) is in a Quarry and Mining zone that does not require an exception for continued operation. Accordingly, we conclude that Issues Nos. 5 and 6 do not apply to the Johnson QM Quarry.

The Darling and Ordway Quarries are existing non-conforming uses. As such, they do not require an exception for continued use. However, as both these quarries are located in forest zones (F-80 and AF-20), any expansion of these quarries to meet the large scale use proposed by the applicant would require an exception under Policy 17 of the Goal 4 County-wide Element of the Comprehensive Plan. Any such expansion of these quarries would fall under this standard. However, as discussed in Issue No. 3 above, we have concluded that a primary characteristic of both the Darling and Ordway Quarries is their lack of large quantities of rock. In addition, under Issue No. 3 above, we concluded that a primary characteristic of the Darling Quarry is its marginal rock quality, and a primary characteristic of the Ordway Quarry is its lack of quality rock. Accordingly, consistent with our analysis above, we decline to analyze the potential expansion of these quarries in terms of typical impacts (such as environmental, social, economic and energy) when a supervening characteristic present at these sites (namely, lack of quality and quantity of rock) prevents them

from being rationally considered as a site for the proposed use. Without adequate rock quantity and quality, an attempt to locate the proposed use at these sites would not be economically sound. Location of the use at the Bayview site, given the minimal negative impacts which are described in Issues Nos. 7 and 8 below, causes inherently less severe impacts than locating the use at these two sites where the use could not be successfully or economically operated.

With respect to the Rippet Quarry and the Johnson F-80 Quarry, we make the following findings of fact and conclusions consistent with our discussion under Issue No. 1, above: The existing 5-acre area of the Rippet Quarry is considered a nonconforming use in a F-80 zone. Under Policy 17 of the Clatsop County Comprehensive Plan, Goal 4, County-wide Element, expansion beyond this 5-acre nonconforming use area requires an exception. Extraction has occurred on approximately 1 acre of the 10.2 acre Johnson F-80 parcel. Any expansion on the site requires an exception to be taken pursuant to Policy 17 of Goal 4 of the County-wide Element of the Clatsop County Comprehensive Plan.

We reach these findings and conclusions as follows. With respect to the Johnson F-80 site, we find that extraction activity on the separate Johnson QM parcel has continued for a number of years. The Johnson QM Quarry has been operated and expanded in a southeasterly direction and in recent years has crossed over into the adjoining Johnson F-80 parcel. No land use approvals have been requested or obtained from the County for the operations on the Johnson F-80 parcel. Comprehensive land use controls were established in Clatsop County in 1980 and provided standards and limits on quarrying uses. Aerial photos in the record attached as Exhibit No. 2 to the July 1987 report of Mr. Lampi demonstrate that in 1980, at the time extensive land use controls were imposed on quarry operations, the Johnson extraction operation was still located within the Johnson QM parcel and had <u>not</u> entered onto the Johnson F-80 parcel. As is shown in the aerial photos, subsequent to 1980, the Johnson extraction operation crossed onto the Johnson F-80 parcel. At this time, it had no land use approval and was an illegal operation under the zoning ordinance. Therefore, we have concluded that the Johnson operation on the Johnson F-80 parcel is an existing use, but not a nonconforming use as it was unlawfully established. We further find and conclude that any expansion of this area requires an exception. With respect to the existing Rippet site, we find that extraction activity has continued on the site for a number of years. The Rippet Quarry has been operated and expanded in a northwesterly direction. Under State law, the operators of the Rippet Quarry are

required to maintain a reclamation plan. This reclamation plan includes the active area of the quarry and defines the extent and limit of the quarry. In 1974, Johnson filed a reclamation plan with DOGAMI which delineated the quarry area. This plan was updated in 1976. In 1980, the active area at Rippet Quarry under the 1976 reclamation plan was 5.8 acres. The County enacted comprehensive zoning in 1980, which regulated and proscribed limits for quarry operators. In 1984, Johnson filed a new reclamation plan which updated and increased the disturbance area. No application was made to Clatsop County to obtain zoning approval for the increased size of the Rippet Quarry. We find and conclude that at the time of the imposition of zoning controls in 1980, the 1976 reclamation plan delineated the Rippet Quarry and defined the nonconforming use portion of the quarry. Significant expansion beyond this defined quarry limit requires an exception to be taken. In addition, we note that Cavenham had expressed a desire that future expansion at Rippet Quarry occur on the backside of the ridge above the existing quarry. Any expansion into this area would be outside the nonconforming use area and would require an exception. Our discussion below is directed to any existing or propsed expansion at the Rippet Quarry beyond the nonconforming use boundary established in the 1976 reclamation plan.

Economic Characteristics and Impacts.

The Bayview, Rippet expansion and Johnson F-80 sites all contain rock which meets the minimum required quality specifications and are close to the Seaside-Warrenton market area. However, Bayview has certain economic characteristics which provide distinct advantages over the Rippet and Johnson F-80 sites. First, the County heard testimony from the applicant's geologist, Paul D. See, and the applicant's consultant, Don Lampi, that the Bayview site contains approximately 2.4 to 2.5 million cubic yards of available material. We also heard testimony from the Johnson's consultant, Roger Redfern, that the Bayview site contains as little as 300,000 to 600,000 cubic yards, and from Johnson's geologist, H. G. Schlicker, that geologic features of the Bayview site would yield lesser quantities of material than those quantities identified by the applicant's experts. We find, based on the record before us, that Consultant Redfern has underestimated the quantity of available material at the Bayview site, but we also believe that the applicant's experts have overestimated the quantity of material available at the site. We find that the quantity of available material lies somewhere between the extremes of 600,000 cubic yards and 2.5 million cubic yards, and we believe that

such quantity probably lies between 1.5 and 2.0 million cubic yards. We reach and adopt this figure based on our finding that applicant's site, in places, has overburden, and that production of clean rock may be difficult at certain locations within the site. We note that the record is not as precise as it might be on this issue, but we find that a precise quantification is not necessary because the Bayview site clearly contains a significant quantity of commercial quality rock and because the need for a high quality site with a significant quantity of rock, such as the Bayview site, has been clearly demonstrated. This is a sufficient amount to meet the projected County demand for a long period of time. The existing Rippet Quarry contains approximately 250,000 cubic yards of available material, with some additional rock available if expansion is permitted. The Johnson F-80 site contains approximately 300,000 cubic yards of material. Even if the Johnson F-80 and the nonconforming Rippet Quarries are considered together, the available material is much smaller than the Bayview Quarry. In addition, average cost of material produced at the Bayview Quarry is projected to be $4.30/$4.45 per cubic yard. Whereas, the price of material produced by the Johnson operation (from the Rippet Quarry and the Johnson F-80 site) averages $6.00 per cubic yard. The Bayview site has a large eoonomic advantage over the other two sites. Further, the existing Rippet Quarry and the Johnson F-80 Quarry essentially provide Johnson with a sole source monopoly in the market. As described in our discussion under Issue

No. 1 above, certain price and supply policies pursued by the Johnson operation create monopoly-like characteristics in the market. The County roadmaster is on record favoring the Bayview site to increase competition in the market area and indicated he was unable to obtain rock from Johnson because of other Johnson commitments. The Bayview site would have a positive economic impact by creating an alternative site for aggregate materials in the market area. This alternative site would have the additional benefit of decreasing the need for rock to be imported into Clatsop County. The Rippet Quarry has a possible overburden problem and a possible high-face reclamation problem. These are potential economic impacts that are not faced by the Bayview site. Considering all these economic factors together, we conclude that the long-term economic consequences resulting from the use at the Bayview site are not significantly more adverse than would typically result from the same proposal being located at the Rippet Quarry or the Johnson F-80 site.

Environmental Characteristics and Impacts.

All three of these sites have room for sediment ponds, are located in elk habitat and have a stream nearby or on the premises. The projected 100-year flood event for the Bayview extraction site can be properly contained in a settlement pond 1.5 acres by 2.8 feet deep. The preliminary Bayview site layout reserves approximately 2 to 3 acres for sedimentation ponds which allows sufficient flexibility to meet siting and construction contingencies. The Bayview extraction site has no timber approaching marketable size. Whereas, the Rippet and Johnson F-80 sites contain larger trees. We find that Johnson geologists claim that landslides are a potential problem at the Bayview site. They point to a fracture on the southwest side of the Bayview site as evidence of landslide potential. However, we find that Geologist See attributes the fracture to man-caused problems during road development. See concludes that the underlying geologist is stable. Of particular importance to this analysis is the fact that tree stumps in the original slope protrude through the man-deposited material without distortion. We find this fact, together with the See analysis of the soil types present at the Bayview site, persuade us that the Bayview geology is stable. In addition, we find it suspect that Geologist Redfern refers to "minor slumping" at the Rippet Quarry and Geologist Schlicker dismisses landslides at the Rippet Quarry when 1984 aerial photos clearly show a large landslide at Rippet Quarry. For these reasons, we place greater credibility in Mr. See's analysis and conclude that the geology at the Bayview site is stable and landslides are not a problem. The geology is also stable at the Johnson F-80

site, but the Rippet Quarry has a history of landslide problems. The Bayview Quarry is not visible from surrounding residences or from U.S. Highway 101 or 26. To the contrary, the Rippet Quarry is clearly visible from both Highways 101 and 26. The Johnson F-80 Quarry is visible from U.S. Highway 101. As described under Issue No. 7 below, the projected noise levels from the Bayview site meet applicable DEQ levels. As the opponents did not provide a sound evaluation of their own operation, it is unknown whether or not operations at the Rippet Quarry and the Johnson F-80 Quarry comply with DEQ standards. Areas which contain vegetation which may be found in wetlands is located near the Bayview site along adjacent Square Creek. No areas described as "wetland" have been identified at the Rippet or Johnson F-80 Quarries. A specific condition, which is made a part of these findings, will protect wetland values at the Bayview site. Geologist Redfern raises questions about stream erosion due to meandering at the Bayview site. However, we find, as pointed out by Geologist See, that Geologist Redfern's analysis is a "unique departure from conventional understanding of stream mechanics." We find that the fact that a river meanders is indicative of long-term stability. We further find that a variety of measures, including riprap and revegetation, are available to control any potential erosion. Finally, the Bayview extraction area is located approximately 2,800 feet from the nearest residence. The Rippet Quarry has two houses within 300 feet, and the Johnson Quarry has seven houses within 1,000 feet. After weighing these characteristics and impacts, we find that aggregate operations at the Bayview site have advantages related to timber, stable geology and visibility. A potential disadvantage at the Bayview site (areas that may contain vegetation which may be found in wetlands) has been addressed and mitigated by a condition which is part of this approval. On the whole, we conclude that the long-term environmental consequences resulting from aggregate extraction use at the proposed site, with measures designed to reduce adverse impacts, are not significantly more adverse than would typically result from the same proposal being located in either the Rippet Quarry or the Johnson F-80 site.

Social Characteristics and Impacts.

We find that the Bayview extraction site is located 2,800 feet from the nearest residence. The Rippet Quarry has two homes within 300 feet, and the Johnson F-80 Quarry has seven homes within 1,000 feet. There is a social advantage in having the extraction operation located farther from existing homes in that noise is reduced. As described under Issue No. 7 below, the Bayview site meets DEQ noise levels. No information is available concerning the noise levels at the

Johnson F-80 and Rippet Quarries. We find that the Bayview site enjoys reduced social impacts in that it cannot be seen from the adjoining highways or residences. Whereas the Rippet and Johnson F-80 Quarries are clearly visible from adjoining homes and highways. We find that land use compliance at the Rippet Quarry and the Johnson F-80 Quarry is unclear. The Bayview Quarry enjoys a social advantage as it has applied for a land use permit before extracting aggregate in a forest zone. We also find that the Rippet Quarry has potential problems with reclamation which may make it difficult to reclaim the slope to reduce its visibility. Bayview has reduced social impacts in that its access to Highway 101 will be along a newly-aligned portion of that road just south of the existing Highway 26 junction. To the contrary, truck traffic hauling unprocessed aggregate from the Rippet Quarry must cross U.S. Highway 101 on a curve to take the material for processing to the Johnson QM Quarry site. Access from the Rippet Quarry and to the Johnson F-80 site is on a two-lane portion of U.S. Highway 101 near a curve. Blasting noise and vibration may affect nearby residences. The Bayview site may have a slight social advantage in that blasting may not be needed at the site. Whereas, blasting is necessary at the Rippet and Johnson Quarries. We also find that Bayview has presented an extraction plan which will maintain a lip of rock between the Bayview extraction area and nearby residences to the north and east. This reduces social impacts for the Bayview Quarry, as opposed to the Rippet Quarry and Johnson F-80 site whose extraction activities directly face residential uses. After weighing the relative advantages and disadvantages of the sites, we conclude that the long-term social consequences resulting from aggregate extraction at the Bayview site (with measures designed to reduce adverse setbacks) are not significantly more adverse than what would typically result in the same proposal being located at either the Rippet or Johnson F-80 Quarry.

Energy Characteristics and Impacts.

All three areas are a short distance from the Cannon Beach junction and are located close to the market area. Mechanical extraction, using similar equipment, will be required at all three sites. The Rippet Quarry has a potential disadvantage due to the overburden problems at the site which may require additional energy during the handling of material. Weighing these characteristics, we conclude that the energy consequences present at each of the three sites are similar. Accordingly, we conclude that the long-term energy consequences resulting from aggregate extraction at the Bayview site are not significantly more adverse than would typically result from the same proposal being located at the Rippet or Johnson F-80 site.

Issue No. 7.

Is the proposed quarry "compatible" with the adjacent residential uses?

We find the following facts in the record relevant to this issue:

Several houses are located within approximately 3,000 feet of the proposed extraction area. The closest residence belongs to Jensen and is located approximately 2,800 feet from the extraction area and approximately 800 feet from the proposed stockpile. The Jensen residence is surrounded by trees as are the other residences in the vicinity. Neither the extraction area nor the stockpile area is visible from any of the residences. "Quiet Area," as used by DEQ, is land designated by the Environmental Quality Commission where quiet is of an extraordinary significance to serve a public need, such as a wilderness area, a national park, or a state park. The area surrounding the Jensen home has not been designated quiet area by the Environmental Quality Commission. The existing rock quarry at the Bayview site has been frequently used intermittently during the last 20 years, with the last use being in 1986. The applicable DEQ noise standards for the general area near the Jensen residence are as follows: L(1) 75 dBA, L(10) 60 dBA, and L(50) 55 dBA. The crusher or process plant proposed by applicant is projected to generate the following levels of noise as measured at the Jensen residence: L(1) 40 dBA, L(10) 36 dBA, and L(50) 32 dBA. The applicable noise levels generated by the asphalt batch plant which may accompany the proposed operation as measured at the Jensen residences projected to be: L(1) 37 dBA, L(10) 33 dBA, and L(50) 29 dBA. Given the applicant's extraction plan, the aggregate extraction activity proposed by applicant is projected to generate the following levels of noise as measured at the Jensen residence: L(1) 44 dBA, L(10) 44 dBA, and L(50) 43 dba. The opponents' sound expert projected that higher levels of noise from the extraction operation would be received at the Jensen residence. Mr. Duble, the opponents' sound expert, did not take into consideration the extraction plan presented by the applicant in which a lip in the form of an earth berm will be maintained between the drilling and extracting operation and the Jensen residence. In addition, the mouth of the excavation area at the Bayview site will be oriented away from the residences to the southeast. Further, we find that Mr. Duble assumed that two bulldozers and two front-end loaders would be working at the extraction area when the actual proposed operation at the Bayview site will include only one bulldozer. The design feature of the extraction plan will significantly reduce

projected sound levels to be received at the Jensen residence. The opponents' sound expert also projected a sound level of 98 dba from hypothetical rock drilling equipment which would be located at the extraction site. The Bayview sound expert, Mr. Standlee, measured the actual drilling equipment proposed to be used at the site. This equipment generates only 90 dBA. In addition, the mouth of the excavation area at the Bayview site will be oriented away from the residences to the southeast. Further, we find that Mr. Duble assumed that two bulldozers and two front-end loaders would be working at the extraction area when the actual proposed operation at the Bayview site will include only one bulldozer. For these reasons, we adopt the noise figures provided by Mr. Standlee. Thus, we find the sum of the projected noise levels at the Jensen residence of all activity at the Bayview site to be L(1) 46, L(10) 45, and L(50) 44, well within the DEQ standards. Bayview's trucks are regularly maintained (including muffler inspection) at the Bayview shop in Gearhart and meet applicable licensing requirements. Bayview trucks will not use Jake brakes on the roads near the Jensen residence and will maintain reduced speeds to minimize vibration. Roads to the quarry will be maintained in a dust-free fashion. The actual crusher, which is considered for use at the Bayview site, has current DEQ operating permits. Windrose data prepared by the Office of the State Climatologist indicates that prevailing winds will carry any dust generated at the Bayview site away from nearby residences. The Jensen residence and nearby residences are within approximately 1,500 feet of U.S. Highway 101 and are approximately 1,000 feet from a bulk oil facility. Large trucks frequently travel U.S. Highway 101, and large trucks call at the bulk oil facility. The extraction plan proposed by Bayview will minimize blasting impacts by maintaining a lip on the existing hillside between the blasting operation and any residence to the east. Blasting may not be necessary at the proposed quarry, and, in any event, blasting is an infrequent activity at the quarry. Extraction operations at the quarry will be confined between the hours of 7:00 a.m. and 10:00 p.m.

We find that impacts on the Jensen residence will be very similar to the impacts on the other residences in the area. Because the Jensen residence is the closest to the proposed extraction site, the impacts are analyzed with reference to the Jensen's residence as it will be the one most likely to receive adverse effects, if any. We note that compatibility as referred to in ORS 197.732(b), and OAR 660-04-020(d) is not intended as an absolute term meaning no interference or adverse impacts of any type may affect adjacent uses. Opponents' sound expert, Mr. Duble, concludes that the potential noise generated by the crusher/processing plant and a potential asphalt batch plant will not exceed applicable DEQ standards at the site.

In addition, Mr. Duble concludes that the summation of the projected L(1) sound levels for the extraction activity at the proposed site will not exceed the applicable sound levels. Bayview's sound expert, Mr. Standlee, agrees with these conclusions. Mr. Duble, however, indicated that the projected L(10) and L(50) noise levels generated by the extraction activity would exceed the applicable DEQ standard. Because we find that Mr. Duble did not consider the noise-inhibiting design features contained in Bayview's extraction plan, the orientation of the operation away from residences, the appropriate extraction equipment or the appropriate noise level for extraction equipment, we find that Mr. Duble's conclusions concerning the L(10) and L(50) projected noise levels are incorrect. Data submitted by Bayview's sound expert indicates that, considering all the factors that would attenuate sound, noise generated by the applicant's extraction operation is well below the applicable DEQ standard. We also conclude from examining the data of Messrs. Duble and Standlee, that even if the applicable DEQ noise standard were deemed to be 10 dBA over ambient levels (which we specifically conclude is <u>not</u> the case), all facets of the proposed use would meet that standard. Because we find that roads will be maintained in a dust-free fashion, the Bayview crusher will meet all DEQ dust standards, and prevailing winds will carry dust away from the Jensen residence, we find that no significant dust impact will occur at the Jensen residence as a result of the applicant's operations. We find that vibration might occur at the Jensen residence because of two sources: blasting impulses and truck traffic. Because we find that Jensen is approximately 1,500 feet from the truck traffic on U.S. Highway 101 and 1,000 feet from truck traffic at a commercial oil facility and because Bayview will reduce speed of its trucks to reduce vibration, we find applicant's truck traffic will result in no substantial increase in truck vibration. Because we find that blasting is not a frequent occurence, because the applicant's extraction plan will minimize the effect of blasting and because Jensen would receive only slight vibration from any blasting impulse, we find that any impact from blasting will be minimal at the Jensen residence. We further find that extraction operation at the Bayview site will be limited from 7:00 a.m. to 10:00 p.m. This will serve to make the operation more compatible with the adjacent residential uses. We find that because the site is not visible from any of the residences, because noise will be within acceptable limits, because the gravel quarry on the site is a long-term existing use and because aggregate activity will be located more than 600 feet away, property values of the nearby residences will not suffer as a result of locating the proposed use at the Bayview site. Because we find that noise will be within acceptable limits, dust will meet DEQ standards and be

taken away by prevailing winds, vibrations will be similar to existing truck traffic and blasting vibration will be slight and infrequent, we conclude the proposed use is compatible with adjacent residential uses. We further conclude that this issue remanded by LUBA is resolved in favor of allowing the proposed use.

Issue No. 8.

What are the economic, social, environmental and energy consequences to Goal 5 resources of allowing processing of crushed rock at the proposed site?

We find the following facts on the record relevant to this issue:

Bayview has proposed rock extraction and stockpiling operations that are 30 acres in total. Twenty acres of this area will be devoted to rock extraction, and approximately 10 acres will be devoted to a stockpile operation. The proposed use is designed to produce quality rock for a 20-year period. The rock from the pit will be produced at a cost below the average price from presently existing sources, including Johnson and imported rock from outside the County. An existing quarry is present at the proposed extraction site. The quarry has been used on numerous occasions in the past, and approximately 100,000 cubic yards of aggregate material has been removed from the site. No merchantable timber exists on the extraction site or on approximately 3 acres of the stockpile site. Seven acres of the stockpile site contains trees that are approximately 30 feet in height. The stockpile area and the extraction area are distinct areas and are separated by forest uses which will be maintained. The two areas are completely surrounded by forest land. Areas described as "wetland" have been briefly discussed by the opponents during this remand proceeding. We find, as described in the site analysis of the area by Mr. Lampi, that vegetation which might be found in wetland is primarily contiguous with Square Creek. One pocket containing vegetation which might be found in wetlands is located near the extraction area. We find that no significant wetlands, as indicated on Department of the Interior maps or in Clatsop County Goal 5 or Goal 17 inventories, are located at the Bayview site. We find that the extent of area which contains vegetation which might be found in wetlands is delineated on the map as attached to Mr. Lampi's August 25, 1987 report, and we adopt this description of the area. We note that our own staff has reported that

Mr. Redfern's wetland contention is without merit. The Bayview Quarry site is located in major big game habitat. No barriers will be constructed during the operation of the quarry which would affect big game migration. Square Creek, a perennial stream, runs adjacent to the extraction area. It is considered fish habitat as it has a summer flow of .5 cubic foot per second. Up to nine salmon have been seen in the creek during winter months. Salmonoid fish fry have been released into Square Creek by STEP volunteers. Square Creek is adequate fish habitat but not excellent or ideal habitat. Bayview has provided a sediment control plan which is designed to handle a 100-year flood event. In January of 1986, the Oregon Department of Fish and Wildlife suggested conditions for a plan to reduce impacts on Square Creek. After reviewing the Bayview sediment control plan, an Oregon Department of Fish and Wildlife biologist described the plan as a good plan. Other facts concerning the Bayview site contained in Parts I through IV of these findings are incorporated herein by reference. Identified resources at the Bayview site are elk, anadromous fish, wetlands, trees and aggregate.

Economic Factors.

A. Trees. Loss of overburden due to prior operations at the existing aggregate quarry has prevented the growth of trees over a large portion of the extraction site. The remainder of the extraction area was recently clear-cut and now supports very young trees. There will be no economic loss of trees approaching market value on the extraction area. The stockpile area contains 7 acres of trees approaching marketable size. In the short term, aggregate operations on the site will cause the loss of these trees. Cumulative impact of tree loss should be minimized by development of this quarry as it will present a long-term quarry site and may alleviate the need for development of other aggregate sites in forest lands. In the short term, forest economic uses of the 30-acre area will be replaced by mining uses. In the long term, the reclamation plan for the quarry area will insure that the majority of the area is returned to forestry uses.

B. Elk and Fish. Hunting for elk and the provision of household meat produces some economic value from this habitat parcel. The applicant intends to construct no barriers on the site, and development of the quarry does not prevent elk from coexisting on this site. A small temporary loss of habitat does not necessarily entail a loss of elk. Elk migrate freely and can take advantage of the surrounding forest area. As with timber, development of this quarry may result in less cumulative loss of elk habitat, because the large capacity of

this quarry may limit the need for other smaller pits on forest land. Adjacent Square Creek provides habitat for up to nine salmon and provides an area for STEP volunteers to release salmonoid fry. Square Creek flows between the extraction and stockpile areas. It has an August flow of .5 cubic feet per second ("CFS"). It passes under the access road via a permanent culvert. These are not uses of the area which provide specific economic benefits. However, enhancement efforts on small streams may help restore salmon runs which would provide economic benefit. The applicant will need variable amounts of water, up to 3,000 gallons of water per day for dust control, and possibly up to 2,000 gallons per day for other uses. Possible sources are Square Creek, on-site sump collection and hauling water to the site. Because of low summer flows in Square Creek and the impact of any further activities on fish habitat, it may not be possible to take this water from Square Creek. A condition of approval is that the State Water Resources Department establish a minimum stream flow for Square Creek, and removal in excess thereof is prohibited. Applicant currently owns a 4,000-gallon water truck and intends to place a 10,000-gallon tank at the site. If the water must be hauled to the site, the cost is approximately 6.3 cents a cubic yard of rock product, a minimal effect on overall costs. Cut-off ditches, berms, erosion-control mechanisms and sediment-trapping ponds at both the extraction area and the stockpile site will be constructed or placed to handle a 100-year storm event. The ponds will be draped with filter fabric to insure sediment is trapped. The applicant's sediment control plans are designed to insure that any economic gains associated with fish can coexist at the same time if rock is extracted at this site.

C. Wetlands. Areas near the proposed extraction site that contain vegetation which might be found in wetlands are not inventoried in the County-wide Goal 5 Element. These areas also do not appear on the U.S. Department of the Interior National Wetland Inventory maps used for establishing significant wetlands in the Clatsop County Comprehensive Plan. No part of the Bayview site contains wetlands identified in the Comprehensive Plan. Wetlands can have an economic value as furbearing animal and wetland bird habitats, but there is no evidence of furbearing animals or wetland birds at this site. Wetlands can also have marginal economical benefits as flood buffers. However, the areas near the extraction area that contain vegetation which might be found in wetlands are too small to be needed as flood protection. As with elk and fish, the conditions imposed by Clatsop County provide the necessary steps to insure that wetland habitat will be protected to preserve any economic value that may be assigned to it.

D. Aggregate. Aggregate is a necessary commodity for the economy of Clatsop County. This particular site has enormous economic value because of the quality of rock and quantity of rock that are present. As recognized in the Clatsop County Comprehensive Plan, rock sources are scarce in Clatsop County and should be developed where feasible. Use of this site for aggregate extraction would provide high-quality rock for a number of years at a favorable price in Clatsop County markets. Development of this quarry will increase competition in the market area and may lessen the need for imported aggregate products in Clatsop County. Development of the site may also create four jobs. As noted in Parts I-V of these findings, other aggregate pits in the area have limited quantity and quality of material available for extraction. To not use this site would have significant negative economic impacts, including continued higher aggregate prices and uncertain future supplies.

Social Impacts.

A. Trees. An adequate timber base is important to preserve County jobs and to provide areas for recreation. Because the Bayview extraction area has recently been clear-cut and the area supports an existing aggregate pit, this area is not an ideal choice for timber production or forest recreation. Loss of seven acres of timber on the stockpile site will reduce the County timber base. Clatsop County has approximately 474,000 acres of timberland. The reduction in timber base caused by Bayview is a miniscule fraction of the amount of timber available in Clatsop County, and development of this site may prevent a larger cumulative loss of timber due to reduced need for smaller aggregate pits in other forest areas. In addition, nearly all the alternative sites would entail loss of productive forest while aggregate is being extracted. The reclamation plan for the Bayview site insures that the area will be returned to forest uses after extraction has stopped.

B. Elk and Fish. Although the land is private, public access has not been generally limited by the landowner. Access to the extraction and stockpile areas might be restricted if operations are ongoing. This could, in turn, limit elk hunting. However, as stated above, although use of this area for an extraction site may affect habitat, such use does not necessarily cause a decrease in the number of elk. Indiscriminate operation on this site could cause problems to fish habitat and the success of the STEP program. However, the sediment control plan proposed by the applicant mitigates any potential negative social effects in this regard.

C. Wetlands. Social and recreational values are sometimes assigned to wetlands if they are large enough to support animal populations. The small size of the area associated with the site on which vegetation might be found in wetlands would limit any such recreational value. Further, it is unlikely that the areas which might contain vegetation found in wetlands would provide large social value, as they were discovered only at the very end of this remand proceeding. In addition, the areas are small and directly adjacent to an existing forest gravel pit which limits their recreational value.

D. Aggregate. One of the principal reasons for developing this quarry is to eliminate reliance on the sole source of aggregate in the County which provides relatively high-priced materials to consumers. Unlike existing commercially operated sites considered in this proceeding, this proposed site is well away from people, being approximately 2,800 feet from the nearest residence. The extraction plan provided by Bayview indicates that use of this area for rock be handled in such a manner to minimize any effects, including dust and noise, on nearby residents. The evidence produced in this proceeding indicates that other rock sources in the County have limited life spans, and, eventually, other new sites must be developed for aggregate use. Finally, it is possible that four jobs would be created in the use of this pit for its aggregate resource.

Environmental Impacts.

A. Trees. As discussed in the economic portion of this analysis above, trees provide potential habitat for elk on the site. However, as the applicant will construct no barriers and reclaim the area for forestry uses, this habitat value will be reestablished through reclamation in the future. Aggregate uses on the site will create more dust and noise than tree production on the site, but the applicant has proposed measures to control both dust and noise. As discussed above, the site will remove approximately 30 acres from the timber base in the County. However, the site has been designed to allow trees to grow between the extraction area and the separate stockpiling area. Applicant's extraction plan is designed to minimize any adverse environmental effects on forest resources, and development of this site may limit the need for a larger number of smaller pits on forest lands. Forest uses might provide shade for Square Creek, but the proposed plan of operation at this site has preserved a 50-foot setback which will also provide shade for Square Creek. Use of the area for aggregate extraction will prevent periodic herbicide spraying which would accompany forest uses. As most of the site has been clear-cut, no major

habitat changes or loss of trees will accompany aggregate uses. There will be a premature harvest of trees on seven acres of the stockpile site, but no market-size trees will be lost at the extraction site.

B. Elk and Fish. The existing rock pit on the site is still used by elk. These habitat values will gradually change as the proposed aggregate use expands on the site. However, no barriers will be constructed to prevent elk from using the remainder of the site, and the area will be returned to forest uses and elk habitat after it has been reclaimed. Aggregate use on the site will entail some dust and noise emissions. However, the applicant will abide by the appropriate DEQ standards and will keep the road in a dust-free condition. In 20 years, the surrounding forest areas will support larger trees, and the small vegetation on the reclaimed portions of the proposed quarry will present habitat variety. Nine adult salmon have been counted in the lower one-half mile of Square Creek, and approximately 25,000 Coho and 10,000 Cutthroat Fry were released into Square Creek in 1987 as part of the STEP program. The creek provides an adequate, but not excellent, habitat. Low summer flows are a limiting factor, and maintaining minimum stream flows is important to sustain fish habitat. We have imposed a condition which will prohibit the applicant from removing water from Square Creek in excess of the proscribed minimum stream flow developed by the Water Resources Department. Indiscriminate operation at the site could cause sediment problems and damage to fish values in the nearby stream. However, the applicant has proposed a sediment containment program which will prevent any adverse impacts on the stream. This program has been described by the representative of the Oregon Fish and Wildlife Department as a good plan. Environmental values associated with fish will be able to coexist with the operation of the aggregate site.

C. Wetlands. The area which contains vegetation which might be found in wetlands primarily consists of a narrow strip along Square creek and one pocket near the extraction area. We find that the area containing vegetation which might be found in wetlands consists of riparian strips and small isolated pockets. These areas are shown on the map attached to Mr. Lampi's August 25, 1987 report, and we adopt that map as delineating the extent of any area at the Bayview site containing vegetation which might be found in wetlands. In the event that any of these areas would be determined to be wetlands, we have imposed a condition that will protect them by imposing a condition designated to maintain minimum setbacks from areas determined to be wetlands. Indiscriminate operation of the proposed use could cause damage to these areas. However,

However, the applicant has proposed acceptable setbacks from Square creek and has also proposed to keep all activities out of wetland areas.

D. Aggregate. As is recognized by the comprehensive plan, the geology of the Oregon coast limits good aggregate sites in Clatsop County. The Bayview site is one of the few sites with high quality and high quantity of rock. The site is already disturbed and has been used for a number of years as a rock pit for forest uses.

Energy Impacts.

A. Trees. Little energy use accompanies the growing of trees, with the exception of occasional spraying, pruning and harvesting activities. Rock extraction and processing would require more energy consumption.

B. Elk and Fish. Elk and fish resource uses entail no energy use. Extraction and processing of rock material requires more energy than these uses.

C. Wetlands. Wetlands uses require no energy use. Extraction processing of rock requires more energy than these uses.

D. Aggregate. Energy expenditure necessarily accompanies aggregate extraction, but aggregate provides a correspondingly greater economic return. The proposed site is close to the market area which reduces fuel consumption and provides a superior choice in terms of energy consumption from sites that are farther away from the market area.

Considering the economic, social, environmental and energy impacts and consequences of locating the proposed use at the Bayview site, we make the following findings. Aggregate is a scarce resource in Clatsop County. It requires an energy consumptive extraction process and necessarily creates some dust and noise. However, we find that the limited sites available for aggregate extraction in Clatsop County make the economic value of a good quality, long-term site, such as the Bayview site, extremely high. We find that 30 acres of timbered land, nearby fish and wildlife habitats, and areas which contain vegetation which might be found in wetlands will be affected by allowing the proposed aggregate use. However, we find the effects on the forest resources will be temporary, and the reclamation plan will return the area to forest uses in the long-term. Similarly, any effects on the elk habitat will be reduced, because no steps will be taken to prevent movement

of the elk across the site. As with forest uses, once the area is reclaimed, it will return to its prior elk habitat value. The applicant has proposed an adequate sediment control plan which will allow fish uses to continue and coexist with the aggregate extraction uses. Similarly, the applicant has given necessary assurances that wetlands will be protected by adequate setbacks. We determine, on balance, and giving consideration of the steps taken by Bayview to reduce any adverse impacts, that the economic, social, environmental and energy analysis mitigates in favor of allowing the use at this site, with conditions. As discussed below, we have developed a program to achieve Goal 5 purposes.

Issue No. 9.

Given the economic, social, environmental and energy consequences to Goal 5 resources, the County must "develop a program to achieve the Goal."

Our initial decision in this matter was accompanied by 14 conditions which were designed to limit the adverse impacts of the proposed quarry operation. We specifically adopt those 14 conditions by reference herein as part of the program to achieve Goal 5 purposes. These conditions include compliance with DEQ noise standards. We note that this condition will help to mitigate any impacts on Goal 5 wildlife resources. In addition, we note that this condition will help insure compatibility of the operation with adjacent forest and residential uses. These conditions also contain a requirement that the operator obtain all State and federal permits. This would include the appropriate DOGAMI permits, including a reclamation plan. This condition will help to preserve Goal 5 values by returning the area to forest and habitat uses once the aggregate extraction operation has terminated. These conditions also contain the requirement that sedimentation ponds be installed so that water turbidity levels in Square Creek are not increased. Applicant has agreed to construct ponds in such a manner that they will handle a 100-year flood event without adverse effect on Square Creek. This condition is designed to protect Goal 5 fishery resources in the adjacent creek. We find that after consideration of the applicant's proposed settlement control plan, the Oregon Department of Fish and Wildlife indicated the applicant's plan for sediment control was a good plan. Conditions also require that roads shall be maintained in a dust-free condition during intensive operations. This condition is designed to reduce dust impacts on adjacent wildlife and fishery uses and minimize any impact on forest resources. Conditions also require observance of riparian setbacks. This condition insures that riparian values

(fish and wetland) are protected. Finally, the original conditions include the requirement that the applicant provide adequate boundary line delineation of the quarry and stockpile sites. This condition allows the applicant flexibility in locating sediment ponds to maximize the effectiveness of the sedimentation pond design. We hereby add the following conditions which are designed to implement and achieve Goal 5 purposes:

First: No barriers will be constructed to prevent wildlife migration, unless required by adjacent residential uses. (This condition will protect Goal 5 wildlife values by allowing continued migration and access by elk to the site.)

Second: Extraction operations on the site will be limited to the hours of 7:00 a.m. through 10:00 p.m. (This condition will help reduce noise impacts on adjacent Goal 5 wildlife values, as well as increase compatibility with adjacent residential uses.)

Third: No extraction activities will occur during the months of December and January. (This condition will eliminate sediment impacts during rainy months and preserve Goal 5 fish values. In addition, this condition will reduce noise and dust impacts upon residences located to the northeast in the event that winds would come from the southwest during this period of time.)

Fourth: The toe of any development will be located according to regulatory approval to protect wetlands. (In conjunction with the setback requirement of the original 14 conditions, this condition is to preserve and protect Goal 5 wetland values.)

Fifth: Rock drilling equipment no louder than 90 dBA [L(50)] will be used at the extraction site. This condition will insure that quieter equipment will be used and thereby eliminate noise impacts on Goal 5 wildlife resources and increase compatibility with nearby residential uses.

Sixth: Minimum stream flow for Square Creek needs to be established by the Oregon Water Resources Department. Water in excess of the prescribed minimum stream flow developed by the Water Resources Department shall not be removed from Square Creek. (This condition will preserve water during low flow periods for fishery purposes.)

Seventh: Extraction shall be in accordance with the staged extraction plan as submitted by applicant as prepared by David Evans & Associates, Inc. on August 26, 1987. (This condition will result in the mouth of the quarry being oriented away from residences and will result in a lip of rock being maintained between the resources and the quarry. This will insure sound levels are within DEQ standards.)

We conclude that these conditions, together with the conditions imposed and adopted by us in the prior proceeding and together with the Bayview excavation plan and sedimentation control plan, constitute a program designed to achieve Goal 5 purposes.

PART IV. ALTERNATIVE EXCEPTION ANALYSIS

As set forth in Part I of these findings, we have concluded that the only issues open for discussion in this remand proceeding are the ones we have discussed in Part III above. However, without prejudice to our conclusion, in the event that all exception standards would be deemed to apply to this limited remand proceeding, we make the following analysis of the statutory and regulatory factors necessary to take an exception. We specifically note that our conclusion in Part I of these findings limiting the scope of this hearing proceeding is the correct analysis of the scope of the hearing. Nonetheless, to avoid creating the grounds for subsequent appeal on this matter, we make the following analysis.

We find that the 14 alternative sites which have been examined in these proceedings, and are discussed as part of these findings, are divided into three fundamental areas: (1) uses located in Quarry and Mining Zones; (2) nonconforming uses; and (3) uses located in exception areas. Depending on how each site is classified, the primary standard which is applicable differs. The two QM Zones, Johnson QM and Seaside Reservoir QM, do not require an exception to receive a Quarry and Mining use. Accordingly, these sites are analyzed under the "reasonably accommodate" standard as found in ORS 197.732(1)(c)(B) and OAR 660-04-02(1)(b). Nonconforming uses are uses that lawfully existed at the time that the Clatsop County Land and Water Development Use Ordinance became applicable to the development, but that would otherwise not be lawful in the zone in which they are located. Aggregate extraction at several of the alternative sites occurred before the institution of the Clatsop County zoning ordinance and are classified, for the purposes of these findings, as nonconforming uses. These include the existing Rippet Quarry, the Ordway Quarry, the Darling Quarry, the Forked Horn Quarry, the

McEwen Clay Borrow Pit and the Bear Cat Quarry. Each of these sites has an existing DOGAMI permit and has a history of recent activity. As we have previously noted with respect to the Rippet Quarry and the Johnson F-80 site, any significant expansion of these sites beyond their present size, or beyond the parameters of their DOGAMI reclamation plans, will require an exception. The nonconforming use portions of these quarries, because no exception is needed to continue operation there, must be analyzed under the "reasonably accommodate" standard found in ORS 197.732(1)(c)(B) and OAR 660-04-02(1)(b). The remaining sites are areas for which an exception is necessary to conduct any further aggregate extraction operations. These sites include the Rippet Quarry (expansion), Johnson F-80, Silver Point, Stevens River Rock Borrow Pit, Cavenham Pit Run, Cavenham Highway 101 Borrow Pit and Halverson Clay Borrow Pit. The Rippet expansion and Johnson F-80 sites have no County permits. The Silver Point site has no DOGAMI permit. The Stevens River, Cavenham Pit Run, Cavenham Highway 101, and Halverson sites have been closed by DOGAMI and have no DOGAMI permit. Under Issue No. 1 above, we have previously explained our rationale for analysis of the Rippet expansion and the Johnson F-80 sites. Each of the other sites in this classification is an existing pit that has been used in the past. However, at this point, none of the pits have DOGAMI authorizations. Any attempt to use these previously-existing sites necessarily entails a new start-up and, therefore, a significant expansion of allowable activities at the site. Accordingly, under Policy 17 of the County Comprehensive Plan, Goal 4, County-wide Element, an exception is needed to extract rock at these sites. Accordingly, these sites must be analyzed under the "significantly more adverse" standard found in ORS 197.732(1)(c)(C) and OAR 660-04-020(1)(c). We find that the Ordway Quarry contains approximately 160,000 cubic yards of aggregate available for extraction. This represents up to a one-year supply for the demand we have found in the market area. In addition, we note that it would make no sense to expand the Ordway Quarry, because the rock found there does not meet specifications. The Darling Quarry contains approximately 100,000 cubic yards of rock which is significantly less than a one-year supply for the demand in the market area. Given this limited quantity and the fact that the Darling material is of marginal quality, it makes no sense to consider this site for expansion for the proposed use. The Forked Horn Quarry contains approximately 100,000 cubic yards of material available for aggregate extraction. Again, this represents less than a one-year's supply, given the market area demand. Accordingly, it makes no sense to consider this quarry for expansion. The McEwen Clay Borrow Pit is a clay borrow source which is extremely small in size (less than one acre) and has

no commercial quality of rock. It is not reasonable to consider this pit for expansion when adequate quality of rock does not exist. Finally, the Bear Cat Pit contains approximately 148,000 cubic yards available for aggregate extraction. This is less than a one--year supply, given the demand in the market area. It is not logical to consider this area for expansion, given the limited supply that is available. We decline to consider expansion of the Ordway, Darling, Forked Horn, McEwen and Bear Cat pits under the standard. Our reasoning is that they have deficient quantity to merit consideration for expansion.

Standard No. 1.

"Areas which do not require a new exception cannot reasonably accommodate the use" (ORS 197.732(1)(c)(B); OAR 660-04-02(1)(b)).

We find the following facts in the record relevant to this standard:

Exhibit A, attached and made part of these findings, is a map which describes each of the alternative sites under consideration. Exhibits D and E, attached and made part of these findings, are summaries of our findings concerning the characteristics of all alternative sites under consideration in this matter. These exhibits contain a summary of facts that we have examined and adopted from the initial and supplemental reports of Messrs. Lampi, See, Price, Gamble, and of the opponents' geologists. We specifically adopt as part of these findings each of the factual determinations which are set forth in Exhibits D and E.

The characteristics of the Seaside Reservoir QM zone (no DOGAMI permit) which we find relevant to this standard are summarized on Exhibit E. We note that a fair quantity of rock (1 million cubic yards) appears to be available for excavation at the Seaside Reservoir QM site. However, we note several important reasons why this site would be an extremely poor choice for a rock quarry. First, three residences are immediately adjacent to this zone, and a multi-space trailer park is located 350 feet from the border of the zone. One of these residences is surrounded on three sides by this site. An additional residence is located 600 feet from the western edge of this zone. Extraction and crushing on this site cannot meet DEQ noise standards, given the close proximity of the zone to existing residences. Of equal importance, the sole water

source for the City of Seaside (a large reservoir) sits directly adjacent to the zone. Two water transmission lines traverse the zone, and a treatment center is located nearby. The City of Seaside has expressed great concern over aggregate extraction activities on this site. In addition, the landowner of the property (Cavenham) has stated that this site will not be considered for a quarry and mining. Finally, deep overburden and vibration control present additional costs of operating on this site. The negative factors present at the site would not only increase the cost of material extracted from this site, but also provide a separate reason for allowing NO mining activity on the site. Because of all these negative factors, we conclude that the Seaside Reservoir QM zone cannot reasonably accommodate the use proposed by applicant.

We have previously analyzed the ability of the Johnson QM zone to reasonably accommodate the proposed quarry in Issue No. 1, Parts III and IV above. We incorporate by reference herein that entire analysis. Based on the findings and conclusions in that analysis, we conclude that the Johnson QM Quarry cannot reasonably accommodate the proposed use.

As with our discussion of the Johnson QM zone above, for the purpose of our discussion of this standard relative to the Rippet Quarry (04-0007), we incorporate by reference our previous analysis of the Rippet Quarry as set forth in Issue No. 1, Part III above. We find that the amount of material available for extraction at this nonconforming site is less than a 2-years' demand for aggregate materials in the market area. We find that two residences are located within 300 to 400 feet of the property and that an additional two residences are located within 800 feet of the property. Extraction activities at this site have considerable negative impacts on residences located this close. We find that aggregate from this pit is part of the product mix of the Johnson operation and that the average price from the Johnson operation is $6.00 per cubic yard. We find this to greatly exceed the projected cost of aggregate to be produced at the proposed site. Differential between the two figures represents additional cost to the consumers of aggregate-based products in Clatsop County. We find several environmental problems which limit development at the Rippet Quarry. Overburden at the site is relatively deep and causes handling problems during aggregate extraction. We find that the high, near-vertical face of the quarry presents reclamation difficulties. The site is clearly visible from U.S. Highway 101 and Highway 26 and cannot be screened, because it is a prominent topographic feature. The material from this quarry is presently being transported across U.S. Highway 101 for processing at the Johnson QM Quarry. Because we find only a small

amount of aggregate is available at this site (250,000 cubic yards) and because of the high price of the aggregate produced from this site in the market area, we find the Rippet Quarry does not meet two necessary requirements for the proposed use (i.e., large quantity and low cost). In addition, because we find that the Rippet Quarry presents environmental problems (possible overburden problems, reclamation problems, visibility problems and adjacent residences), we find that environmental restrictions exist here which are not present at the Bayview site and which would increase production costs and present operation difficulties. We conclude that a lack of material, the high price of material, and increased environmental impacts prevent this site from reasonably accommodating the proposed use.

With respect to the Ordway and Darling Quarries, we specifically incorporate by reference our discussion under Issue No. 3 of Part III above. As set forth in that analysis, the Darling Quarry contains rock which produced marginal test results that indicate that the average production from the site will not consistently meet necessary contract specifications. In addition, we find that aggregate recently produced at the site was rejected by the State of Oregon, because it failed to meet specifications. In addition, the Darling site contains only 100,000 cubic yards of material which is less than a one-year supply for the market area demand. We find that the Ordway Quarry failed several rock quality tests which indicates that the average production from the site will not consistently meet necessary contract specifications. In addition, we find that the Ordway Quarry contains approximately 160,000 cubic yards of material available for extraction which represents at most a one-year supply based on the market area demand. The applicant has proposed a use which includes extraction and processing of high quality aggregate material for a 20-year period and must have rock which meets necessary contract specifications. Because of the limited amount of material available at the Darling and Ordway sites, and because of the marginal quality, or lack of quality, at the two sites, we conclude that the Darling Quarry and the Ordway Quarry cannot reasonably accommodate the proposed use.

The Forked Horn Quarry is located on approximately four acres in an F-80 zone, 13 miles from the Cannon Beach junction. It is visible from Highway 26, and it contains a limited quantity of rock, approximately 100,000 cubic yards. The available quantity of rock at the Forked Horn Quarry is less than a one-year supply based on the demand in the market area and is significantly less than the amount of material needed to support the proposed use. In addition, the distance

of the Forked Horn Quarry from the market area adds a significant amount to the cost of the aggregate to be produced at that area if transported to the market area. We find that any material produced at that quarry and transported to the market area will add significant cost to the delivered product (approximately $2.60 to $3.50 per cubic yard), and we find that the Bayview site does not present this increased cost if it is located at the proposed site. Because we find that the Forked Horn Quarry does not contain sufficient material to support the proposed use and because of the increase in price due to this quarry's location outside the market area, we conclude that the Forked Horn Quarry cannot reasonably accommodate the proposed use.

The Bear Cat Quarry is approximately one acre in size and is located in an F-80 zone directly adjacent to U.S. Highway 26. Residences are located within 200 feet of the site. It is six miles distant from the Cannon Beach junction and contains a limited quantity of rock estimated to be approximately 148,000 cubic yards. Consistent with our analysis above, we find that the limited quantity of rock available at this quarry will not support the long-term use proposed by the applicant. In addition, we find that the proximity of this pit and its orientation toward nearby residences does not allow for adequate barriers to reduce sound from extraction equipment. Because of its physical location, the Bear Cat Pit will exceed existing DEQ standards for the nearby residences if extraction is allowed at the site. Because we find that the limited quantity of rock available at the Bear Cat Pit does not provide for a long-term use and because extraction operations at the site are not likely to meet DEQ noise standards due to the close proximity of residences, we conclude that this site cannot reasonably accommodate the proposed use.

The McEwen Clay Borrow Pit is less than one acre in size and is located in an F-80 zone directly adjacent to U.S. Highway 101. It is located in a scenic highway corridor and is approximately 900 feet from the closest residence. No commercial quality of rock is available at this site. We find that the applicant has proposed a long-term extraction use which requires quality rock which will meet State Highway Specifications. The McEwen Pit does not have this kind of rock. Accordingly, we conclude that the McEwen Clay Borrow Pit cannot reasonably accommodate the proposed use.

It has been the suggestion by the opponents in this matter that the cumulative amount of aggregate available in the market area is sufficient to meet the County's needs and that a

new production site is not warranted. We find that the annual demand in the market area to be served by the proposed quarry is between 161,000 to 250,000 cubic yards per year. We find that the amount of aggregate available at all the sites analyzed under this standard totals 578,000 cubic yards. The figure does not include any additional material that could be produced at additional expense at the Johnson QM zone by digging below the floor of the existing quarry. We find that the additional expense associated with extracting that material makes this prohibitively expensive. The figure also does not include any material that might be available at the Seaside QM Quarry. We find that the negative factors present at that site are so overwhelming that no aggregate mining use shall be allowed at the site. The total amount of aggregate actually available for extraction at these sites represents less than a 2-1/2 to 4-years' supply based on the market area demand. This does not present the sufficient long term supply the County needs of an essential construction material. In addition, the applicant has proposed a central processing area where it may establish its operations and conduct sales to the public. If the applicant were forced to exhaust each of the various sites, it would be forced to change its location approximately once a year and would lose the advantage of a long-term centralized location. In addition, locations, such as the Forked Horn Quarry, would involve considerable expense for transportation of aggregate to the market area. Also, an extraction operation could not take place at the Bear Cat Quarry, because it would not be able to meet DEQ standards. Even if the material available in the exception areas (Rippet Quarry, approximately 250,000 cubic yards; Stevens River Rock Borrow Pit, 45,000 cubic yards; and Johnson F-80, 300,000 cubic yards) were added to the cummulative total, the amount of material available for extraction in the market area would only total 1,173,000 cubic yards. This provides less than a 5 to 8-year supply based on the market area demand. This is not a long term supply that is needed by the County for the strategic material in the future. The addition of these three pits also entails other difficulties which make it impractical to consider them cumulative. First, the Stevens River Pit has ground water near the surface and would not involve the same type of extraction that the applicant has proposed. In addition, to obtain the long-term quantities, the applicant would be forced to move its operations three additional times during a 5 to 8-year period. In addition, relying on existing sources would do nothing to address the sole source supply problem presented by the Johnson Quarry. The County roadmaster has indicated that at times the County has been unable to get rock from Johnson and that increased competition would be good for the county. Finally, with ownership of each of the cumulative quarries held by different

people, there is no guarantee that the applicant would be able to obtain the necessary quantity and quality or be able to locate his equipment at the various quarries. In fact, the record demonstrates that it costs the applicant additional money to locate his equipment at the Johnson operation under certain circumstances. The record also indicates that there is insufficient room at the Darling Quarry for a centralized operation. We find that all these negative factors make it unreasonable for the County to demand that the applicant obtain its rock from a series of different extraction areas over the next five to eight years. Accordingly, we conclude that the available alternative sites, considered cumulatively, cannot reasonably accommodate the proposed use.

In the event that any of the areas that we have determined should be analyzed under the "significantly more adverse" standards would be deemed to fall under the "reasonably accommodate" standard, we make the following findings. With regard to any expansion of the Rippet Quarry, we incorporate our analysis under Issues Nos. 1, 5 and 6 above. For our limited analysis discussion here, we find that it is sufficient to point to a single factor at the Rippet Quarry which prevents it from reasonably accommodating the proposed use. As is set forth in our analysis above, rock from the Rippet Quarry is part of the raw material mix which goes into the Johnson crushed aggregate product which is priced at approximately $6.00 per cubic yard. This price is considerably more than the projected $4.30/$4.45 per cubic yard cost for crushed aggregate that will be produced at the Bayview Quarry. We also find that in certain situations, Johnson's pricing policies for aggregate to be incorporated into bonded government jobs create price contingencies of up to $1.00 per cubic yard which prevent applicant from getting projects that are available in the market area. We find these two differentials to have an economic effect on the final price it is paid by the consumer in Clatsop County for products that incorporate aggregate materials. Any expansion in the Rippet Quarry is part of the Johnson operation which produces aggregate that is priced substantially higher than the cost of material produced at the Bayview Quarry. We find that it is unreasonable to prevent competition, given the potential benefits to consumers in Clatsop County, and we conclude that any expansion of the Rippet Quarry cannot reasonably accommodate the proposed use.

The Johnson F-80 site (no DOGAMI permit) is previously discussed in our analysis under Issue No. 1 in Part III above.

We incorporate that analysis herein by reference. Consistent with that analysis, we conclude that the high price of the rock produced at this quarry and the low quantity of rock available for extractions prevent this site from reasonably accommodating the proposed use.

The Stevens River Rock Borrow Pit (04-0049) is located in a lake and wetland zone. A large portion of this site is identified significant wetlands in the County Goal 5 resource inventory. Ground water is encountered at approximately 3 to 5 feet below the surface of the ground at this site. Several residences and commercial establishments are located within 150 feet of the site. The site has approximately 45,000 cubic yards of material available for extraction. We find that rock extraction is incompatible with wetlands which are identified as significant wetlands in the County Goal 5 County-wide Element. We further find that the use proposed by the applicant is a long-term, high-volume aggregate use which could not be met by the limited quantity of material that is available for extraction at this site. We further find that rock extraction should not occur in areas that are indentified as significant wetlands in the County Goal 5 resource inventory. For these reasons, we conclude that the Stevens River Rock Borrow Pit cannot reasonably accommodate the proposed use.

We find that the Silver Point Quarry is approximately 1 acre in size and has approximately 100,000 cubic yards available for extraction. We find that the Silver Point Quarry presents significant danger of landslide damage in the surrounding area. We find that the amount of material available at the Silver Point Quarry is less than a 1-year's supply based on the market area demand. The Cavenham Pit Run, Cavenham Highway 101 and Halvorsen Quarry are extremely small (less than 1 acre or not visible in aerial photographs) and have no commercial quality of rock available. Because there is no commercial quality of rock available at the Cavenham Pit Run, Cavenham Highway 101 and Halvorsen Pits which meets the necessary quality specifications and because the Silver Point Quarry has a limited quantity available and has significant landslide dangers, we find that these sites cannot reasonably accommodate the proposed use.

As all the areas which do not require a new exception cannot reasonably accommodate the proposed use, we conclude that this standard has been met.

Standard No. 2.

OAR 660-04-020.

"(2) The four factors in Goal 2 Part II(c) required to be addressed when taking an exception to a Goal are:

* * *

"(b) 'Areas Which Do Not Require a New Exception Cannot Reasonably Accommodate the Use':

"(A) The exception shall indicate on a map or otherwise describe the location of possible alternative areas considered for the use, which do not require a new exception. The area for which the exception is taken shall be identified."

We find, consistent with our discussion in Parts I-V herein, that possible alternative areas which might conceivably accommodate the use have been located, described, and indicated on a map which is part of the hearings record and is made a part of these findings as Exhibit A. We also find that the area from which exception is taken has been similarly identified. Accordingly, we find that this Standard has been met.

Standard No. 3.

OAR 660-04-020(2)(b)(B).

"(B) To show why the particular site is justified, it is necessary to discuss why other areas which do not require a new exception cannot reasonably accommodate the proposed use. Economic factors can be considered along with other relevant factors in determining that the use cannot reasonably be accommodated in other areas. Under the alternative factor the following questions shall be addressed:

"(i) Can the proposed use be reasonably accommodated on nonresource land that would not require an exception, including increasing the density of uses on nonresource land? If not, why not?"

We find that the only proposed alternative sites that are located on nonresource land are Stevens River Rock Borrow

Pit (04-0049, L&W zone), the Johnson QM zone (04-0011, QM zone), and the Seaside Reservoir QM zone (no DOGAMI permit, QM zone). We find that all the other proposed sites are located in F-80 or AF-20 zones and, therefore, are located on resource land. In our analysis under Standard No. 1 above, we concluded that none of the three sites specifically listed above could reasonably accommodate the proposed use. We incorporate the analysis of Standard No. 1 by reference herein and reaffirm our conclusion that none of these sites can reasonably accommodate the proposed use.

The three sites listed above constitute the only nonresource land identified in this hearing where aggregate resources might exist. Increasing the density of the uses on this nonresource land is not a logical exercise, given the fact that aggregate extraction is a consumptive use of the nonresource land. The extraction of aggregate actually consumes the land on which it is located. It does not make sense to attempt to increase the density of uses on the parcel of land that will be consumed as a result of the use activity. In addition, aggregate extraction cannot occur without proper regard for reclamation of this site or without regard to physical limitations of the extraction operation, including the necessity of blasting. Increasing the density of aggregate use would create problems with physical operation of a quarry and reclamation. It has been suggested by the opponents of the proposed site that the life of the Johnson QM zone could be extended by extracting beneath the existing quarry floor. In the event that this would be deemed to be an increase of the density uses on the Johnson QM site, we find that it is impracticable. The size of the property would restrict the below-grade extraction to a very small surface area, and no more than 145,000 cubic yards of additional material would be available. Limited area at the site available for extraction would limit the width and the height of face for blasting. Increased costs due to physical restraints of the size of the area and the blasting required will increase the cost of the material produced by approximately $1.00 per cubic yard. Material produced at this site is already priced at $1.55-$1.70 more than the proposed cost of material at the Bayview site. We find that one of the primary reasons for developing the Bayview Quarry is to make aggregate material available at a lower cost in the market area. This reason is defeated by attempting to extract beneath the floor of the Johnson QM Quarry. Because of the inherent impossibility of increasing the density of consumptive uses and because of the increased costs associated with

extracting below established quarry floors, we conclude that the proposed use cannot be reasonably accommodated by attempts at increasing the density of the uses on nonresource land. We find that the appropriate definition of "resource land" is found in OAR 660-040-005(2). For the purposes of this decision, we find that resource land includes only forest and agricultural lands. However, QM and LW zones are described as "resource zones" at pages 29a and 52 of LWDUO. In the event the classifications in the zoning ordinance would be deemed to supersede the statutory classifications in OAR 660-040-005(2), this standard would not apply because all the potential alternative sites would be located on resource land.

Standard No. 4.

OAR 660-04-020(2)(b)(B).

"(B) To show why the particular site is justified, it is necessary to discuss why other areas which do not require a new exception cannot reasonably accommodate the proposed use. Economic factors can be considered along with other relevant factors in determining that the use cannot reasonably be accommodated in other areas. Under the alternative factor the following questions shall be addressed:

* * *

"(ii) Can the proposed use be reasonably accommodated on resource land that is already irrevocably committed to nonresource uses, not allowed by the applicable Goal, including resource land in existing rural centers, or by increasing the density of uses on committed lands? If not, why not?"

We find that land is irrevocably committed to nonresource use when uses not allowed by the applicable goal (in this case Goal 4) make uses allowed by the applicable goal impracticable. We find that we must examine the characteristics of the potential nonexception area in relationship to the characteristics of the adjacent lands to determine whether the physical improvements in the area make the resource land unsuitable for its resource use. We limit this discussion to the existing Rippet Quarry (04-0007), because all the other potential nonexception alternative sites are either located on nonresource land (Johnson QM Zone; Seaside Reservoir QM Zone;

Stevens River Rock Borrow Pit) or lack the necessary quality and/or quantity of materials to serve as a logical choice for the proposed use. (The existing portions of Ordway; Darling; Forked Horn; McEwen and Bear Cat, see analysis in Parts III and IV above). We incorporate our analysis under Standard No. 1 above, and our analysis in Part III, in support of this conclusion. We find that alternative sites which lack DOGAMI permits or have been closed by DOGAMI (Silver Point, Johnson F-80, Cavenham Highway 101, Cavenham Pit Run, Halvorsen and Stevens River Rock Borrow Pit) need not be analyzed because an exception is required for their use. In any event, these sites lack the necessary quality and/or quantity to reasonably accommodate the proposed use. We incorporate our analysis in Parts III and IV above in support of these conclusions.

Our review of the site description of the Rippet Quarry indicates that it is adjoined by timbered slopes. Review of aerial photographs submitted as exhibits in this matter shows that the Rippet Quarry is surrounded to the west by forest uses. The aerial photographs indicate that some tree removal activity has taken place on the site, but that the disturbed surface area is easily ascertainable and is surrounded by existing stands of trees. To the west of the Rippet Quarry are uninterrupted forest lands. The size of the disturbed surface area is small in comparison with the surrounding forest covered lands. Furthermore, there are no man-made features (such as highway or structures) that distinctly separate the Rippet Quarry from the adjacent resource land. We conclude that it is not impracticable for forest uses to continue around the Rippet Quarry and conclude that the adjoining resource land is not irrevocably committed to nonresource use. We find that no potential aggregate resource has been identified on land which is designated a Rural Center. As discussed under Standard No. 3 above, increasing the density of uses is not a concept that readily can be applied to a consumptive use, such as aggregate extraction. We conclude that increasing the density of uses is not an option for consumptive uses, such as aggregate extraction. Accordingly, we conclude that this standard is met. As discussed in Standard No. 3 above, we find that the appropriate definition of "resource land" is found in OAR 660-040-005(2). For the purposes of this decision, resource land includes only forest and agricultural lands. However, QM and LW zones are described as "resource zone" at pages 29a and 52 of LWDUO. In the event the classifications in the zoning ordinance would be deemed to apply under this standard, we find that our conclusions would not be changed. As discussed in Part III above and Standard No. 1 of Part IV

above, we find that Seaside Reservoir QM zone, the Johnson QM zone and the Stevens River Rock Borrow Pit cannot reasonably accommodate the proposed use. Accordingly, this standard is met under either definition of resource land.

Standard No. 5.

OAR 660-04-020(2)(b)(B).

"(B) To show why the particular site is justified, it is necessary to discuss why other areas which do not require a new exception cannot reasonably accommodate the proposed use. Economic factors can be considered along with other relevant factors in determining that the use cannot reasonably be accommodated in other areas. Under the alternative factor the following questions shall be addressed:

* * *

"(iii) Can the proposed use be reasonably accommodated inside an urban growth boundary? If not, why not?"

None of the 14 potential alternative sites are located inside an urban growth boundary. The Stevens River Rock Borrow Pit is located adjacent to, but outside of, the Seaside urban growth boundary. We conclude that no sites have been identified inside an urban growth boundary and that this Standard is not applicable.

Standard No. 6.

"The long-term environmental, economic, social and energy consequences resulting from the use at the proposed site, with measures designed to reduce adverse impacts, are not significantly more adverse than would typically result from the same proposal being located in areas requiring a Goal exception rather than the proposed site; ORS 197.732(1)(c)(C); OAR 660-04-020(1)(c)."

As set forth under Issues Nos. 5 and 6, Part III of these findings, we find that the characteristics of the alternative sites are fully described in the record, and the characteristics of the 14 sites, which have been identified as potential alternative locations for the proposed use, as well as the Bayview site, are summarized in Exhibits D and E, which we have adopted as part of our findings. We find that

these summaries accurately describe the characteristics of each site. We also find that the locations of these sites are shown on Exhibit A which we have made part of these findings. We incorporate by reference herein the materials contained in the summaries and the map. Under Issue Nos. 5 and 6, we discussed the characteristics, advantages and disadvantages of the Cavenham 101 Borrow Pit (04-0028), the Cavenham Pit Run Borrow Pit (04-0036), the McEwen Clay Borrow Pit (04-0046), the Stevens River Rock Borrow Pit (04-0049), and the Halvorsen Clay Borrow Pit (04-0032). Our analysis of findings and conclusions relative to these 5 sites is incorporated herein by reference and will not be repeated. Under Issues Nos. 5 and 6, Part III above, we also analyzed the characteristics and impacts of the Rippet Quarry and the Johnson F-80 site as compared to the proposed Bayview site. That analysis is incorporated herein by reference and will not be repeated.

Typical Advantages and Disadvantages of an Alternative Site.

All the 14 alternative sites which have been identified during this proceeding are typically located in an F-80 forestry zone. Only the Seaside QM Reservoir, Johnson QM Quarry, Ordway and Stevens River Rock Pit have different zoning (QM, AF-20 or L&W). The typical quality of rock from the 14 alternative sites varies greatly. Many of the sites have no commercial quality of rock which is available for extraction. Other sites which were tested had marginal or nonpassing results in critical indicator tests. The Bayview site contains rock which meets the necessary State of Oregon specification, and it is assumed that the Rippet, Johnson QM, Johnson F-80 and Forked Horn Quarries also provide State specification rock. The typical quantity available at the alternative sites is small. Many of the sites have less than 1 acre of extraction area available. Several of the mid-range sites present quantities of rock which range from 100,000 cubic yards to 160,000 cubic yards. The Johnson F-80 and Rippet Quarries contain between 240,000 and 300,000 cubic yards. Some additional material may be available at the Rippet Quarry if expansion is allowed. Overburden at the sites varies widely. It ranges from a 10 to 15 foot depth at the Bayview Quarry to as much as 30 feet at other quarries. Storage and disposal area varies widely among the alternative sites. Several of the sites are so small that it is difficult to project the amount of area that might be available for storage. Other areas, such as the Darling Quarry, have a demonstrated lack of disposal and storage area. Still other areas, such as Bayview and the Johnson QM Quarries, have ample storage and disposal areas. Operational area varies in the same manner as storage and disposal area varies among the alternative sites. Water availability is not generally

uniform among all the sites. Some sites, such as Forked Horn or Ordway Quarries, have no water supply nearby. Other sites, such as the Johnson QM site, are located adjacent to large streams. Bayview is adjacent to a small stream which may provide water that will be supplemented by importation during periods of low flow. Drainage and sediment treatment facilities vary greatly among the alternative sites. Some sites, such as the Darling Quarry, have a demonstrated problem with drainage control and cause sedimentation in nearby water bodies. Other sites, such as Forked Horn and Ordway Quarries, are remote from water sources, and drainage and sedimentation problems are not apparent. Still other sites, such as Bayview and the Johnson QM Quarry, are located near water bodies but have implemented or proposed adequate drainage and sediment treatment facilities. Blasting is typically needed at sites which will produce high-quality rock. However, it is possible that the Bayview site may be developed without the need for blasting. Similar equipment would be required to operate all the sites, except the Stevens River Borrow Pit, and noise that would be typically generated during the extraction and crushing phases of aggregate production are similar at most of the sites. However, the location and orientation of the quarry area provides advantages at some sites and disadvantages at others. For example, the mouth of the Bayview Quarry is oriented away from nearby residences. Whereas, the mouths of the Rippet and Johnson QM Quarries are oriented toward nearby residences. With the exception of the Stevens River Rock Pit, the alternative sites are generally located as part of, or adjacent to, relatively steep slopes. Stability of these slopes varies widely. For example, the Silver Point site has extremely unstable geology, and the Rippet Pit has experienced substantial landslides in the last five years. Other quarries, such as the Johnson QM zone and the proposed Bayview site, demonstrate slope stability. Surface and stream erosion vary at the sites depending on the steepness of the slope, the presence of vegetation and the location of adjacent streams. The Darling Quarry is located directly adjacent to Circle Creek and has had problems with sedimentation due to surface and stream erosion in the past. At the other end of the spectrum, the Johnson Quarry and the Bayview site, while adjacent to nearby streams, are not presented with large problems in erosion. This surface erosion does not appear to be a large problem with the Johnson QM site, and steps have been taken at the Bayview site to prevent any erosion problems. Flood possibilities depend on nature and extent of adjacent water bodies. Typically, the smaller alternative pits have no nearby body of water. Other pits have streams which are located nearby, and the Johnson F-80 site has a Class I stream which flows directly through the property. Wetland areas have typically not been

identified at any of the alternative sites. Areas which support vegetation which might be found in wetland areas occur at the Bayview site. A condition is included in the Bayview approval to insure protection of any areas determined to be wetlands. Riparian vegetation is present only at those sites which are located near a body of water. The County Comprehensive Plan defines the extent of riparian vegetation which typically extends 50 feet from the high-water mark of an adjacent stream. Fisheries and wildlife considerations are present at most of the sites. Virtually all the sites are classified as elk habitat. Fishery values are a consideration at sites located near Class I streams. Typically, there have been no adverse impacts on fisheries by the operation of aggregate quarries. In the past, the Darling Quarry has had some siltation problems. The Bayview application has proposed significant measures which will prevent adverse impact on fishery resources. Economic advantages related to extraction on the alternative sites vary widely. Some sites are so small and contain poor quality of rock so that they cannot economically support an aggregate use. Other sites have larger quantities of rock but are unable to produce rock which meets necessary highway specifications. The sites associated with the Johnson operation are at a disadvantage due to the high priced charge for the material. The Bayview operation has a distinct advantage in that the cost of materials produced is significantly lower than is available at the present time in the market area. Similar technology will be needed to extract rock at all sites except the Stevens River Borrow Pit. The energy consequences generally associated with the extraction process are similar at all the sites. However, some of the sites such as Bear Cat, Silver Point and Forked Horn Quarries, are located more distant from the market area and would require greater amounts of energy to transport the raw materials to the market area.

We find that many of the alternative sites which have been suggested typically result in less favorable environmental, economic, social and energy consequences if the Bayview use were located at the site. For example, many of the small sites simply do not have the quantity or quality of rock necessary to sustain the proposed use. This creates a severe long-term economic consequence which would result from any attempted location of the proposed use at these sites. Other sites have inferior rock quality or insufficient rock quantity. Again, this creates a long-term economic disadvantage that is not present at the Bayview site. Many of the sites are clearly visible from adjoining highways or have residences nearby. The Bayview extraction area is located approximately 2,800 feet from the nearest residence and cannot be seen from highway. Any site which is located closer to nearby residences or a

highway will generally have long-term social consequences which are not present at the Bayview site. Typical long-term energy consequences of using any particular site are roughly the same in terms of the amount of energy needed to extract the raw material. However, certain pits are located at greater distances from the market area which provides greater energy consumption in the long term. The Bayview site is located in the market area and is no less strategically placed in terms of energy consequences than any of the other sites. Long-term environmental consequences vary with each of the sites. However, given the measures proposed by Bayview and the conditions imposed by the County, the long-term environmental consequences of the Bayview site are small. Other sites would have difficulty with visibility, sedimentation and timber destruction problems.

We find that the attached Exhibit D summarizes the typical long-term environmental, economic, social and energy consequences that are related with each of the alternative sites which require an exception. Our analysis of Exhibit D, consistent with our findings in Parts III and IV herein, lead us to the conclusion that the Bayview site with measures to reduce noise, protect fisheries and stream values, protect wetlands and prevent dust does not present long-term environmental, economic, social or energy consequences that are more significantly adverse than would typically result from the same proposal being located at any other identified site that requires a goal exception.

Economic Characteristics and Impacts.

The Darling Quarry contains rock which received marginal test reports on standard tests used to determine whether average quality of rock will meet necessary construction standards. In addition, the Oregon Department of Transportation, Highway Division, recently rejected a lot of rock produced at the Darling Quarry, because it did not meet specifications. The rock at the Ordway Quarry failed four test specifications. Rock from the Bayview Quarry received acceptable test results on several indicator tests, and we find that the rock meets the necessary specifications for widespread use. No test results are available from the Forked Horn Quarry, the Silver Point site or the Bear Cat Pit. Rock quality at the Johnson F-80 and Rippet Quarries (expansion) are assumed to meet specifications. The quantity of rock available at the Darling Quarry, the Forked Horn Quarry and the Silver Point Pit are each limited to approximately 100,000 cubic yards. Rock available at the Bear Cat Quarry for extraction is limited to approximately 148,000 cubic yards. Rock available for extraction at the

Ordway Quarry is limited to 160,000 cubic yards. The Johnson F-80 Quarry has only approximately 300,000 cubic yards available for extraction. The active portion of the Rippet Quarry contains approximately 244,000 cubic yards, and some additional material is available if the quarry receives approval to expand. By contrast, the Bayview Quarry has approximately 1.5 to 2.0 million cubic yards of material available for excavation. For aggregate uses, Bayview Quarry would be the most productive, and the alternative quarries, on their own, would not provide sufficient rock to meet the use proposed at the Bayview site, given County demand of approximately 161,000 to 250,000 cubic yards per year. As discussed under Part IV above, we have determined that it is impracticable to attempt to consider the quantities available in the alternative pits in a cummulative fashion. Because of the lack of rock available for extraction at these other quarries, we conclude that they cannot produce sufficient rock to sustain the proposed use and that attempting to locate the proposed use at these sites would entail significant negative economic consequences. The negative economic consequences are not present at the Bayview site, and we find no other negative consequences at the Bayview site. We conclude that the long-term economic consequences resulting from the use at the Bayview site are not significantly more adverse than the consequences which would typically result from the same proposal being located at any one of these five quarries.

Environmental Characteritics and Impacts.

The Bayview site has sufficient room for sedimentation ponds to control sediment runoff into adjacent streams. By contrast, the Darling Quarry has insufficient space for sediment ponds. Sediment ponds are not a consideration at the Ordway Quarry, the Forked Horn Quarry or the Silver Point Quarry, because they are located away from nearby streams. In addition, sediment ponds are not a consideration at the Bear Cat Quarry, because the Necanicum River lies across Highway 26 from the site. The Johnson F-80 Quarry and Rippet Quarry (expansion) also appear to have sufficient room to locate sediment ponds. The ponds at the Bayview site are designed to meet to 100 year storm event. We find this to be an objective standard that will allow us to assess compliance with the conditions imposed by these findings. As discussed in Part III above, the geology at the Bayview site is stable, and landslides are not a problem. With the exception of the Silver Point Quarry, where landslides present a danger to U.S. Highway 101 and nearby residences, and the Rippet Quarry (expansion) where a large slide occurred in 1984, landslides do not appear to be a problem at the other sites. The Bayview Quarry is located away from highways and cannot be seen from any major traffic artery

or any residences. All the other quarries can be clearly seen from either U.S. Highway 101 or State Highway 26. The Rippet Quarry in particular is an eyesore which is widely visible and cannot be screened because of the topography present at the site. In addition, the Rippet (expansion), Johnson F-80, Ordway, Silver Point and Bear Cat Quarries also can be seen by nearby residences. The extraction area at the Bayview Quarry has been recently clearcut and no marketable timber is present. By contrast, the Rippet (expansion), Johnson F-80, Darling, Ordway and Silver Point Quarries have timber surrounding the extraction sites. The Forked Horn and Bear Cat sites appear not to be heavily timbered. Whereas, interruptions of the timber-growing cycle is not a problem at the Bayview site, development of the Rippet (expansion), Johnson F-80, Darling, Ordway and Silver Point Quarries would require removal of trees approaching market size. The reclamation plan at the Bayview site will limit any long-term effect of removing land from the County resource base by returning the area back to forest uses after the aggregate is exhausted. Similar reclamation appears to be possible at each of the other sites, with the possible exception of Rippet (expansion), where high faces may make reclamation difficult. An area which contains vegetation that might be found in wetlands has been described at the Bayview site. This type of area has not been described at any of the other sites. However, a condition imposed by the County will require that all the activities at the Bayview site take place above any wetland areas. Square Creek is directly adjacent to the Bayview Quarry site. The Ordway, Silver Point and Forked Horn Quarries do not have a stream in the vicinity. The Necanicum River runs directly through the Johnson F-80 site, and Circle Creek runs directly adjacent to the Rippet (expansion) Quarry. Anadromous fish and cutthroat trout have been identified in the waters adjacent to these areas. Bayview has proposed sedimentation ponds to control any adverse effect on the stream or the fisheries values. This sedimentation control plan has been described by the Oregon Department of Fish and Wildlife as a good plan and is designed to contain a 100-year storm event. All areas, including the Bayview site, are located within elk habitat. No actions will be taken at the Bayview site, such as fencing, which will inhibit the passage or migration of elk through the area. In addition, Bayview has agreed to maintain riparian vegetation setbacks which will both help preserve stream and fish values and enhance elk habitat. After weighing these characteristics and impacts, we find that the Bayview site has significant advantages related to its lack of visibility, its stable geology and lack of timber on the extraction area. A potential disadvantage at

the Bayview site (areas which contain vegetation which might be found in wetlands) has been addressed and mitigated by a condition which is a part of these findings. Stream values, riparian vegetation an fisheries values near the Bayview site will be protected by conditions and setbacks. On the whole, we conclude that the long-term environmental consequences resulting from aggregate extraction use at the proposed site, with measures designed to reduce adverse impacts, are not significantly more adverse than would typically result from the same proposal being located in any of these other sites.

Social Characteristics and Impacts.

Only the Bayview site cannot be seen from adjacent highways. The Bayview, Darling and Forked Horn Quarries are the only sites that cannot be seen by nearby residences. The Ordway Quarry has two residences within 1,500 feet, the Silver Point Quarry can be seen from resort motels, and the Bear Cat Quarry has a residence within 200 feet. The Rippet (expansion) Quarry has residences within 300 feet, and the Johnson F-80 site has several residences within 1,000 feet. Bayview's distance from the nearby residences and highways presents a smaller social impact than is presented at the other quarries. Activity at the Bayview site will be well within the sound limitations imposed by DEQ. In addition, we find that Ecola State Park, which is approximately 11,880 feet south of the Bayview site, is separated from the site by a ridge which will block view and sound. Sound levels from both machinery and blasting at the park will be well below the standards set by DEQ. Bayview has agreed to limit its hours of operation to between 7:00 a.m. and 10:00 p.m. to reduce noise impacts. Other sites, such as Bear Cat, may not be able to meet DEQ standards. A blasting accident has occurred on or near the Johnson F-80 Quarry which placed fly rock on neighboring property. The orientation of the Bayview extraction area is away from nearby residences. Bayview has agreed to maintain all roads in a dust-free fashion, and the crusher proposed for use at the site has all necessary DEQ permits. Prevailing winds will normally take dust impacts away from residences, and Bayview will not operate during December and January when winds might bring dust toward nearby residences. We also find that the Bayview operation may create in-County jobs by reducing imports. Weighing the relative advantages and disadvantages that are presented by each of these sites, we find that the long-term social consequences resulting from aggregate extraction at the Bayview site do not present any particular problems that are significantly more adverse than would occur at other areas. Bayview has several advantages which are not found at other sites. Any potentially adverse problems at Bayview

(i.e., sedimentation) have been addressed with measures designed to reduce adverse impacts. We conclude that the long term consequences of locating the proposed use at Bayview are not significantly more adverse than would typically result in the same proposal being located at any of the other sites.

Energy Characteristics and Impacts.

The Bayview, Rippet (expansion), Johnson F-80, and Darling sites are very near the market area to be served by the proposed use. The Ordway Quarry is 3 miles distant, the Silver Point and Bear Cat Quarries are approximately 6 miles distant, and the Forked Horn Quarry is 13 miles distant. We find that the sites closer to the intended market area enjoy an energy benefit in that additional fuel need not be expended to transport aggregate material. The mechanical extraction of aggregate to be used at the Bayview site would be necessary at any of the other sites and the extraction methods used at any site would be similar to those used at the Bayview site. Weighing these characteristics, we conclude that the long-term energy consequences resulting from aggregate extraction at the Bayview site are not significantly more adversed than what typically result from the same proposal being located at the other sites.

Given the lack of mature trees on the Bayview site, the short-term ability of this site to produce marketable trees is less than other sites under consideration (with the exception of Forked Horn and Bear Cat where no trees are present). Only these two areas where trees are not present would be less productive than the Bayview site in terms of timber production in the short run. The Bayview site, like most of the other sites under consideration, is located in a forest (F-80 or Af-20) Zone. Each of the sites is generally surrounded by forest land. The Darling and Bear Cat Quarries directly adjoin major highways on one side. The Rippet (expansion) Quarry is bordered by a County road on the east, and the Johnson F-80 Quarry is bordered by lowland on the south side of the Necanicun River. Activities on any of the sites will not inhibit the ability to sustain forest resources on adjacent forest lands. We note that at the Bayview site, the proposed quarry layout creates an extraction area with a separate stockpiling area. This will enable forest uses to continue in the space between the two areas. This design feature will help to sustain forest resources near the proposed use. The long-term effect of removing various extraction areas from the timber resource base is not very significantly different between the sites. The reclamation plan at the Bayview site insures that upon the cessation of aggregate activities, the area will be

returned to forest uses. Similar reclamation could be obtained at any of the other sites with the possible exception of the Rippet (expansion) Quarry. We find that none of these sites has a particular advantage resulting from a smaller long-term effect on the forest resource base. We find that Geologist See indicates that the Bayview site will not effect the spring located on the Jensen property. In addition, we find that a condition in the Bayview approval will help preserve any wetland sites that might exist on the site. Bayview has agreed to maintain appropriate setbacks from adjacent Square Creek. We find that because of these factors, the Bayview site will not have any effect on water resources or the water table. Finally, as indicated in the statement of Mr. Perrigo, there will be no need for City services at the Bayview site. In the event the water imported to the site would come from the City of Seaside, we find that Seaside has existing supply lines near the Cannon Beach junction which could supply water, and no new capital construction would be required. Access to the site is gained by private road which will not be maintained at public expense. In addition, we find that access to U.S. Highway 101 is presently undergoing improvements and that no additional expense will be involved in providing access to the major transportation artery in the County.

Standard No. 7.

> "The proposed uses are compatible with other adjacent uses or will be so rendered through measures designed to reduce adverse impacts." ORS 197.732(1)(c)(D); OAR 660-04-020(2)(d).

The compatibility of the proposed use with adjacent forest and residential uses has been previously analyzed in the County's approval findings from the first hearing dated February 26, 1986 and in Issue No. 7, Part III above. Both analyses are incorporated by reference herein as though fully set forth. Given the findings and conclusions in those analyses, we conclude that this standard has been met.

Standard No. 8.

ORS 197 and OAR Chapter 660, Division 14 require consideration of Goal 5 resources. Resources must be inventoried, conflicting uses must be identified and a program to achieve the goal must be developed. These issues, with respect to the Bayview site, hve been analyzed under Issues Nos. 7 and 8 in Part III above. This analysis is incorporated herein by reference. Given the finding and conclusions in that analysis, we conclude this Standard has been met.

PART V: SUMMARY AND CONCLUSIONS

The County will gain significant economic advantage by allowing the proposed use to proceed. Not only will the proposed site be able to produce materials at a lower cost, but the extistence of an additional independent extraction operation will increase competition in the County and help to reduce the County dependence on imported aggregate supplies. We have examined 15 sites and concluded that the Bayview site presents the largest quantity of high-quality material in the market area which it will serve. The opponents argue that all the alternative sites should be exhausted before a new site is approved. In response, we note that simultaneous use of varied sites across the market area does not allow for business planning and control, nor does it make allowances for future County needs. We find that demand in the market area is 161,000 to 250,000 cubic yards per year and that the alternative sites will provide approximately a 5 to 8-year supply of aggregate. Over two years have passed since Bayview first applied for this land use approval. If it took an additional two years to establish a site for alternative supply, a significant portion of the available rock reserve in the County would be exhausted. Our Comprehensive Plan recognizes that good aggregate sites are rare in Clatsop County and should be developed where possible. Our review of the facts concerning the 15 sites indicates that some of the sites can produce aggregate, but that none of the sites offer the advantages presented by the Bayview site. As such, the Bayview site is a unique combination of quality and quantity of aggregate resource located on forest lands. The short-term extraction of the aggregate resource will displace timber production on the area, but because of the assurances of reclamation at the site, the present use of the site for aggregate extraction does not entail a permanent loss of forest land. By approving the Bayview site, the County is in a position to enjoy the economic benefits of the aggregate resource in the short-term while enjoying the return of long-term forestry use benefits after the reclamation. We also note that approval of the proposed quarry will lessen the County's dependence on the Johnson operation as the sole source for aggregate in the Cannon Beach - Warrenton market area. Certain pricing policies by Johnson have the effect of raising prices to the consumers in Clatsop County. Our own roadmaster is on record as favoring the proposed quarry to increase competition in the aggregate market in the County. We find that approval of this use will lessen the County's dependence on imported aggregate material. We also find and conclude that aggregate extraction is a consumptive use of resources that is necessarily accompanied by impacts, including noise. We find this site is

specially suited, considering the applicant's extraction plan, to reduce the noise impacts. The applicant's proposed use will provide a second source of a necessary commodity in the County. This commodity is not widely available in Clatsop County and is generally available only in forest zones. The commodity will be produced at a lower cost than is presently available in the County. The proposed use will be conducted in an environmentally sound manner that will return the land to forest production once extraction is terminated. The location of the site is away from scenic highways and heavily populated areas. The applicant has taken special steps to design its project so that DEQ noise levels will be met which will lessen or eliminate adverse impacts that might be experienced by neighbors. The applicant has taken special steps to eliminate any adverse impact on fish, wildlife and foresty uses. We conclude that the forgoing reasons justify why the State policy embodied in Goal 4 (to preserve forest lands for forest uses) should not apply to the proposed Bayview site. We find that we have addressed all the appropriate and relevant standards in these findings and that there are no others.

LIST OF EXHIBITS TO FINDINGS

A. Location of Alternative Aggregate Resource Sites (Exhibit 97 of the Record)

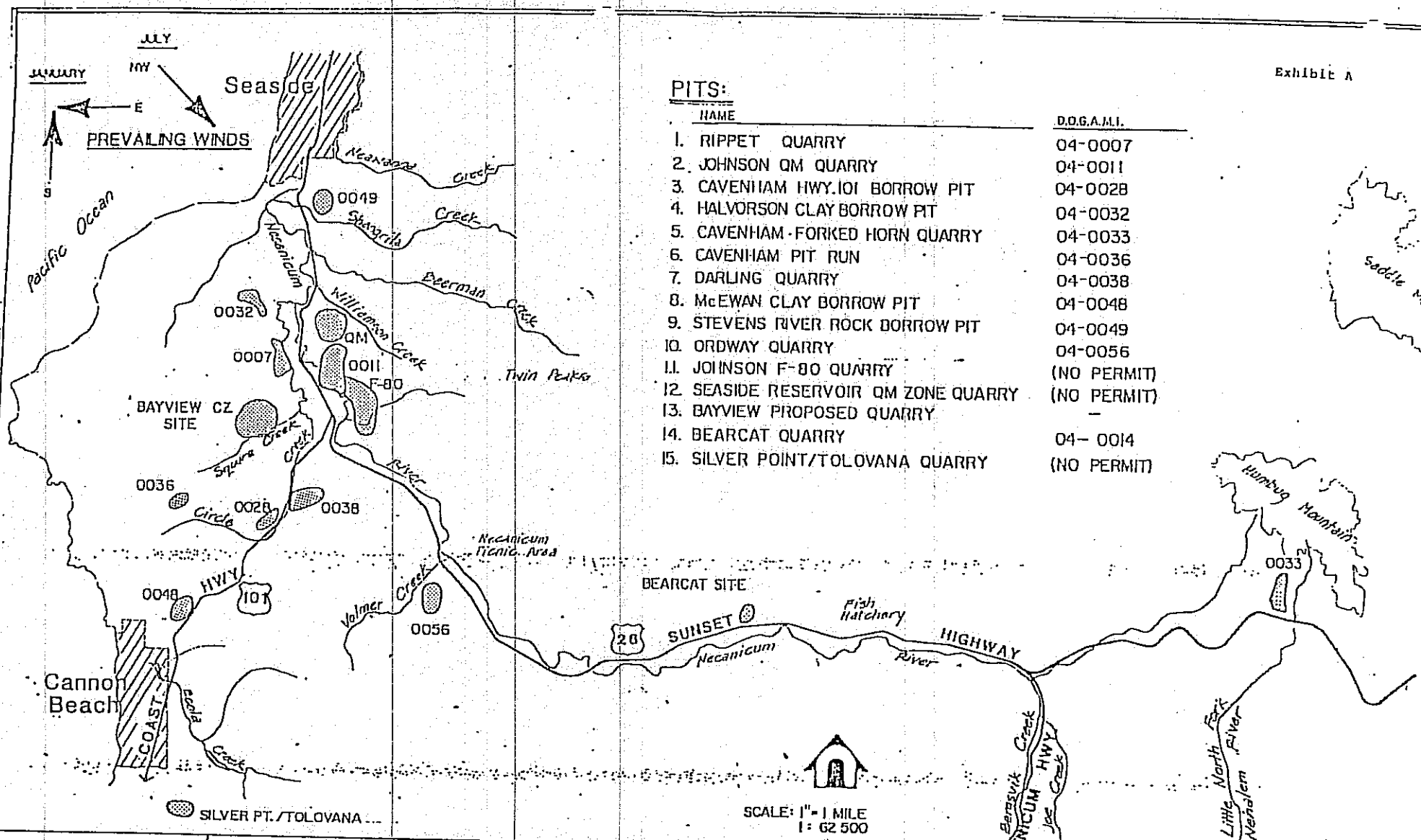
B. Bayview Staged Extraction (Page 2 of Exhibit 93 of the Record)

C. Conditions of Approval (Pp 98-99 of Exhibit 11 of the Record)

D. Summary of Characteristics and Impacts of Uses on Alternative Sites (Exhibit 4 to Exhibit 90 of the Record)

E. Fact Summary, Alternatives/Reasonably Accommodate (Exhibit 3 to Exhibit 90 of the Record)

Exhibit A

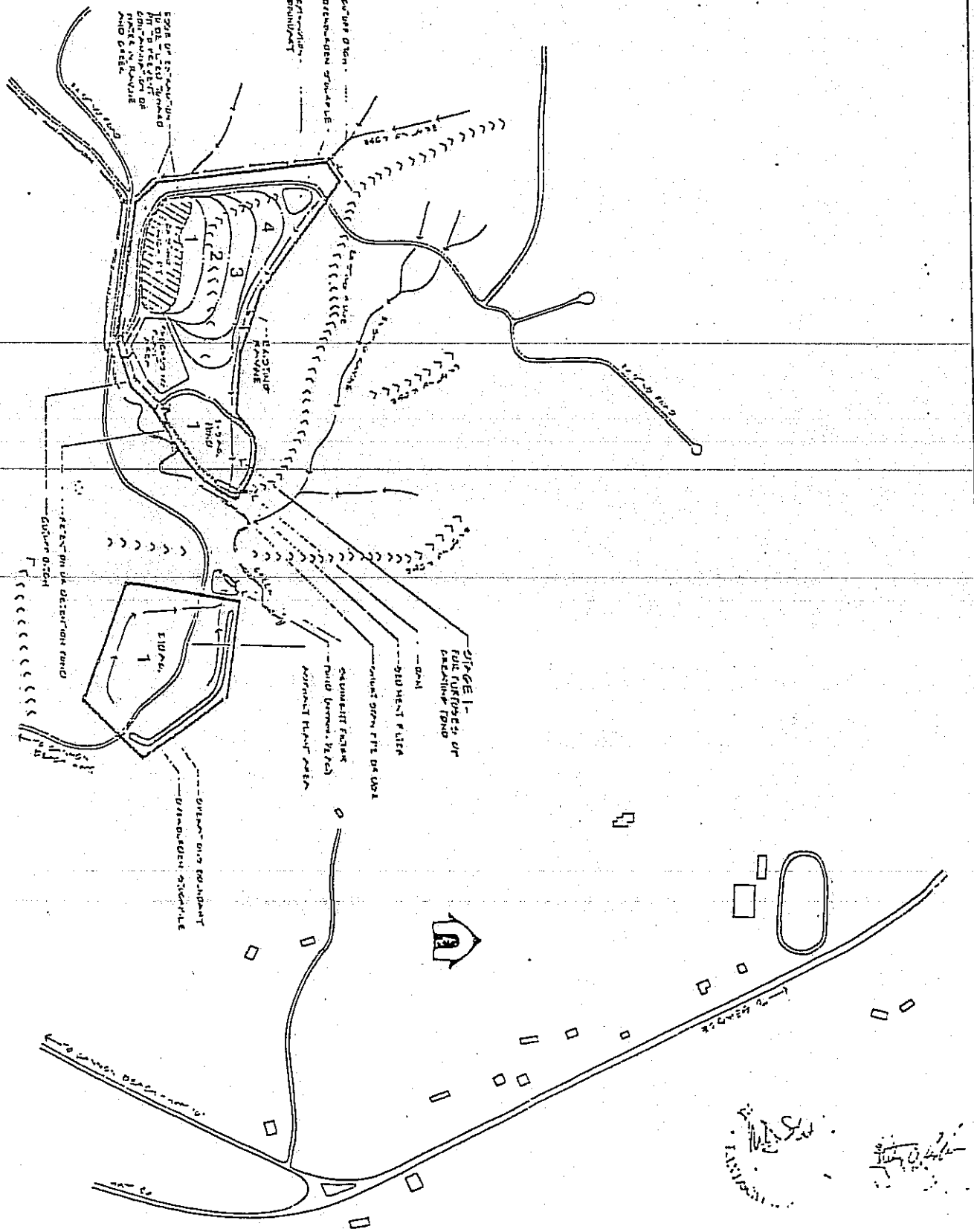


PITS:

NAME	D.O.G.A.M.I.
1. RIPPET QUARRY	04-0007
2. JOHNSON QM QUARRY	04-0011
3. CAVENHAM HWY.101 BORROW PIT	04-0028
4. HALVORSON CLAY BORROW PIT	04-0032
5. CAVENHAM - FORKED HORN QUARRY	04-0033
6. CAVENHAM PIT RUN	04-0036
7. DARLING QUARRY	04-0038
8. McEWAN CLAY BORROW PIT	04-0048
9. STEVENS RIVER ROCK BORROW PIT	04-0049
10. ORDWAY QUARRY	04-0056
11. JOHNSON F-80 QUARRY	(NO PERMIT)
12. SEASIDE RESERVOIR QM ZONE QUARRY	(NO PERMIT)
13. BAYVIEW PROPOSED QUARRY	—
14. BEARCAT QUARRY	04- 0014
15. SILVER POINT/TOLOVANA QUARRY	(NO PERMIT)

EXHIBIT 1

Location of Alternative Aggre[illegible]e Resource Sites



Staged Extraction Plan

BAYVIEW TRANSIT MIX, INC.

Seaside, Oregon

DAVID EVANS and ASSOCIATES, INC.

Exhibit B

Staff recommends the following conditions for approval:

1. Preventative measures shall be taken to assure that excessive noise, dust, vibrations, and other nuisances associated with mining activities are avoided. The applicant shall coordinate with the noise pollution control section of the Department of Environmental Quality to mitigate possible excessive noise emissions from rock extraction and sorting operations. Steps to lessen noise pollution impacts on nearby residential/commercial properties should include time of operations.

2. The proposed use will require protection of water quality in nearby Circle Creek and its tributary creeks. The applicant shall coordinate with the Oregon Department of Fish and Wildlife for proper drainage design from the pit so water turbidity levels are not increased in Circle Creek and Square Creek. Settling basins as well as an upland site to dispose of non-usable material shall be required if pit drainage is directed to Circle Creek.

3. Obtain a valid permit from the Oregon Department of Geology and Mineral Industries for the rock quarry operations and the stock pile site.

4. Rock crushing opeartion shall comply with Air Contaminate Discharge Permit issued by the State Department of Environmental Quality and Section 3.470 of Clatsop County Ordinance 80-14.

5. State and Federal Permits. Applicants for developments which require a state or federal permit shall submit to the Planning Director a copy of: the complete permit application, other surrounding material

6. All private access and service roads shall be maintained in a dust-free condition during intensive operations.

7. Prior to operations which will result in open excavation with a depth of ten feet or more and a slope steeper than one vertical foot to two horizontal feet and which is located within 100' of a residentially occupied structure, a fence shall be erected at least ten feet outside the edge of the excavation at least four feet in height, to control access to such excavation.

8. No mining or structural improvements shall occur within the riparian setbacks as specified in S4.502. In no case, however, shall the minimum setback from a waterway be less than 25'.

9. Clatsop County Department of Planning and Development shall be notified in advance by the applicant, lessee or purchaser of rock material of the location of any fill or riprap for which the rock or mined material will be used. This condition is limited to all areas identified in the Clatsop County Comprehensive Plan as an Esturaine Resource Coastal Shorelands, Beach and Dune areas and significant wetland areas. All permits required by local, state and federal agencies for fill or riprap must be approved prior to placement within one of the areas identified above.

10. Reclamation plans for surface mining opeartions must show that they are consistant with the Comprehensive Plan.

11. Provide boundary line surveys of the quarry and stock pile sites for purposes of defining the affected areas proposed to be re-zoned into the QM zone district.

12. Obtain a Clatsop County Land and Water Development and Use permit to validate that conditions 1,2,3,4,5,6,7,8,and 11 have been completed prior to rock extraction and stock pile operations.

13. Obtain a Clatsop County Land and Water Development and Use permit prior to placement of a concrete, ready-mix, or asphalt batching plant.

14. Obtain a Clatsop County Land and Water Development and Use permit for signs, offices, warehouses and maintenance buildings appropriate to uses permitted in the QM zone.

CONDITIONS OF APPROVAL

1. No barriers will be constructed to prevent wildlife migration, unless required by adjacent residential uses.

2. Extraction operations on the site will be limited to the hours of 7:00 a.m. through 10:00 p.m.

3. No extraction activities will occur during the months of December and January.

4. The toe of any development will be located according to regulatory approval to protect wetlands.

5. Rock drilling equipment no louder than 90 dBA [L(50)] will be used at the extraction site.

6. Minimum stream flow for Square Creek needs to be established by the Oregon Water Resources Department. Water in excess of the prescribed minimum streamflow developed by the Water Resources Department shall not be removed from Square Creek.

7. Extraction shall be in accordance with the staged extraction plan as submitted by applicant as printed by David Evans & Associates, Inc. on August 26,1987.

Exhibit D

Site Impacts / Site Number	Bayview	Rupert	Brown P-80	Dalton	Delay	Hamilton	Interurban	Overlook Highway 101	Overlook Pit Site	Pilot City Terrace	Reverse Rock Pit	Silver Bark	Swift
		04-0107	04-0107	04-0108	04-0106	04-0107	04-0103 (Closed by 11/1/94)	04-0108 (Closed by 11/1/94)	04-0108 (Closed by 11/1/94)	04-0107	04-0107 (Closed by 11/1/94)	04-0102	04-0102
Ownership	P-80	P-80	P-80	P-80	P-80	P-80	P-80	P-80	P-80	P-80	M-2/LM	P-80	P-80
Extraction Area Size	20 Acres	5 Acres	Approximately 6 Acres	3 Acres	3 Acres	6 Acres	Several small, not visible from nearby places	Less than 1 Acre	Less than 1 Acre	Less than 1 Acre	6 Acres	Approximately 1 acre	Approximately 1 acre
Present Extraction Activity	1 Acre	5 Acres	Approximately 1 Acre	3 Acres	3 Acres	6 Acres	None	None	None	None	None	None	None
Environmental Sensitive Resource Conditions	- No materials there at mining site - Rare for nearest park - Waste water [illegible] - [illegible] meet standards not	- Rare for nearest park	- Rare for nearest park - No [illegible]	- No residences nearby	- No schools nearby	- No wetlands nearby - No residences nearby	—	- No residences nearby - No schools nearby	- No residences nearby - No schools nearby	—	—	- No schools nearby	- No [illegible] at extraction site - Drives across Highway 4
Environmental Sensitive Conditions	- Drives nearby - Air [illegible] - Wildlife [illegible]	- Airport - [illegible] shops - Drives nearby - Air [illegible] - Residences within 300 feet	- Thermal slipes - Drives nearby - Air [illegible] - Wildlife from Highway 101	- Thermal slipes - Air [illegible] - Drives outside highway - Drives nearby - Drives are nearest parks	- Thermal slipes nearby - Air [illegible] - Wildlife from Highway 4 and residences	- Air [illegible] - Wildlife from Highway 4	- Air [illegible] - Residences nearby - Thermal area	- Air [illegible]	- Air [illegible]	- Air [illegible] - Thermal slipes nearby - Wildlife from Highway 101 access corridor - Residences nearby	- Near city limits - Near 4 wetlands area - [illegible] equipment [illegible] grated [illegible] 1 to 5 feet - Drives nearby, [illegible] on site - Residences and commercial buildings within 150 feet	- Under at extraction site - Airport - Wildlife from access corridor and nearest wetlands - Air [illegible]	- Airport to Highway 4 - Residences within 200 feet - Air [illegible]
Economic Sensitive Resource Conditions	- Near area - 1.5 to 2.0 million gallons per year per city - [illegible] - Close to market area - Internal competition in market area - Low road for haulers mark	- Near mix - Close to mix area	- Near mix - Close to mix area	- Close to mix area	—	- Mix seemed to meet spec	—	—	—	—	- Mix seemed to meet spec.	—	—
Economic Sensitive Conditions	- None	- No [illegible] of mix [illegible] - 20,000 miles yrs [illegible] with [illegible] - Potential time-[illegible] [illegible] for [illegible] - [illegible] [illegible] [illegible] - No [illegible] competitive - Market [illegible]	- [illegible] price - Limited quality 300,000 cubic yards - Majority on site	- Marginal mix quality - Limited quality 100,000 cubic yards - No [illegible] area	- Mix spec. mix - Limited quality 20,000 cubic yds - 3 mile closer - Site preparation costs (dirty access)	- [illegible] closer [illegible] - Limited quality 100,000 cubic yds	- Clay [illegible] mix quality - No access	- No [illegible] quality of mix - Highway design	- No [illegible] quality of mix - Extremely small size 1 acre	- No [illegible] quality of mix - Small size 1 acre	- Marginally near [illegible] - Extensive [illegible] - Limited quality 40,000 cubic yds.	- 6 miles closer - Limited quality [illegible] Highway 101 - Limited quality 100,000 cubic yds.	- 6 miles closer - Limited quality of mix
Social Sensitive Resource Conditions	- Recovery site by [illegible] [illegible] - No visible from highway - [illegible] weekends and at [illegible] [illegible] 200 feet - No visible from residences - Good Highway 101 access	—	—	- No residences nearby	—	- No residences nearby	—	- No residences nearby	- No residences nearby	—	—	—	—
Social Sensitive Conditions	- Nearest residence 200 feet - Hauling may be needed	- Safety hauling [illegible] highway - 7 houses within 300 feet - Nearest visible from 101 and 4 - Truck traffic [illegible] 101 - Lead are [illegible] [illegible] visible - Hauling necessary - 101 access on site	- Dry mix [illegible] - More 7 houses within 1,000 feet - Similar park and [illegible] within 1,000 feet - Visible from [illegible] and highway 101 - Lead are [illegible] visible - Hauling necessary - 101 access on site	- Visible from access highway - Near quality [illegible]	- 2 residences within 1,000 feet - Visible from highway 4 and residences	- Visible from highway 101 - Near [illegible] [illegible] back	- Residences nearby	- Visible from highway 101 in access corridor	—	- 1 residence 700 ft - 12 residences within 1,000 feet - Visible from highway 101 access corridor	- Drives, [illegible], [illegible] within 100 feet - Lower near city limits	- Visible from access highway - Visible from [illegible] site - [illegible] drives drives, [illegible] [illegible] access - Hauling nearby - Residences within 1,000 feet	- Residences within 200 feet - Directly adjacent to highway
Noise Sensitive Resource Conditions	- Close to market area - Optimal processing without transport	- Close to market	- Close to market - Optimal processing with transport	- Close to market	—	—	—	- Close to market	- Close to market	—	- Close to market	—	—
Noise Sensitive Conditions	- Hauling may be needed	- Internal [illegible] [illegible] 101 [illegible] processing - Hauling necessary - Extraction similar to proposed site	- Hauling necessary - Extraction similar to proposed site	- Extraction similar to proposed site	- Slightly further [illegible] - Site preparation and processing dirty mix	- Mix fuel used to [illegible] market - Extraction similar to proposed site	- Extraction similar to proposed site	- Extraction similar to proposed site	- Extraction similar to proposed site - 3 miles closer	- Extraction similar to proposed site - Hauling necessary	- Overburden may be necessary - Screening may be necessary	- 6 miles closer - Extraction similar to proposed site - Hauling necessary	- 7 miles closer - Extraction similar to proposed site - Hauling necessary
Water Table Impacts	- None	—	—	- Possible stream alteration	—	—	—	—	—	—	- Extraction requires groundwater contact	—	—
Measures Designed to Mitigate Impacts	- Always nearest park - Extraction [illegible] [illegible] mine - 50' setback from schools - Wildlife barrier - Noise [illegible] [illegible] between 3 [illegible] [illegible] - Extraction activity [illegible] to non-[illegible] areas	—	—	- Always nearest parks	—	—	—	—	—	—	—	—	—

Sources: Lowell, "Bayview Transit Mix Evaluation Report" (July, 1987) (including update)
David Evans & Assoc., "Compatibility Study, etc." (1987) (including update)
Lee, "Geological Assessment" (July 10, 1987) (including update)
Gamble, "Feasibility Bayview Transit Mix Quarry" (July, 1987) (including update)
Stanley, "Sound Analysis" (August, 1987)
Schlicker, "Geologic Reconnaissance" (August 6, 1987)
Redfern, "Investigation of Bayview Transit Mix Quarry" (August 11, 1987)
Dalton, "Noise Impact Analysis (August, 1987)

xhibit E

FACT SUMMARY

ALTERNATIVES/"REASONABLY ACCOMMODATE"

	Bayview	Johnson QM	Johnson Rippett (No Expansion)	Seaside Reservior QM Zone
OGAMI No.	Pending	04-0011	04.0007	None
ock Quality	OK	OK	OK	OK
ommercial Rock uantity Cubic yards)	1.5 to 2.0 Million	70,000* (215,000 w/below-level extraction)	250,000*	1 Million
ransportation (stock pile to annon Beach Jct.)	1.2 mi.	.75 mi.	1 mi.**	.75 mi. (if access allowed through Johnson)
verburden Depth	Minimal (10-15 ft)	Minimal (15-20 ft)	Possible problem	Problem 20-30 feet)
Reasonableness of Reclamation	OK	Difficult	Problem	-
Residence/Distance (in feet) from Crusher or Mining	1/2400	1/200 6/400 4/1000 Riverside Trailer Park/300	2/3-400 1/700 1/800	Riverside Trailer Park/350* 3/adjacent* 1/600*
Acreage Available	30	16.3	5	12.79
Present acres used	3	15+	5	None
Zoning	F-80	QM	F-80	QM
County permit	Pending	Authorized	Nonconforming use (no expansion)	No permit
Economics	Low cost $4.30	High price $6.00* Cost increase if below-level extraction occurs)	High price $6.00*	Overburden problem High price if developed by Johnson
Other Problem	DEQ noise levels met	1.5 to 1 slope difficult	High face 1.5 to 1 slope difficult	Landowner reluctance
		Blasting impacts	Cross 101 on curve eyesore/screening/ material is transported for processing	Sole water source Seaside Reservior* 2 water transmission pipes on site, Cannot meet DEQ noise*

* The main reasons for eliminating the pit
** If crushed at QM add .2 mi.
\- means information not available

Sources: mpi, "Bayview Transit Mix Evaluation Rep " (July, 1987) (including update)
vid Evans & Assoc., "Compatibility Stu tc," (1987) (including update)

Exhibit 3

ALTERNATIVES/"REASONABLY ACCOMMODATE"

	Bayview	Johnson QM	Johnson Rippet (No Expansion)	Seaside Reservior QM Zone
DOGAMI No.	Pending	04-0011	04-0007	None
Rock Quality	OK	OK	OK	OK
Commercial Rock Quantity (Cubic yards)	~~2.4~~ 2.5 Million	70,000* (215,000 w/below-level extraction)	250,000*	1 Million
Transportation (stock pile to Cannon Beach Jct.)	1.2 mi.	.75 mi.	1 mi.**	.75 mi. (if access allowed through Johnson)
Overburden Depth	Minimal (10-15 ft)	Minimal (15-20 ft)	Possible problem	Problem 20-30 feet)
Reasonableness of Reclamation	OK	Difficult	Problem	-
Residence/Distance (in feet) from Crusher or Mining	1/2400	1/200 6/400 4/1000 Riverside Trailer Park/300	2/3-400 1/700 1/800	Riverside Trailer Park/350* 3/adjacent* 1/600*
Acreage Available	30	16.3	5	12.79
Present acres used	3	15+	5	None
Zoning	F-80	QM	F-80	QM
County permit	Pending	Authorized	Nonconforming use (no expansion)	No permit
Economics	Low cost $4.30	High price $6.00* Cost increase if below-level extraction occurs)	High price $6.00*	Overburden problem High price if developed by Johnson
Other Problem	DEQ noise levels met	1.5 to 1 slope difficult	High face 1.5 to 1 slope difficult	Landowner reluctance
		Blasting impacts	Cross 101 on curve eyesore/screening/ material is trans-ported for processing	Sole water source Seaside Reservior* 2 water transmission pipes on site, Cannot meet DEQ noise*

* The main reasons for eliminating the pit
** If crushed at QM add .2 mi.
\- means information not available

Sources: Lampi, "Bayview Transit Mix Evaluation Report" (July, 1987) (including update)
David Evans & Assoc., "Compatibility Study, etc," (1987) (including update)
See, "Geological Assessment" (July 10, 1987) (including update)
Gamble, "Feasibility Bayview Transit Mix Quary" (July, 1987) (including update)
Standlee, "Sound Analysis" (August, 1987)

EXHIBIT "A"

Part 1. Resolution (88-3-3) Planning Commission Decision

Delete reference to Tax lot 100 as part of the Comprehensive Plan/Zone Change and Exception. It was withdrawn by the applicants at the February 16, 1988 Planning Commission meeting.

88-3-3

IN THE PLANNING COMMISSION

OF CLATSOP COUNTY, OREGON

IN THE MATTER OF PETITION NO. _____ FOR AMENDMENT OF THE ZONING MAP (CHANGE IN ZONE) OF CLATSOP COUNTY BY H.F. Johnson & Sons, Granting THE APPLICATION AND ADOPTING CERTAIN FINDINGS	)	RESOLUTION RECORDING DATE: MAR 9 1988

THE ABOVE ENTITLED MATTER having come on regularly before the Planning Commission at its meeting(s) of February 16, and March 8, 1988 ; and

IT APPEARING to the Planning Commission that the above named petitioner applied to the Planning Comission of Clatsop County for an amendment to the zoning maps of Clatsop County (change in zone) on certain real property described in Exhibit "A", attached hereto and by this reference made a part hereof, pursuant to Article 5, Section 5.400, of the Clatsop County Land and Water Development and Use Ordinance #80-14, which said petition is now before the Planning Commission for public hearing and final order; and

IT APPEARING to the Planning Commission from the testimony, reports, and information produced by the petitioner, interested parties, the Planning Director and the Department of Planning and Development staff, that said petition should be (granted); and

IT APPEARING to the Planning Commission that the findings of the (Planning Commission) (and) (Department of Planning and Development) should be adopted as the basis for the Planning Commission's decision, and the Planning Commission being fully advised in the premises; it is, therefore

RESOLVED that the petition to which reference was hereinabove made is (granted) and the findings of the (Planning Commission) (and) (Department of Planning and Development) as described in Exhibit "B", attached hereto and by this reference made a part hereof, are adopted; and it is further

RESOLVED that the County Clerk, be, and hereby is, directed to enter the appropriate notation on the official zoning maps of Clatsop County, showing that the property subject to this zone change (if approved), Exhibit "A", attached hereto, has been changed in zone from RA-5 and F-80 to QM (Quarry & Mining), according to the Land and Water Development and Use Ordinance #80-14 of Clatsop County and the rules and regulations of this Commission.

DATED this 9th day of March, 19 88.

PLANNING COMMISSION
FOR CLATSOP COUNTY, OREGON

BY Raymond Pittel
Chairman

BY Curtis Schneider
Secretary

EXCEPTION STATEMENT FOR JOHNSON QUARRY,
TOWNSHIP 5 NORTH, RANGE 10 WEST, SECTION 4 W.M.
TAX LOTS ~~100~~, 101 AND 301

A. Introduction.

This document sets forth the exception for property owned by Howard E. Johnson & Sons, Inc. ("Johnson") located in T5N, R10W, Sec. 4, W.M., Tax Lots 101 and 301. This property is immediately adjacent to Tax Lot 200, which is one of the five sites originally zoned QM (Quarry and Mining) by Clatsop County. This exception is taken pursuant to action by the county to provide one unified document addressing all QM-zoned sites within the county. That document includes exceptions for the five original QM-zoned sites, the Bayview site, and this site. This exception redefines the boundaries of the Johnson site to be consistent with the Johnson ownership, excepting one 12.44 area (Tax Lot 100), which will remain zoned RA-5. When the county originally zoned a portion of the Johnson site for Quarry and Mining, it had then intended to include all of the Johnson ownership, but by a mistake a portion of that ownership was excluded. As a result, the county must now take an exception pursuant to Goal 2, Part II and ORS 197.732(1)(c) and also show compliance with other applicable LCDC goals and Clatsop County Comprehensive Plan provisions.

B. Nature of Action.

This Statement supports legislative action by Clatsop County to establish a unified document containing all sites zoned QM within the county. That action consists of the

following steps:

1. Adoption of a built/committed exception for the five original QM-zoned sites.

2. Incorporation of the reasons exception for the Bayview Transit Mix site.

3. Adoption of a reasons exception redefining and expanding the boundaries of the Howard E. Johnson & Sons site to include other portions of the Johnson ownership as was originally intended by the county.

The redefinition and expansion of the boundaries of the Johnson QM site was ordered by the Clatsop County Planning Commission as part of a larger legislative action to unify the exceptions document for sites zoned QM.

C. Site Description and Background.

The Johnson site is located on the east side of U.S. Highway 101, approximately 0.75 miles north of the intersection of U.S. 101 with the Sunset Highway (Highway 26). The poJohnson site consists of four parcels:

1. Tax Lot 301, 10.45 acres, zoned F-80.

2. Tax Lot 200, 16.30 acres, zoned QM.

3. Tax Lot 101, 2.06 acres, zoned RA-5.

4. Tax Lot 100, 12.44 acres, zoned RA-5.

Tax Lot 301 is designated Conservation Forest Lands. Tax Lots 100 and 101 are designated Rural Lands. This exception provides the support for the redesignation of these lands to Conservation Other Resources and the rezoning of these lands to

Quarry and Mining.

Aggregate mining operations have been ongoing at the Johnson site for over 20 years, principally on Tax Lot 200. The site provides one of the primary sources of aggregate to the western portion of Clatsop County. Geologic studies and test drillings indicate that the primary basalt deposit continues to the south and east of the present mine. In the early 1980's, the Johnsons acquired the adjacent 10.45 acres (Tax Lot 301) to allow a continuation of their mining operation.

Clatsop County was completing its inventories required under the statewide planning goals during the time the Johnsons acquired Tax Lot 301. The Johnson quarry was identified in those inventories as an aggregate mine to be protected under the county's QM zone. It was intended that all of the Johnson property be protected by QM zoning, but as final zoning maps were later prepared, the QM zone was applied only to Tax Lot 200. It was not until Bayview Transit Mix, Inc. ("Bayview") submitted its application for a plan amendment and zone change that this oversight was discovered.

D. Reasons Necessary to Justify Exception to Goal 4.

1. Introduction.

The Johnson F-80 property (Tax Lot 301) is forest land designated for forest use. A recent amendment to LCDC's rule governing forest lands would allow aggregate mining activities to occur on this site without the need to take an exception to Goal 4. This exception is taken because the

validity of the amendment to the rule remains in doubt.

It is anticipated that the majority of future mining operations at the Johnson site will occur on the F-80 property. Future mining will move easterly from the present QM site onto the F-80 property, with the quarry floor remaining at approximately 45 feet mean sea level. Only after both the present QM and the F-80 properties are fully mined is the operation likely to begin extraction below the present quarry floor.

The Johnson RA-5 property (Tax Lots ~~100 and~~ 101) is rural land for which a built and committed exception previously was taken in 1983. Use of this site for mining became nonconforming in 1966, when the site was zoned R-A (Residential-Agricultural). The site is utilized for purposes related to the Johnson operation and is committed to such use. Notwithstanding that fact, the county will take a reasons exception for that site as well.

It is anticipated that the RA-5 site will be used primarily for maintenance and support facilities and stockpiling of overburden materials.

OAR 660-04-022 identifies the types of reasons that may or may not be used to justify an exception. Pursuant to the rule, the county must (1) demonstrate need for the proposed use or activity, based on one or more requirements of Goals 3 to 19; and (2) show either that the use has special features which require it location on or near the proposed site, or that

a resource upon which the activity is dependent can be reasonably obtained only at the proposed site and it requires a location near the resource. Such an exception must include an analysis of the market area to be served by the activity.

2. Demonstrated Need.

In its findings approving an exception for the Bayview site, the county considered the need for additional sources of aggregate for a 20 year period. Such a need is recognized by LCDC Goal 5. The county looked specifically at the Cannon Beach to Warrenton market area, which is the same market area served by the Johnson site. The county heard testimony from experts and received information on the amount of rock currently mined in or imported to this area. The county concluded that an accurate estimate of aggregate demand in the market area must include all sources, including aggregate that is imported into the county (including round rock), aggregate used for nonforest uses, and aggregate used for forest uses. The county determined that the average annual demand in the Cannon Beach to Warrenton market area lies between 161,000 and 250,000 cubic yards. Findings, 5a. The county continues to accept this estimate of demand as accurate. The county also accepts (except as noted to the contrary below) its findings for the Bayview exception as additional and further justification for an exception to the Johnson site, and it incorporates by reference the Bayview exception and findings in their entirety as if fully set forth

herein. Moreover, the county expressly makes the record of the Bayview proceeding part of the record of this proceeding. The county further supplements that record with the materials submitted by applicant Johnson in a request for a conditional use permit for the above-identified Johnson parcels.

In the Bayview findings the county examined aggregate supply for this market area. In those findings the county considered aggregate resources at a variety of locations within the market area. The county first considered three sites -- the Johnson QM property, the Johnson F-80 property, and the Rippet Quarry -- containing commercial quality aggregate. The county found that the Johnson QM site had only 70,000 cubic yards of material located above the floor of the quarry (p. 7); the Johnson F-80 site contained 300,000 cubic yards available for extraction (p. 8); and the Rippet Quarry contained 244,000 cubic yards of aggregate material (p. 8). Based on demand, the county determined that these three sites represent only a 2 1/2 to 4 year supply (p. 7, 11). Mining below the floor of the Johnson QM quarry might produce about one more year's supply (p. 7).

The county, in its Bayview findings, also identified other quarries within the market area. The Darling Quarry contains approximately 100,000 cubic yards of material available for excavation, but tests showed that this rock is only marginally acceptable (p. 13). Material from the Darling Quarry was recently rejected by the Oregon State Department of

Transportation, Highway Division, because it did not meet specification. The Ordway Quarry contains approximately 160,000 cubic yards, but this rock, too, failed standard tests which aggregate must pass to be used in Oregon State Highway projects (p. 14). The county finds that the need for rock in the county is predominantly a need for commercial quality rock that is acceptable for projects such as Oregon State Highway projects.

Other quarries include Cavenham Highway 101 (DOGAMI 04-0028), Halvorsen Clay Borrow Pit (04-0032), Cavenham Pit Run (04-0036), McEwen Clay Borrow Pit (04-0048) and Stevens Rock Borrow Pit (04-0049). In its findings on Bayview's application, the county determined that Cavenham Highway 101, Cavenham Pit Run, and the McEwen Pit have no commercial quality rock; that the owner of the Halvorsen pit no longer considers the site to be a potential rock quarry and has forfeited access rights to the road which serves the site; and that the Stevens Pit contains 45,000 cubic yards of material, which is less than a 1/3 year supply (pp. 14-15). The county continues to abide by these findings.

Remaining sites identified in the Bayview findings are the Bear Cat Pit, Seaside Reservoir QM, the Forked Horn Quarry, Silver Point, and, of course, the Bayview Quarry. The Silver Point site has no DOGAMI permit (p. 36). The Forked Horn Quarry contains approximately 100,000 cubic yards of material -- about a 4 to 7 month supply. The Bear Cat Pit

contains approximately 148,000 cubic yards -- less than a one year supply (p. 37). The Seaside Reservoir contains a significant amount of rock (1,000,000 cubic yards), but for reasons explained in the Bayview findings, negative factors associated with the site render it unreasonable to accommodate the use. Findings, 37-38.

The county concluded in its Bayview findings that the Bayview site would likely produce between 1.5 and 2.0 million cubic yards of commercial quality aggregate material over a 20 year period. Findings, 11, 19-20. Those findings were based on the record before the county, which the county determined was not as precise as it might have been on this issue (p. 19a). More recent information from H. G. Schlicker & Associates, Inc., attached to Johnson's conditional use request, suggests that the estimates of rock quantity at the Bayview site are somewhat lower when the assumptions utilized by Bayview's experts undergo further refinement. Reevaluating the potential supply at the Bayview site using refined assumptions, including assumptions on the depth of overburden, the amount of material needed for reclamation, and the intermixing of sediments in the material under the overburden, Schlicker determined that the Bayview site contains between 1.1 and 1.3 million cubic yards of aggregate material. Based on Schlicker's testimony and the earlier testimony in the Bayview record, the county finds that the Bayview site most likely contains between 1.1 and 1.3 million cubic yards. We also find

that a precise figure is not necessary because, regardless of which figure is used, there is need for the rock on the Johnson property, in addition to the rock on the Bayview site, within the planning period.

As noted above, the county estimates its need for aggregate over the next 20 years, in the Cannon Beach to Warrenton market area, at between approximately 3.2 and 5.0 million cubic yards. The 3.2 million cubic yard figure is clearly conservative (See Bayview findings, pp. 5-5a). The 5.0 figure reflects expert testimony in the Bayview record and is likely the more realistic figure. In any event, as described below, the current availability of aggregate material in this market area of the county is considerably below the minimum figure and reflects a demonstrated need to provide additional sites containing significant quantities of commercial quality aggregate material. Because of significant negative factors, including DEQ noise standard violations and potential contamination of Seaside's water supply, the county finds, as it did in the Bayview application, that the Seaside Reservoir QM site cannot reasonably accommodate the use, and therefore its rock reserves cannot presently be considered as available for meeting the demonstrated need. See Bayview Findings, 35-36, 41. Excluding this site, and excluding for now the Johnson F-80 site, this means that approximately 1.97 to 2.17 million cubic yards of material are presently available for this market area. This figure breaks down as follows:

Darling	100,000	cubic	yards
Ordway	160,000	"	"
Stevens	45,000	"	"
Forked Horn	100,000	"	"
Bear Cat	148,000	"	"
Bayview	1.1 - 1.3 mil.	"	"
Johnson QM	70,000	"	"
Rippet	244,000	"	"
TOTAL	1.967 to 2.167 million cubic yards		

If rock not of commercial quality is removed from this chart, the quantity is decreased by 260,000 cubic yards. If rock below the floor of the Johnson QM site is added to the chart, (the extraction of which could bear considerable expense), the amount is increased by 221,000 cubic yards. The county finds that the need is for commercial quality rock. It also finds that the quantity of rock from these identified sites is approximately 1.0 to 2.8 million cubic yards below the county's need for the next 20 years.

Accordingly, the county concludes that existing rock quantities are adequate only to meet the market area's needs for what may be a period as short as eight years. The county further concludes than an additional long term source of high quality commercial rock is needed to ensure adequate quantities of rock for the planning period. The county finds that the Johnson site provides such a source of rock.

According to Schlicker, the Johnson F-80 site contains 772,000 cubic yards of rock above the quarry floor, plus 762,000 cubic yards of rock below the quarry floor. The

county accepts these figures and finds that the Johnson site will provide the type and volume of high quality rock needed by the county for the planning period.

The county also finds, as it did with the Bayview site (pp. 11-12), that increased competition in the aggregate industry would be good for the county. The Johnsons have been providing aggregate to Clatsop County for many years, and the continuation of their operation is in the best interests of the county. Without this exception, the remaining rock available for the Johnsons to mine is very limited and the ability of the county to maintain competitive prices through competition is jeopardized.

The county also finds that Schlicker's determination, which the county accepts, that the rock at the Bayview site may not be of uniform quality means that the prices which Bayview must ask for its rock may be somewhat higher than indicated in the county's Bayview findings. The county makes no findings on what Bayview or Johnson are likely to charge for their rock, but instead finds that presence of these operations should help keep prices competitive.

3. Location of Use.

The use involved here is an aggregate operation. The use is necessarily site dependent, i.e., it must be located at a location where rock is found. The location of high quality aggregate material on the Johnson site, including the F-80 site, necessitates the allowance of this use on resource land.

The county finds that expansion of the operation onto the F-80 property will not require new equipment or operational changes. The county also finds that such use is not appropriate within urban growth boundaries due to the nature and impacts of the use.

E. Areas Which do not Require a New Exception Cannot Reasonably Accommodate the Use.

The inability of other sites within this market area to accommodate the use was fully addressed in the county's findings for the Bayview site (pp. 35-48). Rather than repeat those findings here, the county incorporates them by reference (except as expressly noted below) as if fully set forth herein. The county continues to abide by those findings, except as they relate to the Johnson F-80 site and to Johnson pricing policies for sale of aggregate.

Sites that do not require a new exception are the Johnson QM site, the Seaside Reservoir site, and the Bayview site. In addition to the findings contained in the Bayview exception, the county finds that the Johnson QM site has only 70,000 cubic yards of material remaining above the quarry floor, plus 221,000 cubic yards in reserves below the quarry floor. This quantity of rock is not sufficient to meet county needs for the planning period. The county continues to find that the Seaside Reservoir site is not an adequate choice for a rock quarry due to the close proximity of residences (immediately adjacent to the zone), a trailer park within 350 feet of the zone, the

inability of the site to meet DEQ noise standards, and the possibility of contamination of Seaside's sole water source (a matter of deep concern to the city). Moreover, the landowner of the property has stated that the property will not be considered for a quarry and mining. (Bayview Findings, 37-38.) The county continues to find that this site cannot reasonably accommodate the use.

The Bayview site has been shown to contain between 1.1 and 1.3 million cubic yards of aggregate material. This site is important to help meet the needs of the county over the planning period, but the quantity of rock contained therein is insufficient by itself to meet expected annual demand over the planning period, as explained above. Hence, the county finds that the Bayview site cannot reasonably accommodate the use due to insufficient quantity of rock.

The standard in OAR 660-04-020(2)(b) refers to areas "which do not require a new exception." All other sites previously identified in this document would require a new exception, although some sites, as noted in the Bayview findings, might qualify as nonconforming uses. In any event, it has already been shown that the quantity of commercial quality rock available at those other sites is insufficient to meet the demand for rock in the market area. Consequently, for this reasons and for the reasons contained at pages 35 - 43 of the Bayview findings, <u>excluding</u> those portions discussing the Johnson F-80 property and Johnson pricing policies, the county finds that those other sites cannot reasonably accommodate the

use.

Maps of the locations of other sites mentioned in this document are part of the record of the Bayview proceeding and are expressly incorporated into this document by this reference.

OAR 660-04-020(2)(b)(B)(i) also requires the county to consider whether the proposed use can be located on nonresource land that would not require an exception. Those sites include the Johnson QM site, the Seaside Reservoir site, the Bayview site and the Stevens River Rock Borrow Pit, which is located in a lake and wetland zone. The county incorporates by reference and adopts its findings for the Bayview exception with respect to these sites (pp. 43, 44-46), except as they relate to Johnson and Bayview pricing for materials. The county expressly notes and finds that a large portion of the Stevens River site has been identified as significant wetlands in the County's Goal 5 inventory and that rock extraction is incompatible with wetlands so identified as significant. The county notes and finds that the quantity of material available at the Bayview site is insufficient to meet the need for the 20 year planning period, and that the county already determined the importance of maintaining competition in the sale of aggregate to ensure competitive pricing. The county concludes that the proposed use cannot reasonably be accommodated on these sites, particularly given that aggregate extraction is a consumptive use and these sites do not contain sufficient materials to

accommodate the county's identified need.

Finally, LCDC's administrative rule requires the county to determine if the proposed use can reasonably be accommodated on resource land that is irrevocably committed to nonresource uses, not allowed by the applicable goal, by increasing the density of rural lands, or through placement within an urban growth boundary. The county adopts and incorporates by reference the findings on this matter set forth at pages 46-48 of the Bayview findings.

F. ESEE Consequences Resulting from Aggregate Activity at the Proposed Site, With Measures Designed to Reduce Adverse Impacts, are not Significantly More Adverse Than Would Typically Result from the Same Proposal Being Located in Areas Requiring a Goal Exception Other Than the Proposed Site.

1. Impacts at Proposed Site.

As noted earlier, the majority of future mining operation at the Johnson site would extend eastward from the present QM site onto the F-80 site. The RA-5 property will provide support functions. No new facilities are required for the continuation of the operation onto the RA-5 and F-80 properties. The Johnsons have indicated, and the county finds, that only approximately 4.1 acres of the F-80 property is expected to actually be used for the active mine area. The active quarry pit is not expected to get closer than 150 feet to the bank of the Necanicum River, which flows through the property.

Johnson has stated, and the county finds, that no new

equipment or operational changes will be required to continue the aggregate mining operation into the F-80 area. As mining operations move eastward, the existing crusher location will also be moved generally in an eastward direction onto the F-80 site. Stockpiling and other related activities will continue much as in present operations.

(a) Environmental Consequences.

Environmental consequences at the proposed site include potential impacts on water quality, forest resources (including aesthetics) and wildlife.

Water will drain from the quarry site through a series of siltation ponds and then ultimately discharge into the Necanicum River, a Class I stream. As the operation moves eastward, drainage flows will continue to be channeled into the present system of siltation ponds. This system is providing adequate settling opportunities for drainage and runoff and protects the aquatic resources of the Necanicum River. Regular consultation with Oregon Department of Fish and Wildlife ("ODFW") officials will insure that water quality of drainage and runoff discharges from the operation remains or exceeds present levels.

Expansion of mining operations will produce a less aesthetically pleasing appearance on the site. However, impacts will be screened. A fringe of alder trees and other existing riparian vegetation will be maintained along the Necanicum River, and no mining or stockpiling or other

aggregate-associated activities will be allowed to occur within these areas, thereby further protecting water quality as well as appearance. Areas not actively mined will be maintained in their present condition. At such time as the operation nears completion, the mine will be reclaimed in accordance with a reclamation plan required and approved through the Department of Geology and Mineral Industries.

The current mining operation is located approximately 1000 feet east of U.S. 101. A portion of that operation includes stockpiling of material on a small parcel of land between the operation and Highway 101. When the operation moves fully onto the F-80 property, the active face of the mine will be approximately 1500 feet from the highway. The actual mining will remain partially visible from the highway, although better screened than the present mine.

The F-80 property has been designated as a forest zone by the county. This exception will redesignate the property as Conservation Other Resources. The impact of this change from an environmental standpoint, in terms of loss of the timber resource, is not significant because only a small portion of the timber resources that once existed on this site still remains. The site contains no significant forest resources and has been substantially altered in its ability to be used for the production of trees or other forest products.

Both the RA-5 and F-80 properties lie within the Peripheral Big Game Range classification of the county's

comprehensive plan. The number of elk estimated within a four square mile area surrounding the F-80 site is on the order of a couple of hundred animals. ODFW does not consider the site to be important big game habitat. The nearest bald eagle nest is at least 1.5 miles from the site. Adoption of this exception will not affect known sensitive nesting areas.

The site contains no significant natural, scenic or scientific areas. No hazard to the stability of adjacent lands has been shown, and the county finds none.

(b) Social Consequences.

The most significant potential social impacts are visibility and noise from mining operations and truck traffic. The Johnson F-80 site, on which the mining would occur, has seven homes within 1000 feet. While the continuation of the operation will not increase the number of dwellings in the area, its eastward expansion will shift the operation further away from the existing residences.

Visibility impacts have been identified above. As the operation moves eastward, those impacts will diminish. The same holds true for noise impacts.

All equipment will be maintained to insure proper functioning and minimized noise levels. The present stockpile of overburden material on a portion of the RA-5 property will be increased in height as the mining operation proceeds to add to its effectiveness as a noise barrier. Further, temporary noise barriers will be used whenever other noise mitigation measures and barriers are not adequate to

maintain required noise levels for particular operations.

With proper mitigation measures, the county finds that the site will meet state noise standards. There is little noise impact under present operations, as residents complain mostly about noise from Highway 101. Future noise impacts should stay approximately the same or lessen as the gravel crusher and auxiliary equipment are moved to the east.

No additional truck traffic is expected from the continuation of the operation. No additional roads will be constructed. Assuming that demand does not significantly increase over present levels, there should be no increase in truck traffic on the property above current levels. Continuation of mining activities on the site will not require a change to the present access point onto Highway 101 nor the development of new transportation or access facilities.

(c) Economic Consequences.

The proposal will have positive economic impacts for the county. First, the site has served as a primary source of aggregate resources for this portion of the county for over 20 years. Continuation of the site for aggregate use will provide continued employment and aid the economy of the county.

As noted above, there is insufficient land zoned QM or otherwise available for extraction to meet the needs for aggregate material over a 20 year period in the market area. The expansion of operations onto the F-80 property will provide another 772,000 cubic yards of commercial quality material

above the quarry floor, plus an additional 762,000 cubic yards below the quarry floor. This material is needed to serve identified demand over the planning period, which is 161,000 to 250,000 cubic yards annually.

Further, use of this site for aggregate extraction will ensure adequate competition in the marketplace and prevent any single operator from obtaining a monopoly. The county roadmaster is on record favoring increased competition, and the county shares that opinion and finds increased competition to be in the best interest of the county and its residents.

(d) Energy Consequences.

The Johnson property is only a short distance from the Cannon Beach junction and is close to the market area. Its location near Highway 101 should reduce transportation and energy costs over sites located further from the highway.

2. Comparison with Other Sites That Require an Exception.

The standard in OAR 660-04-020(2)(c) requires a comparison of environmental, social, economic and energy consequences resulting from the use at the proposed site with those that would typically result if the use were located at other sites that would require an exception. The standard requires not that the county find that there will not be consequences, but that such consequences as do result "are not

significantly more adverse" than they would be at any other location.

In comparing consequences for the Johnson site with consequences at other sites, the county first notes that the standard applies only to sites which would require an exception. Because sites already zoned QM do not require an exception, there is no obligation to consider the Seaside Reservoir site or the Bayview site. Moreover, as the county did in its Bayview findings, the county will not engage in this exercise with respect to Cavenham Highway 101, the Halvorson Clay Borrow Pit, Cavenham Pit Run, McEwen Clay Borrow Pit, or the Stevens River Borrow Pit because these sites lack sufficient aggregate resources to meet the demonstrated need. See Bayview Findings, p. 16-17. To engage in such an analysis for these sites would be an empty gesture. Also, the Darling and Ordway quarries lack large quantities of rock, and the rock located at those sites is of marginal quality. Accordingly, the county declines to analyze the potential expansion of these sites in terms of typical impacts since they cannot reasonably be considered to meet the demonstrated need.

In its Bayview findings, the county noted that the Forked Horn Quarry is located on approximately four acres in an F-80 zone and that it contains a limited amount of rock (approximately 100,000 cubic yards). Findings, pp. 39-40. It is likely that this site could not accommodate the use in any event. The Bear Cat and Silver Point quarries each are

approximately one acre in size , with limited quantities of rock. Findings, 40, 43. It is likely these sites cannot accommodate the use. Notwithstanding that fact, the county will analyze the consequences for these sites as well as the Rippet site, which is approximately five acres in size, consistent with its analysis of such sites in the Bayview exception.

(a) Environmental Consequences.

With respect to environmental concerns, both the Rippet site and the Johnson site have room for sediment ponds, are located in elk habitat, and have a stream nearby or on the premises. The Rippet site contains some larger trees. Also, a 1984 aerial photo shows a large landslide at the Rippet site. In contrast, the geology at the Johnson site is stable, as the county recognized in its Bayview findings (p. 20-21). Both sites are visible from Highway 101, but Rippet also is visible from Highway 26. No wetland areas have been identified at either site. In the Bayview findings the county found that the Rippet site presented potential environmental problems in terms of overburden, high-face reclamation, landslides and proximity of adjacent residences that could present operational difficulties (p. 20, 39).

The Forked Horn and Silver Point quarries have no streams or water bodies nearby, so water quality and potential impacts on fish are not a potential problem. Sediment ponds also are not a consideration at Bear Cat because

the Necanicum River (a class I stream) lies across Highway 26 from the site. As noted above, the sediment ponds at the Johnson site are adequate to protect the water resource at that location. Silver Point does present a significant landslide danger to U.S. Highway 101 and to nearby residences, as it has extremely unstable geology. This renders highly questionable its ability to satisfy the county's need for additional aggregate materials. All three of these sites are within elk habitat areas, like the Johnson and Rippet sites. There are no clear advantages or disadvantages in this regard. The Silver Point site would require removal of trees approaching market size, while Forked Horn and Bear Cat are not heavily timbered. As noted above, only a small portion of the merchantable timber on the Johnson site still remains. In terms of aesthetics, all sites can be seen from the highways. The Bear Cat site is within 200 feet of a residence, and the Silver Point quarry can be seen from resort motels. The Forked Horn quarry is not visible from nearby residences but is visible from the road. Based on these findings, the county concludes that the long term environmental consequences of locating the proposed use at the Johnson site are not significantly more adverse than would typically result from located the use at any of these other sites. In reaching this conclusion the county relies on and incorporates by reference the Bayview findings at pages 39, 40, 43, and 49-57, as they relate to these sites.

(b) Social Consequences.

With respect to social impacts, the Rippet site

has two homes within 300 feet, while the Johnson site has seven homes within 1000 feet. The Forked Horn site is not visible from nearby residences, but the Silver point site can be seen from resort motels and the Bear Cat site is within 200 feet of a residence. Because of its proximity to and orientation toward nearby residences, Bear Cat will not likely meet DEQ noise standards. Expansion of the Johnson operation onto the F-80 property will put the use at least 500 feet away from the closest residence. A report by Duble & Associates, attached to Johnson's conditional use request, states, and the county finds, that with proper mitigation measures the Johnson operation will not violate DEQ standards. Information on this topic for the Rippet, Forked Horn and Silver Point sites is not available. All sites are visible from state highways. The Johnson site is visible from Highway 101; Rippet is visible from both Highway 101 and Highway 26; Bear Cat is visible from Highway 26; Forked Horn is visible from Highway 26; and Silver Point can be seen from Highway 101. Based on these findings, the county finds and concludes that the proposed use at the Johnson site would not have social impacts significantly more adverse than at the other sites, particularly because it can meet DEQ noise standards.

(c) Economic Consequences.

With respect to economics, Rippet contains approximately 250,000 cubic yards of available material -- about a 12 to 16 month supply. The site has a possible over-

burden problem and a possible high face reclamation problem not faced by the Johnson site. Additional reserves at Rippet have not been quantified. The Forked Horn Quarry contains only about 100,000 cubic yards of material. This is significantly less than the amount needed to support the proposed use. Moreover, this quarry is located about 13 miles from the Cannon Beach junction (junction of Highways 26 and 101), and that distance to market adds a significant amount to the cost of the aggregate to be produced at that location. In contrast, the Johnson site and Rippet site are located only a short distance from the Cannon Beach junction and the market area. The Bear Cat Quarry is located six miles from the Cannon Beach junction, off of Highway 26, and contains only a limited amount of rock (approximately 148,000 cubic yards). This limited rock supply is significantly less than is needed to meet the demonstrated need for rock in the county, and the distance from the site to the market area will mean higher costs. The Silver Point Quarry also has limited supply (approximately 100,000 cubic yards) available for extraction and is located approximately six miles from the Cannon Beach junction, thus increasing transportation costs.

Based on these findings, the county concludes that locating the use on the proposed site would not have economic impacts significantly more adverse than would typically result if the use were located on one of the other sites.

(d) Energy Consequences.

With respect to energy consequences, the Johnson and Rippet sites are close to the market area, while the Silver Point and Bear Cat quarries are about six miles distant from the market area and the Forked Horn Quarry is 13 miles distant. We find that the sites closer to the market area, i.e., Johnson and Rippet, enjoy an energy benefit in that additional fuel need not be spent to transport aggregate material. All sites would require mechanical extraction using similar equipment. The Rippet site has a potential disadvantage due to overburden problems on site which may require additional energy during the handling of material. From this we conclude that location of the proposed use at the Johnson site would not result in energy consequences that are significantly more adverse than would typically result from the proposal being located at any other of these sites.

In summary, after weighing the environmental, social, economic and energy consequences of these alternative sites, the county concludes that the long term effects resulting from using the Johnson site are not significantly more adverse than would typically result from the same proposal at the Rippet, Forked Horn, Bear Cat or Silver Point sites.

G. The Proposed Use is Compatible with Other Adjacent Uses Or Will Be so Rendered Through Measures Designed to Reduce Adverse Impacts.

OAR 660-04-020(2)(d) requires a determination that the

proposed use is or will be made compatible with other adjacent uses. "Compatible", as used in the rule, is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses.

The proposed use is an expansion of an existing quarry that has been in use for over 20 years. Adjacent uses include forest land and residential uses. Impacts on residential uses include noise, visibility, safety and traffic. There are seven residences within 1000 feet of the property. We find that as the operation moves onto the F-80 property, the four nearest dwellings will be between 560 and 720 feet away. As the operation moves eastward, that distance will increase.

Regarding noise, the report by Duble & Associates concludes that, with employment of proper mitigation measures, the operation will not violate DEQ noise standards. We accept that expert opinion and find that noise standards will be met. We note that the operation would be expanding in an easterly direction, away from existing residences, thereby reducing whatever noise impact there will be with the passage of time. We find that no new equipment or operational changes will be required to allow the use to expand onto the F-80 property. We also find that no additional truck traffic should result from the continuation of this project onto the F-80 site. Hence, there will be no increase in noise levels over their current state. We also find that most noise complaints in the immediate area relate to traffic on Highway 101 rather than

operations at the Johnson quarry.

We find that in the operation of the mine, all equipment will be maintained to insure its proper functioning and that specific attention will be paid to insuring that bulldozers, trucks and other moving equipment have properly installed and functioning mufflers. We also find that the operators will increase the height of the present stockpile of overburden on the RA-5 property to add to its effectiveness as a noise barrier to active mining operations in the F-80 area. We also find that temporary noise barriers, such as hay bales, will be used whenever other noise mitigation measures and barriers are not adequate to maintain required state noise levels for particular operations. We also find that blasting activities will move farther and farther from residences as the operation moves eastward and that blasting noise control measures already being practiced by Johnson will minimize noise impacts. We conclude that these measures are adequate to render the proposed use compatible with adjacent uses.

The proposed use will be visible from Highway 101. We find, however, that steps taken to reduce the visual impact will be adequate to render the use compatible with adjacent uses. Expansion of the use will be in an easterly direction, moving away from residences and the highway, into an area that is more visually screened from the highway than present operations. When the mining operation is fully onto the F-80 site, the active face of the mine will be approximately 1500

feet from Highway 101. The existing riparian screen of vegetation along the Necanicum River will be retained throughout the life of the aggregate mine and will serve as a visual screen to the crushing operation and the maintenance activities. We conclude that these steps will render the use compatible with adjacent uses.

The proposed use will not involve a change in the method of sedimentation ponding and discharge from the property. Hence, we find that water quality levels will continue to meet or exceed state standards.

We also find that the proposed operations plan insures that the active mining operation and the ultimate reclamation of the property will maintain maximum compatibility with forest uses that abut the property on the east, the residential-agriculture lands that border the property to the west, the existing quarry adjacent to the remainder of the property. We conclude that the compatibility standard is satisfied by this proposal.

H. Compliance with other LCDC Goals.

The county finds that only LCDC Goals 1, 2, 4, 5, 6, 7, 9, 11 and 12 are applicable to this proceeding. Because an argument might be made that Goal 13 applies, we find that our findings addressing energy consequences below, under Goal 5, and elsewhere in this exception statement, are sufficient to satisfy that goal.

1. Goal 1.

Notification of the proposed action was mailed in a

timely manner to LCDC. Notice also was provided in accordance with LCDC-acknowledged county notice standards for legislative actions. A public hearing was held before the Planning Commission on January 19, 1988, and before the Board of Commissioners on February 24, 1988, at which time public opinion and testimony was accepted. We find that Goal 1 has been satisfied.

2. Goal 2.

The decision approving this exception is consistent with the county's comprehensive plan. Applicable plan policies are identified in the application for a proposed conditional use permit which is part of the record of this proceeding. The county agrees with the determination as to which policies apply and agrees, accepts, and adopts as its own findings, reasons and conclusions the assertions and determinations of compliance with such policies included therein. The county incorporates those findings by reference as if fully set forth herein.

The county further finds that the record contains an adequate factual base to support this exception, plan amendment and zone change, and the exception is expressly made a part of the comprehensive plan. The county also finds that Goal 2, Part II is met for the reasons set forth above in the exception to Goal 4.

3. Goal 4.

Because the land involved is forest land, this goal

applies. The goal requires that forest land be preserved for forest uses. LCDC's exception rule, OAR 660-04-010(1)(b), as amended in 1987, provides that an exception is not required for

> "the exploration, mining and primary processing of * * * aggregate and other mineral resources provided these uses will not substantially interfere with the conservation of forest uses."

We find that this rule renders the use consistent with Goal 4 even in the absence of an exception. We find that the exception provides support for the decision in the event this rule should ever be deemed invalid. We also find that the F-80 parcel in question has little merchantable timber remaining, that the use of the site for aggregate extraction and primary processing will not substantially interfere with the conservation of forest uses (for the reasons set forth in the exception), that the land ultimately will be reclaimed to allow forest uses, and that Goal 4 is therefore met.

4. Goal 5.

Goal 5 requires that natural resources be inventoried, that where conflicting uses are identified, and that where such have been identified, the economic, social, environmental and energy consequences of the conflicting uses be determined and programs developed to achieve the goal.

Mineral and aggregate resources are an identified Goal 5 resource. Likewise, fish and wildlife habitat is such a resource. Although timber values are addressed in Goal 4, they also must be considered as a conflicting resource use under

Goal 5. Each of these resources is found at the proposed site.

We find that the proposal involves three parcels, a 2.1 acre site zoned RA-5, a 12.44 acre site zoned RA-5, and a 10.4 acre site zoned F-80. The Necanicum River, a Class I stream, abuts the RA-5 sites and flows across the F-80 site. The RA-5 and F-80 sites are in common ownership with a QM-zoned site which has been utilized for aggregate mining for over 20 years. Expansion of that use would go onto the F-80 site, with the RA-5 sites used primarily for maintenance and support facilities and the stockpiling of overburden material. Only about 4.1 acres of the F-80 property is expected to actually be used for the active mine area. The active quarry pit is not expected to get any closer than 150 feet to the bank of the Necanicum River. Approximately 772,000 cubic yards of material has been identified in the F-80 area above the quarry floor, with an additional 762,000 cubic yards below the quarry floor, which is presently at about 45 feet mean sea level. Existing stockpiling presently is located within lands already zoned QM. Sediment ponds are found in the RA-5 property. In our Bayview findings (p. 20) we found that the site contains adequate room for sediment ponds, and we continue to abide by that finding. There is some timber left on the F-80 property, but most of the timber has been stripped and no longer exists. No wetlands have been identified on the property; the area is not identified as being desirable for open space, energy, scenic views; the area is not classified as an ecologically or

scientifically significant natural area, or a wilderness area, historic area, cultural area, potential or approved recreation trail, or potential or approved wild and scenic waterway.

(a) Economic Factors.

The stripping of timber in past years means that the site does not currently contain a significant or valuable forest resource. The ability of this site to support timber use or other forest uses is severely limited by its lack of trees. Only the riparian fringe vegetation along the Necanicum River and a scattering of other miscellaneous noncommercial species remains on the property. Hence, the property lacks sufficient productive capacity to be used as commercial forest land. However, the presence of a basalt formation on the property clearly demonstrates its capacity for productive use as an aggregate mine. Under these circumstances, and in light of the limited aggregate resource within this market area of the county, resource use for aggregate rather than timber on the limited number of acres involved is the more rational choice. Upon completion of aggregate extraction on the F-80 property, the site will be reclaimed to allow future forest uses. Hence, the loss of the site for forest uses is short term.

Hunting for elk and the provision of meat for households produces some economic benefit to the area. The RA-5 and F-80 sites are within the Peripheral Big Game Range classification of the county's Comprehensive Plan. According

to ODFW personnel, the number of elk located within a four square mile area surrounding the Johnson site is estimated in the order of a couple of hundred. We accept this figure. We also note and find that ODFW does not consider this site to be important big game habitat. If the proposal causes any loss of habitat, it should be small. Riparian vegetation along the Necanicum River will be preserved. We also find that habitat loss will be temporary, as the land ultimately will be reclaimed. Elk can migrate and take advantage of surrounding forest lands. Moreover, the large capacity of this quarry may limit the need for other smaller pits on forest land. The Necanicum River is a class I stream. To protect its values for fish resources, the riparian fringe vegetation will be protected and left undisturbed. No mining operations or stockpiling or other activities will occur within these areas. Drainage flows from the quarry will continue to be channeled into the present system of siltation ponds to protect water quality and fish habitat, thereby protecting fish for their economic value. Regular consultation between the Johnsons and field officials will insure that the water quality of drainage and runoff discharges from the mine remains at or exceeds present levels. The county also will rely on enforcement of the Forest Practices Act to protect riparian vegetation and water quality from potential negative impacts of any forest management that may occur.

As noted earlier, aggregate is a necessary and

important commodity for the economy of Clatsop County. This particular site has enormous rock potential and is demonstrated to be needed to meet the county's demand over the planning period and to ensure adequate competition in the marketplace. Expansion of the Johnson quarry will reduce the need to import rock into the county, provide commercial quality rock, and continue to provide jobs for persons currently working at the existing quarry, which has less than a one year supply of rock above the quarry floor. To not use this site would have a significant negative economic impact, including higher aggregate prices in the absence of competition and uncertain future supplies.

(b) Social Factors.

An adequate timber base is important to preserve county jobs and to provide areas for recreation. Because the Johnson site has been stripped of most of its trees, and because the area supports an existing aggregate pit, this area is not an ideal choice for timber production or forest recreation. Loss of 10.4 acres will reduce the county's timber base in the short term (although only about 4.1 of those acres are expected to be actively mined). Clatsop County has approximately 474,000 acres of timberland. The reduction in the timber base is thus minuscule, and the use of this site for quarry operations, without the need for new roads, may actually preserve more timber land than if new sites were needed. In addition, nearly all the alternative sites would entail loss of productive forest lands. Potential job losses from timber use

of this land are compensated by jobs for aggregate extraction.

Expansion of the aggregate operation may have a short term impact on elk in the area, which could affect elk hunting somewhat. However, this does not necessarily cause a decrease in elk in the area, and thus should not have a significant, if any, social impact. Protection of fringe vegetation along the Necanicum River will be supportive of elk and other wildlife habitat and protect water quality for fish. The sediment ponds are sufficient to protect water quality and therefore there should be no noticeable social impact regarding fish.

The aggregate proposal will ensure competition in the marketplace and avoid the great bulk of the resource being in the hands of a single operator. This competition serves the public's interest from a social standpoint. The site would be visible from the highway, and it will create some noise, although mitigation measures will keep noise within DEQ limits. As the operation moves eastwardly, noise and visibility impacts will decrease. A social benefit will be the continuation of jobs at the site and the support those jobs provide to the general well being of Clatsop County.

(c) Environmental Consequences.

Trees provide potential habitat for elk on the site. As indicated above, the site already has been stripped of most of its trees, although riparian vegetation exists along the Necanicum River. The proposal will not have a significant

environmental impact on forest resources because of prior action removing trees from the site. Moreover, what impact there will be is temporary, in that the site ultimately will be reclaimed, thereby allowing its future use as forest land. Forest resources along the Necanicum River will be protected for their watershed and wildlife values.

As noted above, expansion of the quarry onto the F-80 site and the use of the RA-5 sites in conjunction therewith may have the effect of displacing some elk in the area. However, retention of a buffer area along the Necanicum River will provide habitat for wildlife, and there is no indication that the proposed mine expansion, onto an anticipated 4.1 acres in the F-80 zone, will cause any loss in elk population. Upon reclamation the site will again become available as elk habitat. The sediment ponds have been shown to be adequate to protect fish habitat and water quality in the Necanicum River. The buffer of vegetative fringe between the river and the active mining area will not get any closer than 150 feet from the bank, thereby adding further protection for water quality. The site is at least 1.5 miles away from any bald eagle nest, so there should be no impacts on sensitive bird nests.

The majority of the proposed F-80 site is a solid basalt rock formation. The proposed mining operation will create a vertical cut slope at the final face of the aggregate mine which will then be reclaimed with overburden material to an appropriate slope surface. The presence of

solid basalt presents no hazard to the stability of adjacent lands. Landslides are not a problem at this site. Mining activity will remove aggregate from the site, changing the appearance of the site, but the site will be reclaimed pursuant to a reclamation plan upon completion of mining activities. The site is one of the few sites of high quality and quantity of rock in the market area, and it has already been disturbed and in use for quite a few years. Sedimentation ponds will protect water resources from adverse impacts caused by mining operations.

(d) Energy Consequences.

Little energy use accompanies the growing of trees, with the exception of occasional spraying, pruning and harvesting activities. Rock extraction and processing would require more energy consumption.

Elk and fish resources entail no energy use. Extraction and processing of rock material requires more energy than these uses.

Energy expenditure necessarily accompanies aggregate extraction, as machinery is required in the extraction of materials, blasting is required, the rock must be processed, and there are transportation costs. At the same time, aggregate provides a correspondingly higher economic return. The proposed site is ideally located close to Highway 101 between Cannon Beach and Seaside, thereby reducing fuel consumption and providing a superior choice with respect to

energy consumption to other sites farther away.

(e) Program to Achieve the Goal.

Considering the economic, social, environmental and energy consequences of locating the proposed use at the Johnson site, the county finds as follows. Aggregate is a scarce resource within the county and within this market area of the county. Often the quality of aggregate is below that acceptable to the Oregon Department of Transportation. A site where there is high quality rock that meets ODOT specifications is a valuable resource. The Johnson site is such a site, enhanced by the fact that extraction and processing at this site will have a minimal effect on forest uses (since most of the merchantable timber has been stripped from the land), that such use will not have adverse impacts on water quality or fish, that displacement of elk, if at all, will be minimal, and in that the use should not have significant social impacts, especially since the use will be moving away from existing residences and the highway. We find that need exists for a site containing significant quantities of commercial quality rock, and that the Johnson site is such a site. We find that the use will not be new to the area, but is an expansion of an existing use which will not require new roads and which will have minimum additional impacts. We find that elk may be affected in small numbers, and that impacts from mining could adversely affect fish, but that this is highly unlikely to happen with the system of sediment ponds installed and the

retention of 150 feet of buffer in the F-80 area between the mining operations and the river. Any negative impacts on wildlife and on timber will be temporary, as the site ultimately will be reclaimed. We determine, on balance, and giving consideration to the mitigation steps proposed by Johnson, that the economic, social, environmental and energy consequences mitigate in favor of allowing the use at this site, with conditions as set forth in the conditional use application, incorporated herein by this reference. We find that this program will achieve Goal 5.

5. Goal 6.

The proposed use involves the expansion of an existing use rather than the establishment of a new use. The present aggregate mining operation meets applicable air, water and land resource quality standards. No change in operations will occur as a result of the proposed continued mining operation. Continuation of the operation will not involve increases in truck traffic, and steps will be taken to minimize noise, which levels will fall within DEQ standards. Water quality will be protected by sedimentation ponding and by retention of a large buffer area between the active mining area and the Necanicum River. We find that Goal 6 is satisfied.

6. Goal 7.

Goal 7 prohibits the planning or location of developments in known areas of natural hazards without appropriate safeguards. We find that the Johnson site is not prone to

landslides or natural hazards. The entire proposed active mining area is a solid basalt rock formation presenting no hazard to the stability of adjacent lands. We note that no new crossings of the Necanicum River are required to support the continuation of aggregate mining into the RA-5 and F-80 areas. We note that the aggregate operation will not occur within a designated floodway. We find that Goal 7 is met by this proposal.

7. Goal 9.

Goal 9 is to improve and diversify the economy of the state. The economic benefits of this proposal have been repeated throughout this exception document, particularly in analyzing the economic consequences for purposes of Goal 2, Part II and Goal 5. We incorporate those portions of this document herein by this reference. We reiterate that this would be a continuation of an existing use, that the demand for a high quality aggregate site in this area is clear, that existing supply is far below the identified need, that this site better meets the need than any other identified site, and that this proposal provides needed competition in the market area. We conclude that Goal 9 is met by this proposal.

8. Goal 11.

Goal 11 requires a timely, orderly and efficient arrangement of public facilities and services. The services at this location would be those necessary to meet the rural use involved. We find that existing water systems and fire protec-

tion systems serving the existing quarry are adequate to serve the continuation of the quarry onto the F-80 and RA-5 properties. We find that no new sources of water nor changes in the level of public facilities and services will be needed to support continued operation of this enterprise. We find that present systems of water, sewer, storm drainage, electrical service and fire protection serving the site will be used, with no increase in service required. We find that no new roads will be required. We conclude that the use meets Goal 11.

9. Goal 12.

Goal 12, Transportation, requires the county to provide a safe and convenient transportation system. We find that the proposal will have no greater impact on the transportation system than it has currently, and that Goal 11 is satisfied by this proposal. We find that the use will not require any new access points to Highway 101 and that an increase in traffic from the proposed use will not occur. We find that the present road serving the site will be maintained at or above its current level of maintenance.

I. Compliance with Applicable Plan Policies.

We find that the comprehensive plan policies applicable to this exception, plan amendment and zone change are those identified in Johnson's application for a conditional use permit, which application is expressly made a part of the record herein. We also find that the policies identified

therein are satisfied for the reasons expressed therein, we adopt the findings and reasons stated therein as our own, and we incorporate by reference those findings and reasons, and the listing of applicable standards, as if fully set forth herein.

J. Conclusion.

We conclude that the redesignation and rezoning of the Johnson F-80 and RA-5 properties to Conservation Other Uses and QM, respectively, is consistent with and satisfies all applicable statewide goal requirements, including the requirements of Goal 2, Part II (Exceptions) and OAR 660-04-000 et seq., and satisfies all applicable comprehensive plan provisions in the Clatsop County Comprehensive plan. We find that we have addressed all appropriate criteria and conclude that the exception, redesignation and rezoning is justified.

EXHIBIT "A"

Part 2. Conditions of Approval

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BOARD OF COMMISSIONERS

CONDITIONS OF APPROVAL

Howard E. Johnson & Sons

1. Preventative measures shall be taken to assure that excessive noise, dust, vibrations, and other nuisances associated with mining activities are avoided. The applicant shall follow the recommendations of its noise consultant in his noise study (attached to the application) and coordinate with the noise pollution control section of the Department of Environmental Quality to mitigate possible excessive emissions from rock extraction and sorting operations.

2. The proposed use will continue to use existing settlement ponds and drainage outfalls into the Necanicum River. The applicant shall coordinate with the Department of Fish and Wildlife for to ensure that the existing drainage system remains adequate and that water quality levels in the river are maintained.

3. The applicant shall obtain a valid permit from the Oregon Department of Geology and Mineral Industries for the rock quarry operations.

4. Rock crushing operations shall comply with a Air Contaminate Discharge Permit issued by the Department of Environmental Quality and with the provisions of Section 3.470 of Clatsop County Ordinance 80-14.

5. The applicant shall supply copies of applications and supporting materials for any actions which require state or federal permits.

6. All private access and service roads shall be maintained in a dust-free conditions during intensive operations.

7. Prior to operations which will result in open excavation with a depth of ten feet or more and a slope steeper than one vertical foot to two horizontal feet and which is located within 100 feet of a residential structure, a fence at least four feet high shall be constructed at least 10 feet outside the area of excavation.

8. No mining or structural improvements (except drainage outfalls and access roads) shall occur within the riparian setbacks as specified in Section 4.502. In no case, however, shall the minimum setback from a waterway be less than 25 feet.

9. Clatsop County Department of Planning and Development shall be notified in advance by either the applicant, a lessee or purchaser or rock material which will be used for fill or riprap in areas identified in the Clatsop County Comprehensive Plan as an Estuarine Resource Coastal Shorelands, Beach and Dune area or significant wetland area. All permits required by local, state and federal agencies for fill or riprap must be approved prior to placement of materials in any of the identified areas.

10. Reclamation plans for surface mining operations must show that they are consistent with the Comprehensive Plan.

11. All mining, stockpiling, construction of buildings and accessory structures and signs, and placement of concrete, ready-mix or asphalt batch plants shall obtain a Clatsop County Land and Water Development and Use Permit.

12. No barriers will be constructed to prevent wildlife migration unless required by adjacent residential uses.

13. Extraction operations on the site will be limited to the hours of 7:00am through 10:00pm.

14. Any development, including stockpiling of rock or overburden materials will stay clear of wetlands or will first obtain required state and federal permits.

15. Rock drilling equipment will not exceed 90 dBA [L (50)].

16. Extraction shall be in accordance with the Operation Plan as submitted by the applicant as Exhibit 3 (Wilsey & Ham) except as modified by Conditions 17 and 18 below.

17. Filling is permitted on the 2.1 acre parcel (TL 101). In addition, filling is permitted in the northeast corner of the 12.4 acre parcel (TL 100), northeasterly of a line that begins in the southwest corner of TL 101 and runs southeasterly to a point 150 feet north of the riverbank of the Necanicum River along the property line between TL 100 and TL 301.

18. As filling occurs in the designated portion of TL 100, excavation to a depth of at least 3 feet will be done on the remainder of TL 100 between the designated fill area and a line 100 feet from the riverbank of the Necanicum River. No excavation or any other work will be done in the 100 foot riparian zone along the riverbank.

(d) Energy Consequences.

With respect to energy consequences, the Johnson and Rippet sites are close to the market area, while the Silver Point and Bear Cat quarries are about six miles distant from the market area and the Forked Horn Quarry is 13 miles distant. We find that the sites closer to the market area, i.e., Johnson and Rippet, enjoy an energy benefit in that additional fuel need not be spent to transport aggregate material. All sites would require mechanical extraction using similar equipment. The Rippet site has a potential disadvantage due to overburden problems on site which may require additional energy during the handling of material. From this we conclude that location of the proposed use at the Johnson site would not result in energy consequences that are significantly more adverse than would typically result from the proposal being located at any other of these sites.

In summary, after weighing the environmental, social, economic and energy consequences of these alternative sites, the county concludes that the long term effects resulting from using the Johnson site are not significantly more adverse than would typically result from the same proposal at the Rippet, Forked Horn, Bear Cat or Silver Point sites.

G. The Proposed Use is Compatible with Other Adjacent Uses Or Will Be so Rendered Through Measures Designed to Reduce Adverse Impacts.

OAR 660-04-020(2)(d) requires a determination that the

proposed use is or will be made compatible with other adjacent uses. "Compatible", as used in the rule, is not intended as an absolute term meaning no interference or adverse impacts of any type with adjacent uses.

The proposed use is an expansion of an existing quarry that has been in use for over 20 years. Adjacent uses include forest land and residential uses. Impacts on residential uses include noise, visibility, safety and traffic. There are seven residences within 1000 feet of the property. We find that as the operation moves onto the F-80 property, the four nearest dwellings will be between 560 and 720 feet away. As the operation moves eastward, that distance will increase.

Regarding noise, the report by Duble & Associates concludes that, with employment of proper mitigation measures, the operation will not violate DEQ noise standards. We accept that expert opinion and find that noise standards will be met. We note that the operation would be expanding in an easterly direction, away from existing residences, thereby reducing whatever noise impact there will be with the passage of time. We find that no new equipment or operational changes will be required to allow the use to expand onto the F-80 property. We also find that no additional truck traffic should result from the continuation of this project onto the F-80 site. Hence, there will be no increase in noise levels over their current state. We also find that most noise complaints in the immediate area relate to traffic on Highway 101 rather than

operations at the Johnson quarry.

We find that in the operation of the mine, all equipment will be maintained to insure its proper functioning and that specific attention will be paid to insuring that bulldozers, trucks and other moving equipment have properly installed and functioning mufflers. We also find that the operators will increase the height of the present stockpile of overburden on the RA-5 property to add to its effectiveness as a noise barrier to active mining operations in the F-80 area. We also find that temporary noise barriers, such as hay bales, will be used whenever other noise mitigation measures and barriers are not adequate to maintain required state noise levels for particular operations. We also find that blasting activities will move farther and farther from residences as the operation moves eastward and that blasting noise control measures already being practiced by Johnson will minimize noise impacts. We conclude that these measures are adequate to render the proposed use compatible with adjacent uses.

The proposed use will be visible from Highway 101. We find, however, that steps taken to reduce the visual impact will be adequate to render the use compatible with adjacent uses. Expansion of the use will be in an easterly direction, moving away from residences and the highway, into an area that is more visually screened from the highway than present operations. When the mining operation is fully onto the F-80 site, the active face of the mine will be approximately 1500

feet from Highway 101. The existing riparian screen of vegetation along the Necanicum River will be retained throughout the life of the aggregate mine and will serve as a visual screen to the crushing operation and the maintenance activities. We conclude that these steps will render the use compatible with adjacent uses.

The proposed use will not involve a change in the method of sedimentation ponding and discharge from the property. Hence, we find that water quality levels will continue to meet or exceed state standards.

We also find that the proposed operations plan insures that the active mining operation and the ultimate reclamation of the property will maintain maximum compatibility with forest uses that abut the property on the east, the residential-agriculture lands that border the property to the west, the existing quarry adjacent to the remainder of the property. We conclude that the compatibility standard is satisfied by this proposal.

H. Compliance with other LCDC Goals.

The county finds that only LCDC Goals 1, 2, 4, 5, 6, 7, 9, 11 and 12 are applicable to this proceeding. Because an argument might be made that Goal 13 applies, we find that our findings addressing energy consequences below, under Goal 5, and elsewhere in this exception statement, are sufficient to satisfy that goal.

1. Goal 1.

Notification of the proposed action was mailed in a

timely manner to LCDC. Notice also was provided in accordance with LCDC-acknowledged county notice standards for legislative actions. A public hearing was held before the Planning Commission on January 19, 1988, and before the Board of Commissioners on February 24, 1988, at which time public opinion and testimony was accepted. We find that Goal 1 has been satisfied.

2. Goal 2.

The decision approving this exception is consistent with the county's comprehensive plan. Applicable plan policies are identified in the application for a proposed conditional use permit which is part of the record of this proceeding. The county agrees with the determination as to which policies apply and agrees, accepts, and adopts as its own findings, reasons and conclusions the assertions and determinations of compliance with such policies included therein. The county incorporates those findings by reference as if fully set forth herein.

The county further finds that the record contains an adequate factual base to support this exception, plan amendment and zone change, and the exception is expressly made a part of the comprehensive plan. The county also finds that Goal 2, Part II is met for the reasons set forth above in the exception to Goal 4.

3. Goal 4.

Because the land involved is forest land, this goal

applies. The goal requires that forest land be preserved for forest uses. LCDC's exception rule, OAR 660-04-010(1)(b), as amended in 1987, provides that an exception is not required for

> "the exploration, mining and primary processing of * * * aggregate and other mineral resources provided these uses will not substantially interfere with the conservation of forest uses."

We find that this rule renders the use consistent with Goal 4 even in the absence of an exception. We find that the exception provides support for the decision in the event this rule should ever be deemed invalid. We also find that the F-80 parcel in question has little merchantable timber remaining, that the use of the site for aggregate extraction and primary processing will not substantially interfere with the conservation of forest uses (for the reasons set forth in the exception), that the land ultimately will be reclaimed to allow forest uses, and that Goal 4 is therefore met.

4. Goal 5.

Goal 5 requires that natural resources be inventoried, that where conflicting uses are identified, and that where such have been identified, the economic, social, environmental and energy consequences of the conflicting uses be determined and programs developed to achieve the goal.

Mineral and aggregate resources are an identified Goal 5 resource. Likewise, fish and wildlife habitat is such a resource. Although timber values are addressed in Goal 4, they also must be considered as a conflicting resource use under

Goal 5. Each of these resources is found at the proposed site.

We find that the proposal involves three parcels, a 2.1 acre site zoned RA-5, a 12.44 acre site zoned RA-5, and a 10.4 acre site zoned F-80. The Necanicum River, a Class I stream, abuts the RA-5 sites and flows across the F-80 site. The RA-5 and F-80 sites are in common ownership with a QM-zoned site which has been utilized for aggregate mining for over 20 years. Expansion of that use would go onto the F-80 site, with the RA-5 sites used primarily for maintenance and support facilities and the stockpiling of overburden material. Only about 4.1 acres of the F-80 property is expected to actually be used for the active mine area. The active quarry pit is not expected to get any closer than 150 feet to the bank of the Necanicum River. Approximately 772,000 cubic yards of material has been identified in the F-80 area above the quarry floor, with an additional 762,000 cubic yards below the quarry floor, which is presently at about 45 feet mean sea level. Existing stockpiling presently is located within lands already zoned QM. Sediment ponds are found in the RA-5 property. In our Bayview findings (p. 20) we found that the site contains adequate room for sediment ponds, and we continue to abide by that finding. There is some timber left on the F-80 property, but most of the timber has been stripped and no longer exists. No wetlands have been identified on the property; the area is not identified as being desirable for open space, energy, scenic views; the area is not classified as an ecologically or

scientifically significant natural area, or a wilderness area, historic area, cultural area, potential or approved recreation trail, or potential or approved wild and scenic waterway.

(a) Economic Factors.

The stripping of timber in past years means that the site does not currently contain a significant or valuable forest resource. The ability of this site to support timber use or other forest uses is severely limited by its lack of trees. Only the riparian fringe vegetation along the Necanicum River and a scattering of other miscellaneous noncommercial species remains on the property. Hence, the property lacks sufficient productive capacity to be used as commercial forest land. However, the presence of a basalt formation on the property clearly demonstrates its capacity for productive use as an aggregate mine. Under these circumstances, and in light of the limited aggregate resource within this market area of the county, resource use for aggregate rather than timber on the limited number of acres involved is the more rational choice. Upon completion of aggregate extraction on the F-80 property, the site will be reclaimed to allow future forest uses. Hence, the loss of the site for forest uses is short term.

Hunting for elk and the provision of meat for households produces some economic benefit to the area. The RA-5 and F-80 sites are within the Peripheral Big Game Range classification of the county's Comprehensive Plan. According

to ODFW personnel, the number of elk located within a four square mile area surrounding the Johnson site is estimated in the order of a couple of hundred. We accept this figure. We also note and find that ODFW does not consider this site to be important big game habitat. If the proposal causes any loss of habitat, it should be small. Riparian vegetation along the Necanicum River will be preserved. We also find that habitat loss will be temporary, as the land ultimately will be reclaimed. Elk can migrate and take advantage of surrounding forest lands. Moreover, the large capacity of this quarry may limit the need for other smaller pits on forest land. The Necanicum River is a class I stream. To protect its values for fish resources, the riparian fringe vegetation will be protected and left undisturbed. No mining operations or stockpiling or other activities will occur within these areas. Drainage flows from the quarry will continue to be channeled into the present system of siltation ponds to protect water quality and fish habitat, thereby protecting fish for their economic value. Regular consultation between the Johnsons and field officials will insure that the water quality of drainage and runoff discharges from the mine remains at or exceeds present levels. The county also will rely on enforcement of the Forest Practices Act to protect riparian vegetation and water quality from potential negative impacts of any forest management that may occur.

As noted earlier, aggregate is a necessary and

important commodity for the economy of Clatsop County. This particular site has enormous rock potential and is demonstrated to be needed to meet the county's demand over the planning period and to ensure adequate competition in the marketplace. Expansion of the Johnson quarry will reduce the need to import rock into the county, provide commercial quality rock, and continue to provide jobs for persons currently working at the existing quarry, which has less than a one year supply of rock above the quarry floor. To not use this site would have a significant negative economic impact, including higher aggregate prices in the absence of competition and uncertain future supplies.

(b) Social Factors.

An adequate timber base is important to preserve county jobs and to provide areas for recreation. Because the Johnson site has been stripped of most of its trees, and because the area supports an existing aggregate pit, this area is not an ideal choice for timber production or forest recreation. Loss of 10.4 acres will reduce the county's timber base in the short term (although only about 4.1 of those acres are expected to be actively mined). Clatsop County has approximately 474,000 acres of timberland. The reduction in the timber base is thus minuscule, and the use of this site for quarry operations, without the need for new roads, may actually preserve more timber land than if new sites were needed. In addition, nearly all the alternative sites would entail loss of productive forest lands. Potential job losses from timber use

of this land are compensated by jobs for aggregate extraction.

Expansion of the aggregate operation may have a short term impact on elk in the area, which could affect elk hunting somewhat. However, this does not necessarily cause a decrease in elk in the area, and thus should not have a significant, if any, social impact. Protection of fringe vegetation along the Necanicum River will be supportive of elk and other wildlife habitat and protect water quality for fish. The sediment ponds are sufficient to protect water quality and therefore there should be no noticeable social impact regarding fish.

The aggregate proposal will ensure competition in the marketplace and avoid the great bulk of the resource being in the hands of a single operator. This competition serves the public's interest from a social standpoint. The site would be visible from the highway, and it will create some noise, although mitigation measures will keep noise within DEQ limits. As the operation moves eastwardly, noise and visibility impacts will decrease. A social benefit will be the continuation of jobs at the site and the support those jobs provide to the general well being of Clatsop County.

(c) Environmental Consequences.

Trees provide potential habitat for elk on the site. As indicated above, the site already has been stripped of most of its trees, although riparian vegetation exists along the Necanicum River. The proposal will not have a significant

environmental impact on forest resources because of prior action removing trees from the site. Moreover, what impact there will be is temporary, in that the site ultimately will be reclaimed, thereby allowing its future use as forest land. Forest resources along the Necanicum River will be protected for their watershed and wildlife values.

As noted above, expansion of the quarry onto the F-80 site and the use of the RA-5 sites in conjunction therewith may have the effect of displacing some elk in the area. However, retention of a buffer area along the Necanicum River will provide habitat for wildlife, and there is no indication that the proposed mine expansion, onto an anticipated 4.1 acres in the F-80 zone, will cause any loss in elk population. Upon reclamation the site will again become available as elk habitat. The sediment ponds have been shown to be adequate to protect fish habitat and water quality in the Necanicum River. The buffer of vegetative fringe between the river and the active mining area will not get any closer than 150 feet from the bank, thereby adding further protection for water quality. The site is at least 1.5 miles away from any bald eagle nest, so there should be no impacts on sensitive bird nests.

The majority of the proposed F-80 site is a solid basalt rock formation. The proposed mining operation will create a vertical cut slope at the final face of the aggregate mine which will then be reclaimed with overburden material to an appropriate slope surface. The presence of

solid basalt presents no hazard to the stability of adjacent lands. Landslides are not a problem at this site. Mining activity will remove aggregate from the site, changing the appearance of the site, but the site will be reclaimed pursuant to a reclamation plan upon completion of mining activities. The site is one of the few sites of high quality and quantity of rock in the market area, and it has already been disturbed and in use for quite a few years. Sedimentation ponds will protect water resources from adverse impacts caused by mining operations.

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Little energy use accompanies the growing of trees, with the exception of occasional spraying, pruning and harvesting activities. Rock extraction and processing would require more energy consumption.

Elk and fish resources entail no energy use. Extraction and processing of rock material requires more energy than these uses.

Energy expenditure necessarily accompanies aggregate extraction, as machinery is required in the extraction of materials, blasting is required, the rock must be processed, and there are transportation costs. At the same time, aggregate provides a correspondingly higher economic return. The proposed site is ideally located close to Highway 101 between Cannon Beach and Seaside, thereby reducing fuel consumption and providing a superior choice with respect to

energy consumption to other sites farther away.

(e) Program to Achieve the Goal.

Considering the economic, social, environmental and energy consequences of locating the proposed use at the Johnson site, the county finds as follows. Aggregate is a scarce resource within the county and within this market area of the county. Often the quality of aggregate is below that acceptable to the Oregon Department of Transportation. A site where there is high quality rock that meets ODOT specifications is a valuable resource. The Johnson site is such a site, enhanced by the fact that extraction and processing at this site will have a minimal effect on forest uses (since most of the merchantable timber has been stripped from the land), that such use will not have adverse impacts on water quality or fish, that displacement of elk, if at all, will be minimal, and in that the use should not have significant social impacts, especially since the use will be moving away from existing residences and the highway. We find that need exists for a site containing significant quantities of commercial quality rock, and that the Johnson site is such a site. We find that the use will not be new to the area, but is an expansion of an existing use which will not require new roads and which will have minimum additional impacts. We find that elk may be affected in small numbers, and that impacts from mining could adversely affect fish, but that this is highly unlikely to happen with the system of sediment ponds installed and the

retention of 150 feet of buffer in the F-80 area between the mining operations and the river. Any negative impacts on wildlife and on timber will be temporary, as the site ultimately will be reclaimed. We determine, on balance, and giving consideration to the mitigation steps proposed by Johnson, that the economic, social, environmental and energy consequences mitigate in favor of allowing the use at this site, with conditions as set forth in the conditional use application, incorporated herein by this reference. We find that this program will achieve Goal 5.

5. Goal 6.

The proposed use involves the expansion of an existing use rather than the establishment of a new use. The present aggregate mining operation meets applicable air, water and land resource quality standards. No change in operations will occur as a result of the proposed continued mining operation. Continuation of the operation will not involve increases in truck traffic, and steps will be taken to minimize noise, which levels will fall within DEQ standards. Water quality will be protected by sedimentation ponding and by retention of a large buffer area between the active mining area and the Necanicum River. We find that Goal 6 is satisfied.

6. Goal 7.

Goal 7 prohibits the planning or location of developments in known areas of natural hazards without appropriate safeguards. We find that the Johnson site is not prone to

landslides or natural hazards. The entire proposed active mining area is a solid basalt rock formation presenting no hazard to the stability of adjacent lands. We note that no new crossings of the Necanicum River are required to support the continuation of aggregate mining into the RA-5 and F-80 areas. We note that the aggregate operation will not occur within a designated floodway. We find that Goal 7 is met by this proposal.

7. Goal 9.

Goal 9 is to improve and diversify the economy of the state. The economic benefits of this proposal have been repeated throughout this exception document, particularly in analyzing the economic consequences for purposes of Goal 2, Part II and Goal 5. We incorporate those portions of this document herein by this reference. We reiterate that this would be a continuation of an existing use, that the demand for a high quality aggregate site in this area is clear, that existing supply is far below the identified need, that this site better meets the need than any other identified site, and that this proposal provides needed competition in the market area. We conclude that Goal 9 is met by this proposal.

8. Goal 11.

Goal 11 requires a timely, orderly and efficient arrangement of public facilities and services. The services at this location would be those necessary to meet the rural use involved. We find that existing water systems and fire protec-

tion systems serving the existing quarry are adequate to serve the continuation of the quarry onto the F-80 and RA-5 properties. We find that no new sources of water nor changes in the level of public facilities and services will be needed to support continued operation of this enterprise. We find that present systems of water, sewer, storm drainage, electrical service and fire protection serving the site will be used, with no increase in service required. We find that no new roads will be required. We conclude that the use meets Goal 11.

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Goal 12, Transportation, requires the county to provide a safe and convenient transportation system. We find that the proposal will have no greater impact on the transportation system than it has currently, and that Goal 11 is satisfied by this proposal. We find that the use will not require any new access points to Highway 101 and that an increase in traffic from the proposed use will not occur. We find that the present road serving the site will be maintained at or above its current level of maintenance.

I. Compliance with Applicable Plan Policies.

We find that the comprehensive plan policies applicable to this exception, plan amendment and zone change are those identified in Johnson's application for a conditional use permit, which application is expressly made a part of the record herein. We also find that the policies identified

therein are satisfied for the reasons expressed therein, we adopt the findings and reasons stated therein as our own, and we incorporate by reference those findings and reasons, and the listing of applicable standards, as if fully set forth herein.

J. Conclusion.

We conclude that the redesignation and rezoning of the Johnson F-80 and RA-5 properties to Conservation Other Uses and QM, respectively, is consistent with and satisfies all applicable statewide goal requirements, including the requirements of Goal 2, Part II (Exceptions) and OAR 660-04-000 et seq., and satisfies all applicable comprehensive plan provisions in the Clatsop County Comprehensive plan. We find that we have addressed all appropriate criteria and conclude that the exception, redesignation and rezoning is justified.

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Part 2. Conditions of Approval

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Howard E. Johnson & Sons

1. Preventative measures shall be taken to assure that excessive noise, dust, vibrations, and other nuisances associated with mining activities are avoided. The applicant shall follow the recommendations of its noise consultant in his noise study (attached to the application) and coordinate with the noise pollution control section of the Department of Environmental Quality to mitigate possible excessive emissions from rock extraction and sorting operations.

2. The proposed use will continue to use existing settlement ponds and drainage outfalls into the Necanicum River. The applicant shall coordinate with the Department of Fish and Wildlife for to ensure that the existing drainage system remains adequate and that water quality levels in the river are maintained.

3. The applicant shall obtain a valid permit from the Oregon Department of Geology and Mineral Industries for the rock quarry operations.

4. Rock crushing operations shall comply with a Air Contaminate Discharge Permit issued by the Department of Environmental Quality and with the provisions of Section 3.470 of Clatsop County Ordinance 80-14.

5. The applicant shall supply copies of applications and supporting materials for any actions which require state or federal permits.

6. All private access and service roads shall be maintained in a dust-free conditions during intensive operations.

7. Prior to operations which will result in open excavation with a depth of ten feet or more and a slope steeper than one vertical foot to two horizontal feet and which is located within 100 feet of a residential structure, a fence at least four feet high shall be constructed at least 10 feet outside the area of excavation.

8. No mining or structural improvements (except drainage outfalls and access roads) shall occur within the riparian setbacks as specified in Section 4.502. In no case, however, shall the minimum setback from a waterway be less than 25 feet.

9. Clatsop County Department of Planning and Development shall be notified in advance by either the applicant, a lessee or purchaser or rock material which will be used for fill or riprap in areas identified in the Clatsop County Comprehensive Plan as an Estuarine Resource Coastal Shorelands, Beach and Dune area or significant wetland area. All permits required by local, state and federal agencies for fill or riprap must be approved prior to placement of materials in any of the identified areas.

10. Reclamation plans for surface mining operations must show that they are consistent with the Comprehensive Plan.

11. All mining, stockpiling, construction of buildings and accessory structures and signs, and placement of concrete, ready-mix or asphalt batch plants shall obtain a Clatsop County Land and Water Development and Use Permit.

12. No barriers will be constructed to prevent wildlife migration unless required by adjacent residential uses.

13. Extraction operations on the site will be limited to the hours of 7:00am through 10:00pm.

14. Any development, including stockpiling of rock or overburden materials will stay clear of wetlands or will first obtain required state and federal permits.

15. Rock drilling equipment will not exceed 90 dBA [L (50)].

16. Extraction shall be in accordance with the Operation Plan as submitted by the applicant as Exhibit 3 (Wilsey & Ham) except as modified by Conditions 17 and 18 below.

17. Filling is permitted on the 2.1 acre parcel (TL 101). In addition, filling is permitted in the northeast corner of the 12.4 acre parcel (TL 100), northeasterly of a line that begins in the southwest corner of TL 101 and runs southeasterly to a point 150 feet north of the riverbank of the Necanicum River along the property line between TL 100 and TL 301.

18. As filling occurs in the designated portion of TL 100, excavation to a depth of at least 3 feet will be done on the remainder of TL 100 between the designated fill area and a line 100 feet from the riverbank of the Necanicum River. No excavation or any other work will be done in the 100 foot riparian zone along the riverbank.

Ord 88-2

EXCEPTION STATEMENT FOR CLATSOP COUNTY QUARRY/MINING SITES

A. Introduction

Clatsop County's mineral and aggregate resources element, initially adopted on July 23, 1980 and amended on May 23, 1984, inventoried 38 mineral and aggregate sites within the county and identified five of those sites for protection with a special quarry and mining (QM) zone. Those five sites are:

1. Howard Johnson & Sons (Johnson), Department of Geology and Mineral Industries (DOGAMI) No. 04-0011;
2. Clatsop County Road Department (Fishhawk Falls), DOGAMI No. 04-0025;
3. Clatsop County Road Department (Big Creek Pit), DOGAMI No. 04-0027;
4. J.C. Compton Company (Taylorville Quarry), DOGAMI No. 04-0053;
5. Oregon State Highway Department (Elderberry Quarry), DOGAMI No. 04-0055.

On February 13, 1985, Clatsop County's Comprehensive Plan and Land Use Regulations, including the county's mineral and aggregate resource element, were acknowledged by the Land Conservation and Development Commission (LCDC) as in compliance with the statewide planning goals.

The land upon which the five QM-zoned sites are located are forest lands which, were it not for the aggregate use, would be protected under statewide Goal 4, Forest Lands, and LCDC's administrative rule protecting forest lands. Until recently, statewide Goal 4 was interpreted to prohibit

aggregate mining where the aggregate is not used primarily in forest practices for logging roads. To allow mining primarily for nonforest uses, an "exception" to Goal 4, pursuant to statewide Goal 2 and ORS 197.732, was required. A recent amendment to LCDC's administrative rule, OAR 660-04-010(1)(b), now provides that the mining and primary processing of aggregate and other mineral resources on forest lands does not require an exception to Goal 4, if such uses will not substantially interfere with the conservation of forest uses. However, a valid question exists whether that rule in fact is consistent with the language of Goal 4. If it is not, an amendment to Goal 4 would be necessary to achieve that result.

Subsequent to LCDC's acknowledgement of Clatsop County's plan, the county established one additional QM-zoned site -- the Bayview site. An exception for this QM-zoned site was taken in 1987. However, for the five original QM-zoned sites, no exception was ever taken. This places the sites in an uncertain position from a legal standpoint. While no one has challenged or threatened to challenge the validity of any of the existing operations, the possibility for legal challenge remains. This exception statement is prepared for the purpose of eliminating the potential for such a challenge, recognizing that a legal challenge would not serve the best interest of the county, it residents, or its quarry operators. This exception statement also is prepared for the purpose of providing one

unified document addressing all QM-zoned sites within Clatsop County.

It has been brought to the county's attention that for one QM-zoned site, the Johnson site, the boundaries of the area zoned QM do not correspond to all of the Johnson property, as was intended in 1983. This occurred in part because the Johnsons had acquired an additional 10.2 acres for their operation after initial inventories had been completed, and in part, because the county was not aware that a portion of the Johnson mining operation included facilities on a small portion of RA-5 zoned land immediately adjacent to the area zoned QM. Hence, as part of this exception statement, the Johnson site boundaries will be redefined.

B. Original QM Sites

LCDC Goal 2 and ORS 197.732 provides that a county may take an exception to a goal, such as Goal 4, when:

1. The land subject to the exception is physically developed such that it is no longer available for uses allowed by the applicable goal;

2. The subject property is irrevocably committed to uses not allowed by the applicable goal; or

3. Reasons justify why the applicable goal should not apply.

Each of the five original QM-zoned sites represents a long-time quarry operation. Each site has been used extensively for

mining purposes to the extent that it is no longer available for uses allowed by the applicable goal. While it can be demonstrated that such sites are also irrevocably committed to mineral and aggregate use, and needed for such use, it is sufficient here to show that these sites are physically developed to such uses.

1. Johnson QM Site TSN, R10W, Sec. 4W.M., DOGAMI No. 04-0011.

This site is located east of U.S. Highway 101, approximately .75 miles north of the junction with State Highway 26 (the Cannon Beach Junction). The site is 16.3 acres, of which approximately 15 acres are actively used as an aggregate quarry. The actual quarry operation is approximately 1000 feet east of the highway, although there are some stockpiles of materials along the entrance road.

The site is adjacent to the Necanicum River, which is a Class I stream as defined by the Oregon Department of Fish and Wildlife. The active quarry area is entered via a private road and bridge crossing the river.

The site has been used as an active commercial aggregate quarry for over 20 years. Recent drilling by H.G. Schlicker & Associates, geologic consultants, have determined that approximately 70,000 cubic yards of crushed rock remains to be mined above the floor of the quarry. An additional 215,000

cubic yards of rock is available from excavations below the current quarry floor (between -15 and 45 mean sea level).

A photographic chronology demonstrates that the site has been constantly used for over 20 years as an active quarry and that any timber that was originally present on the site was long ago stripped. The continuous mining of this site and the absence of trees are sufficient to demonstrate that the site is no longer available for uses allowed by Goal 4.

In concluding that Goal 4 uses are not appropriate on this site, the county notes that mineral and aggregate uses are a recognized Goal 5 resource and that such uses are typically found on forest lands in Clatsop County.

The surrounding lands represent a mix of uses. To the north is the City of Seaside reservoir, which is generally surrounded by timber stands. To the east is forest land that has been mostly stripped of timber resources. To the south and west is land zoned and used as rural residential lands with seven residences located close to the quarry. The land immediately south of the quarry is zoned residential, but is generally unused and absent of any standing timber except for a riparian fringe of mixed trees.

The fact that the site is fully developed and actively used as a quarry site and has significant quantities of aggregate resources remaining, renders the site no longer available for forest uses permitted by Goal 4. The county

finds therefore, for the reasons previously stated that the site is irrevocably committed to quarrying activities and that the land is rendered impracticable for forest uses.

The map identifying the location of this site, and the aerial photograph of the site demonstrating the active aggregate mining operation, are expressively made a part of this exception.

2. Fishhawk Falls T6N, R7W, Sec. 31W.M., DOGAMI No. 04-0025.

This site is located off the Nehalem Highway, Highway 202, approximately two miles west of the elk reserve at Jewell. It is located upon an approximately 50 acre parcel; about five acres of that parcel have been zoned QM. A wooden bridge leads to the aggregate site. There are no existing public facilities serving this site.

The quarry site has been used for aggregate extraction for 20 years. Surrounding properties are owned by timber companies and are presently being logged. Large clear-cut areas surround the site.

Photographs of the Fishhawk Falls Quarry indicate that timber was long ago stripped from the site and that the site has been extensively used for the mining of rock. Those photographs conclusively demonstrate that this site has been developed as a quarry. The mining of this site, and the absence of trees on this site, are sufficient to demonstrate that the site is no longer available for uses allowed by

Goal 4. In reaching this conclusion the county notes that mineral and aggregate use is a recognized Goal 5 resource, and that such resources, in Clatsop County, are typically found on forest lands. The fact that no structures or public facilities serve this site (other than private roads) does not detract from the fact that this site has been developed as a quarry site, and that the use of the site as a quarry renders it no longer available for forest uses permitted by Goal 4. The county also finds, for the reasons stated above, that the extensive quarrying operations and activities which have occurred on this site render the site irrevocably committed to quarrying activities and render the land impracticable for forest uses.

The map identifying the location of this site, and the photographs demonstrating the aggregate use of this site, are expressly made a part of this exception.

3. Big Creek Pit T8N, R7W, Sec. 29 W.M., DOGAMI No. 04-0027

The Big Creek Pit is located off the Columbia River Highway (Highway 30), approximately two miles southwest of Knappa. The QM site, approximately six acres in size, is owned by Boise Cascade, which also owns an adjoining 22,000 acres in timber use.

The quarry is actively used to provide rock for the construction of logging roads. Approximately three to four acres are mined periodically, producing 50,000 tons of rock

every two years. Rock crushing and removal machinery are located on site. A well maintained clay and gravel road leads to the property and to a nearby tree farm owned by Boise Cascade.

Photographs of the site show that merchantable timber has been removed from the site and that the site has been extensively mined for rock. The photographs provide substantial evidence that the site is physically developed as a quarry site. Those photographs also demonstrate that this particular property is irrevocably committed to aggregate use and that it is not practicable to use this particular acreage for forest related uses notwithstanding the fact that it is surrounded by forest land. Indeed, it is clear from the supporting evidence that the gravel extracted from this site is important to forest operations on the adjacent lands, because the site provides rock for the construction of logging roads.

The map identifying the location of the Big Creek Pit, and the photographs of the pit, are expressly made a part of this exception document.

4. Taylorville Quarry T8N, R6W, Sec. 35 W.M., DOGAMI No. 04-0053

The Taylorville Quarry is owned by the Oregon Department of Forestry. It is located less than one-half mile west of Westport, off the Old Columbia River Highway. A 100 yard gravel road provides access to the site.

The quarry is currently used for rock and gravel mining operations, and has been used as a quarry for 35 years. The quarry itself is a two-tier operation. The lower level, at one time, accommodated portable crushing and mixing plants. It appears to be presently inactive as evidenced by accumulations of trash and weed growth. A gravel road leads to the upper level which is covered by quarry rock. This level appears productive and looks as if it is periodically mined.

Surrounding land consists of large tracts of forest and clear-cuts. Adjoining parcels to the south are being logged and are heavily dotted with logging roads. Additionally, power line transmission poles from Bonneville Power rise from these parcels. To the west, less than 1000 feet, a cul-de-sac consisting of several residences exists. The quarry and the homes are separated by trees and underbrush.

During the 1950s and 1960s this site was used as a material source in the relocating construction of the present US Highway 30. In the 1970s various crushing operations occurred on site to supply rock for maintenance of highway and logging roads. The site contains no permanent structures.

Photographs of the site show that the site no longer contains merchantable timber and has been extensively developed as a quarry. The photographs and the evidence identified above constitute substantial evidence that the land has been and remains physically developed for quarry purposes. The county

also finds that the extent and nature of such quarry operations renders this land committed to quarry and mining operations, and that forest operations on this particular site would be impracticable. The map and photographs for this site are expressly made part of this exception document.

5. Elderberry Quarry T4N, R7W, Sec. 3, W.M. Tax Lot 500, DOGAMI No. 04-0055

The Elderberry Quarry is owned by the Oregon State Highway Division. It is located off of the Sunset Highway, US 26, approximately 3.5 miles east of Elsie. The site is approximately five acres in size and is surrounded by large areas of clear-cut. An 800-yard overgrown clay and gravel road provides access to the quarry site. A large chained gate at the highway entrance restricts entry.

The quarry is presently inactive. Several test holes and large piles of quarry rock provide substantial evidence that the site was previously mined. Surrounding land consists of large tracts of forest that have been extensively logged. To the west of the access road entrance, less than 1000 feet, a residence exists. Additionally, a hotel/dining establishment is located less than half a mile from the site.

Photographs of the site demonstrate that much of the site and the surrounding area have been physically developed. The county also finds that the extent and nature of mining activity on the site renders this land committed to aggregate use and makes the land impracticable for forest use.

The map identifying the location of the Elderberry Quarry, and the photographs of the site, are expressly made a part of this exception document.

C. Bayview Quarry T5N, R10W, Sec. ____, W.M., Portions of Tax Lots 700 and 1000, and T5N, R10W, Sec. 4, W.M., Portions of Tax Lot 100.

The Bayview site consists of two irregularly shaped parcels located west of U.S. Highway 101 near the intersection of State Highway 26. The area is approximately 30 acres in size and is owned by Cavenham Forest Industries (formerly Crown Zellerbach). Bayview Transit Mix, Inc. has obtained a lease from Cavenham to conduct aggregate extraction and related activities on the property. The site is located concurrent with an existing aggregate pit that has been used for many years by Cavenham as a source of rock. The general area has been logged and does not presently support marketable timber.

On April 6, 1986, Clatsop County approved an exception for this site. That decision, Ordinance No. 86-10, was appealed to the Land Use Board of Appeals (LUBA), which remanded the matter back to the county. Subsequently the county received considerable additional testimony on the application which demonstrated compliance with the applicable standards in ORS 197.732(1)(c), Goal 2, Part II (Exceptions), and LCDC's administrative rules governing exceptions and Goal 5 resources. Following receipt of that testimony and its review against applicable standards and the issues identified by LUBA for

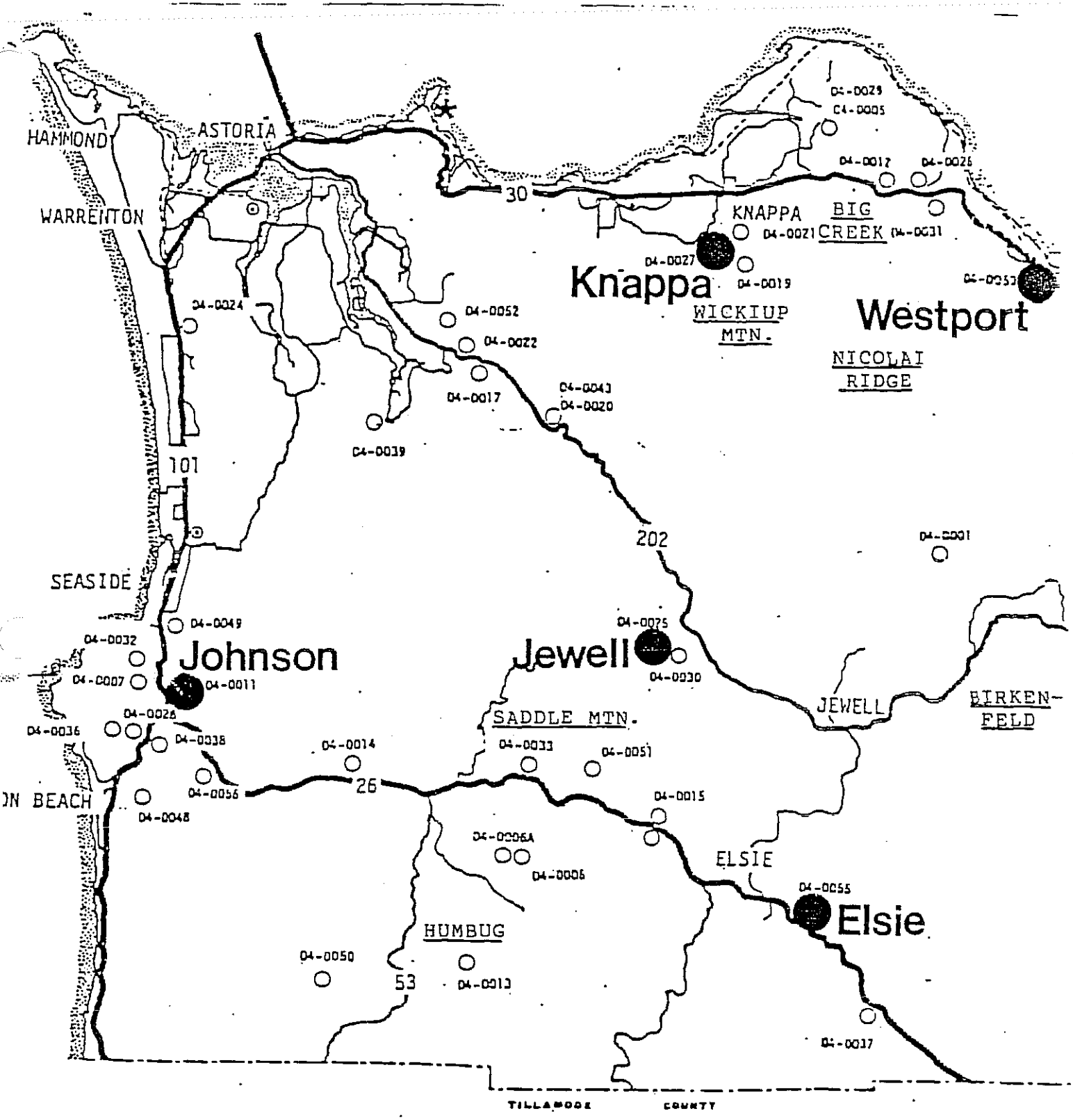
county consideration on remand, the county, on December 17, 1987, adopted Ordinance No. 87-18, approving the exception for the Bayview site and approving a plan designation amendment and zone change from Conservation Forest Lands and F-80, respectively, to Conservation Other Resources and QM. The exception document attached to Ordinance No. 87-18 is attached to this document and made a part of this exception document and Clatsop County's Comprehensive Plan.

D. Johnson F-80/RA-5 Site T5N, R10W, Sec. 4, W.M., Tax Lots 100, 101 and 301.

The Johnson Quarry, also known as the "Traprock" Quarry, is located about .75 miles north of the junction of Highway 26 with U.S. 101, on U.S. 101. The site consists of four parcels, one of which, described above, was among the five original sites zoned QM by the county. The original site, Tax Lot 200, is 16.3 acres in size. The adjacent parcels, Tax Lots 301, 100 and 101, are respectively 10.45, 12.44 and 2.06 acres in size. Tax Lot 301 was designated Forest Conservation and zoned F-80. Tax Lots 100 and 101 were designated Rural Land and zoned RA-5.

Clatsop County hereby takes an exception to Goal 4 for the Johnson Quarry. The exception is taken as part of the county's process of establishing a single exception document for its QM-zoned mineral and aggregate sites. The exception redefines the boundaries of the Johnson QM site to include Tax Lots 301, 100 and 101. The exceptions document is attached hereto and made a part of this exceptions document and made a part of

Clatsop County's Comprehensive Plan.



Zoned QM Sites

Zoned QM (Quarry & Mine) Sites

Other sites with permits from Oregon State Department of Geology and Mineral Industries

Figure 1

EXHIBIT "A"

Part 2. Amendment to Clatsop County Goal 5, Open Spaces, Scenic/Historic Areas and Natural Resources County-wide Element and Mineral and Aggregate Resources

EXHIBIT "A"

Mineral and Aggregate Resources Inventory QM Sites

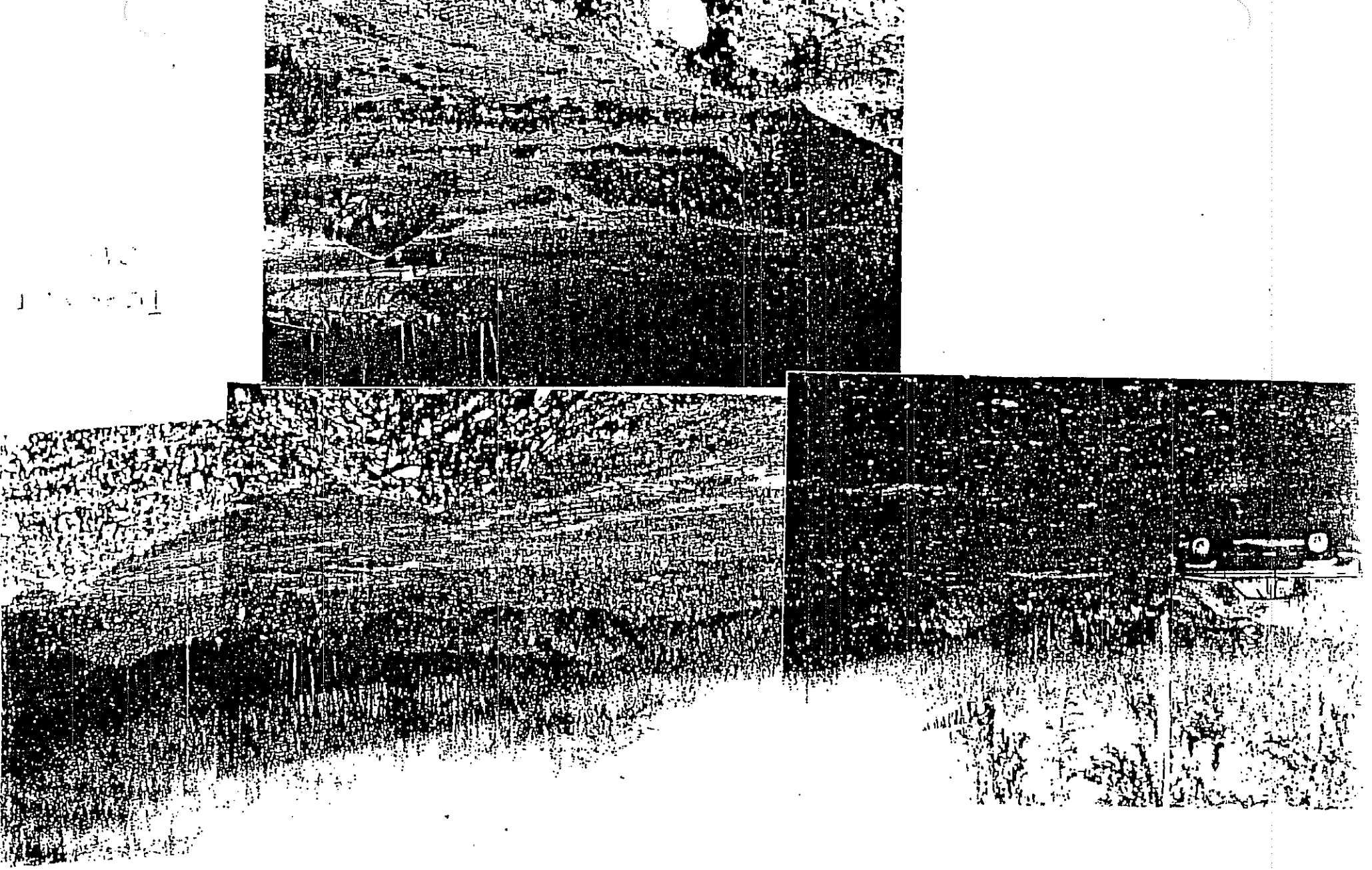
1. Fishhawk Falls (Clatsop County Road Department).
2. Big Creek Pit.
3. Taylorville Quarry.
4. Elderberry Quarry.
5. Bayview Transit Mix (Ord. 87-11, October 28, 1987).
6. Howard E. Johnson & Sons (Ordinance adopted April 13, 1988).

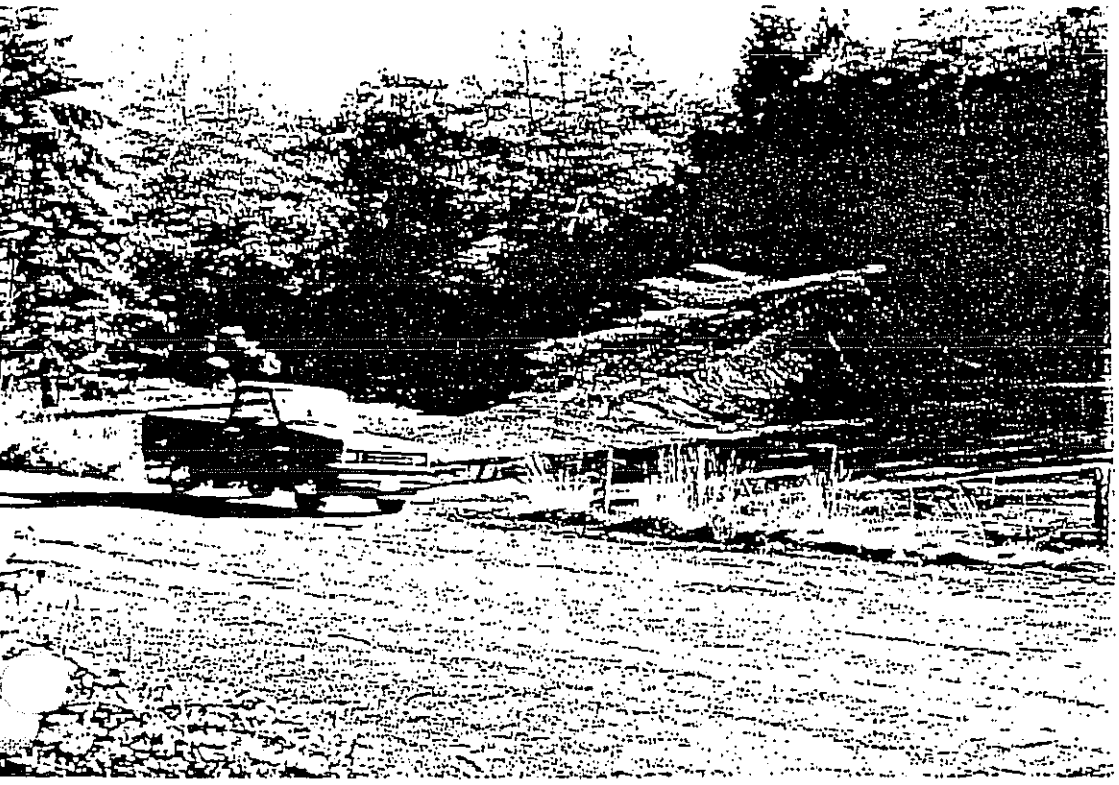
FISHHAWK FALLS (Clatsop County Road)

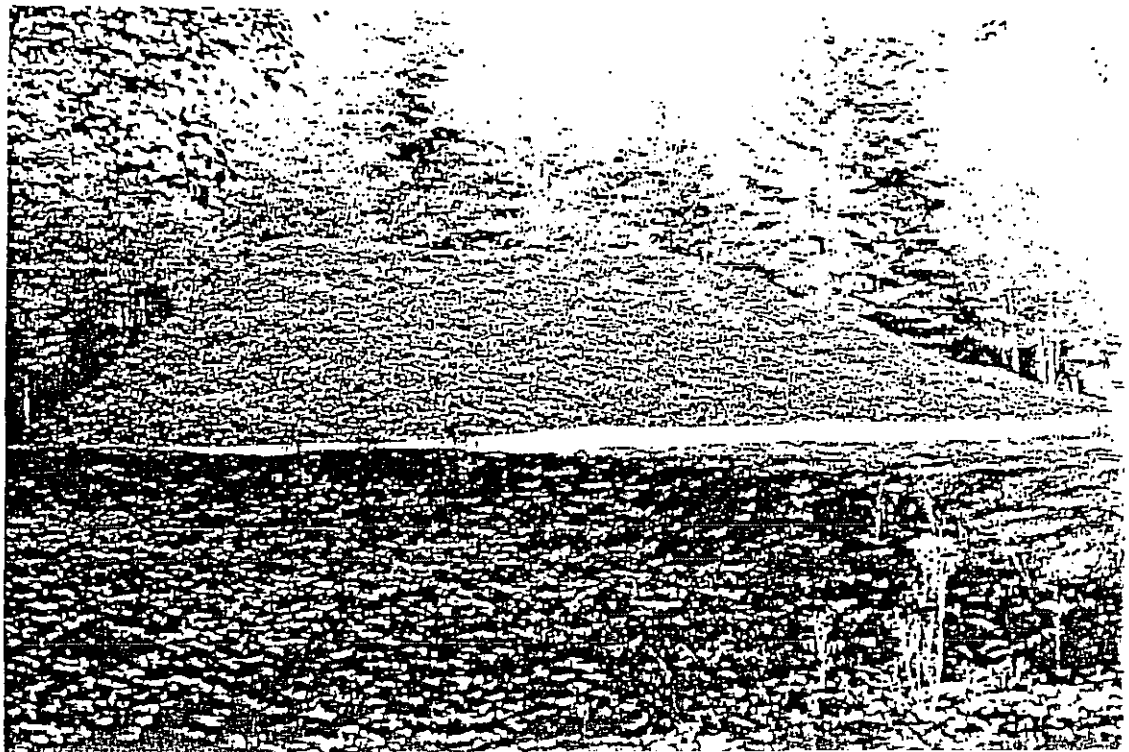
OWNER:	Clatsop County P. O. Box 179 Astoria, OR
LOCATION:	Nehalem Highway Two miles west of Elk Reserve at Jewell Adjacent to B. Haslett's residence
MAP NO.:	TWP 6N, RGE 7W, Sec. 31
TAX LOT NO.:	600
DOGAMI:	04.0025
ACREAGE:	50 acre parcel . . . 1 acre is active
PLANNING DEPT. INFORMATION:	Attached
CURRENT USE:	Maint. quarry rock for road repair
LENGTH OF USE:	Twenty (20) years
ADJACENT USE:	More quarries (Johnson & State), residences
ACREAGE MINED:	1
CURRENT DEVELOPMENT ON SITE:	Wooden bridge, gravel road leading to site - nothing else
EXISTING PUBLIC FACILITIES:	None
FOREST USE IMPRACTICABILITY DATA:	None
EXISTING LEVELS OF DEVELOPMENT INFORMATION:	None
AREA PARCEL PATTERN:	See attached map F-80 AF.20 OPR QM

OBSERVATIONS: This site is located 500 yards from the Nehalem Highway and a residence (Boyer Haslett). A wooden bridge skirts the Nehalem River adjacent to the road and a gravel road leads up to the quarry. The 50 acre parcel is heavily wooded and shows evidence of logging activity. The quarry site is relatively small (1 acre), but appears to be quite productive.

Two other quarries exist in the immediate area. One owned by the State and one by Allied J. & H. Lumber. To the east and west within one mile are several residences. The quarry is also within one mile of the Jewell Elk Reserve. Surplus rock from Fishhawk Quarry is stored in a holding area adjacent to the highway approximately a half a mile east from the quarry entrance. Most of the parcels in the area are owned by timber companies and are presently being logged. Hugh areas of clear-cut surround the quarry and the nearby reserve. The Town of Jewell is two miles east, Elsie and Highway 26 are ten miles south.







04-0025

OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
1534 QUEEN AVENUE SE, ALBANY, OREGON 97321
TELEPHONE: (503) 967-2039

GRANT OF TOTAL EXEMPTION

I.D. # 04-0025

Site Identification
Fishhawk Falls

Clatsop County Road Department
County Courthouse
Astoria, Oregon 97103

¼Sec.___ Sec. 31 Twp. 6N Rge. 7W

County Clatsop

Pursuant to ORS 517.750 through 517.990 as amended the above named permittee is granted an exemption from the requirements for a reclamation plan and a bond for this site.

THE BASIS FOR GRANTING THIS TOTAL EXEMPTION IS SHOWN BELOW

- [ ] 1. Access roads' borrow pit or quarry (ORS 517.750(13)(b)).
- [ ] 2. On-site construction (ORS 517.750(13)(b)).
- [XX] 3. The site is less than one acre and a total of less than 5,000 cubic yards of mineral have been or will be removed per year (ORS 517.750(13)(b)).
- [ ] 4. The site has qualified for a Grant of Limited Exemption as defined by ORS 517.770(1)(a) or (c) but annual production is less than 5,000 cubic yards.
- [ ] 5. Other.

ISSUANCE OF THIS GRANT OF TOTAL EXEMPTION IS NOT A FINDING OF COMPLIANCE WITH STATEWIDE PLANNING GOALS OR THE ACKNOWLEDGED COMPREHENSIVE PLAN. THE APPLICANT MUST RECEIVE LAND USE APPROVAL FROM LOCAL GOVERNMENT BEFORE USING THIS EXEMPTION.

PENALTIES: IT IS THE RESPONSIBILITY OF THE PERMITTEE TO NOTIFY THE DEPARTMENT PRIOR TO EXPANSION BEYOND THE LIMITS IN EXISTENCE AS OF THE DATE SHOWN ABOVE. FAILURE TO DO SO PLACES THE PERMITTEE IN THE POSITION OF CONDUCTING A SURFACE MINING OPERATION WITHOUT A PERMIT AND SUBJECT TO THE PENALTIES SET FORTH IN ORS 517.990(3) OR (5).

Issued this 1st day of August 19 86

STATE OF OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

By E. Frank Schnitzer
E. Frank Schnitzer

Title Reclamationist, Mined Land Reclamation

6

SMLR-11 2/85

OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
1129 SE SANTIAM ROAD, ALBANY, OREGON 97321
TELEPHONE: (503) 967-2039

GRANT OF TOTAL EXEMPTION

I.D. # 04-0025

Clatsop County Road Department
County Courthouse
Astoria, Oregon 97103

Site Identification

Fishhawk

Sec. ____ Sec. 31 Twp. 6N Rge. 7W

County Clatsop

Pursuant to ORS 517.750 through 517.990 as amended the above named permittee is granted an exemption from the requirements for a reclamation plan and a bond for this site.

THE BASIS FOR GRANTING THIS TOTAL EXEMPTION IS SHOWN BELOW

- [ ] 1. Access roads' borrow pit or quarry (ORS 517.750(13)(b)).
- [ ] 2. On-site construction (ORS 517.750(13)(b)).
- [x] 3. The site is less than one acre and a total of less than 5,000 cubic yards of mineral have been or will be removed per year (ORS 517.750(13)(b)).
- [ ] 4. The site has qualified for a Grant of Limited Exemption as defined by ORS 517.770(1)(a) or (c) but annual production is less than 5,000 cubic yards.
- [ ] 5. Other.

ISSUANCE OF THIS GRANT OF TOTAL EXEMPTION IS NOT A FINDING OF COMPLIANCE WITH STATEWIDE PLANNING GOALS OR THE ACKNOWLEDGED COMPREHENSIVE PLAN. THE APPLICANT MUST RECEIVE LAND USE APPROVAL FROM LOCAL GOVERNMENT BEFORE USING THIS EXEMPTION.

PENALTIES: IT IS THE RESPONSIBILITY OF THE PERMITTEE TO NOTIFY THE DEPARTMENT PRIOR TO EXPANSION BEYOND THE LIMITS IN EXISTENCE AS OF THE DATE SHOWN ABOVE. FAILURE TO DO SO PLACES THE PERMITTEE IN THE POSITION OF CONDUCTING A SURFACE MINING OPERATION WITHOUT A PERMIT AND SUBJECT TO THE PENALTIES SET FORTH IN ORS 517.990(3) OR (5).

Issued this 31st day of July 19 85

STATE OF OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

By E. Frank Schnitzer

E. Frank Schnitzer
Field Representative, Mined Land Reclamation

Title

C.O.

SMLR-11 2/85

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
1129 SE SANTIAM ROAD, ALBANY, OREGON 97321
TELEPHONE: (503) 967-2039

IDENT. NO. 04-0025

JAN 1984
RECEIVED

[XX] GRANT OF TOTAL EXEMPTION
[ ] GRANT OF LIMITED EXEMPTION

Clatsop County Road Department
Clatsop County Courthouse
Astoria, OR 97103

Site Identification
Fishhawk Falls
¼Sec. SW Sec. 32 Twp. 6N Rge. 7W
County Clatsop

Pursuant to ORS 517.750 to 517.900 as amended and subsection (4) of ORS 517.990, the above named operator is granted an exemption from the requirement for a reclamation plan and a bond for the property described above and in the Application dated December 27, 1983.

THE BASIS FOR GRANTING THE EXEMPTION IS SHOWN BELOW.

[ ] 1. The land was affected by surface mining before 7-1-72 (ORS 517.770(1)(a)).
[ ] 2. The land was affected by surface mining prior to 1-1-81 as defined by ORS 517.770(1)(c).
[ ] 3. Access roads' borrow pit or quarry (ORS 517.750(12)).
[ ] 4. On-site construction (ORS 517.750(12)).
[ ] 5. The site is less than one acre and a total of less than 5,000 cubic yards of mineral have been or will be removed per year (ORS 517.750(12)).
[XX] 6. The site is inactive.
[ ] 7. Other.

THIS CERTIFICATE DOES NOT RELIEVE THE PERMITTEE FROM THE REQUIREMENTS OF CITY, COUNTY, OR OTHER GOVERNMENT AGENCY AUTHORITY.

PENALTIES: IT IS THE RESPONSIBILITY OF THE OPERATOR TO NOTIFY THE DEPARTMENT IMMEDIATELY IF, BECAUSE OF CHANGED CONDITIONS, THE OPERATOR'S EXEMPTION OR EXCLUSION UNDER THE ACT IS ALTERED. FAILURE TO DO SO BY THE OPERATOR PLACES HIM IN THE POSITION OF CONDUCTING A SURFACE MINING OPERATION WITHOUT A PERMIT AND SUBJECT TO THE PENALTIES SET FORTH IN ORS 517.990(4).

THIS TOTAL EXEMPTION IS RECOGNIZED FOR INACTIVE STATUS. NOTIFICATION TO THE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES IS REQUIRED BEFORE RESUMPTION OF MINING.

Issued this 3rd day of January 1984.

STATE OF OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

By E. Frank Schnitzer

Title E. Frank Schnitzer, FIELD REPRESENTATIVE, MINED LAND RECLAMATION

MLR-10 Rev. 9/11/81

6 / Sec. 32

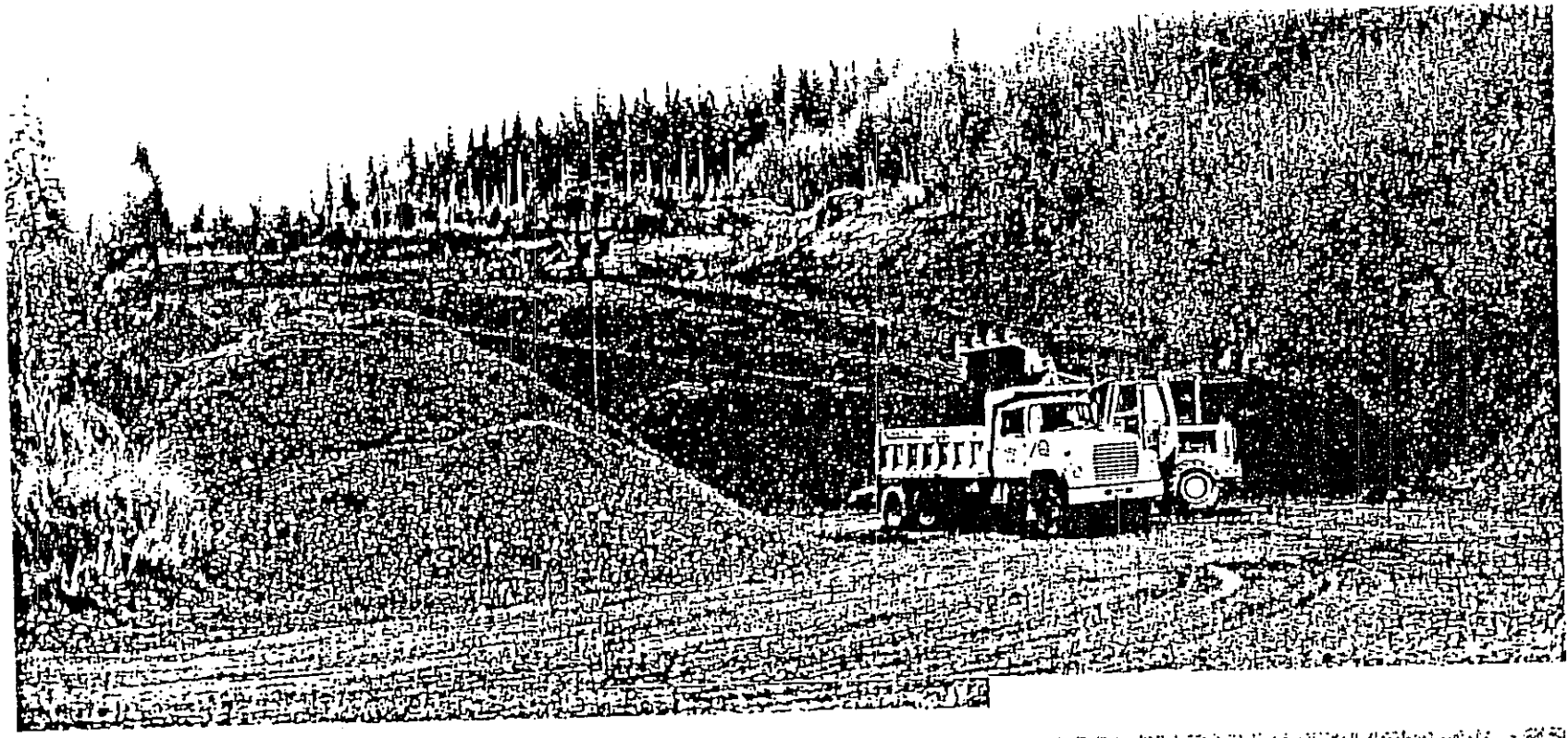
BIG CREEK PIT (Oregon State Highway)

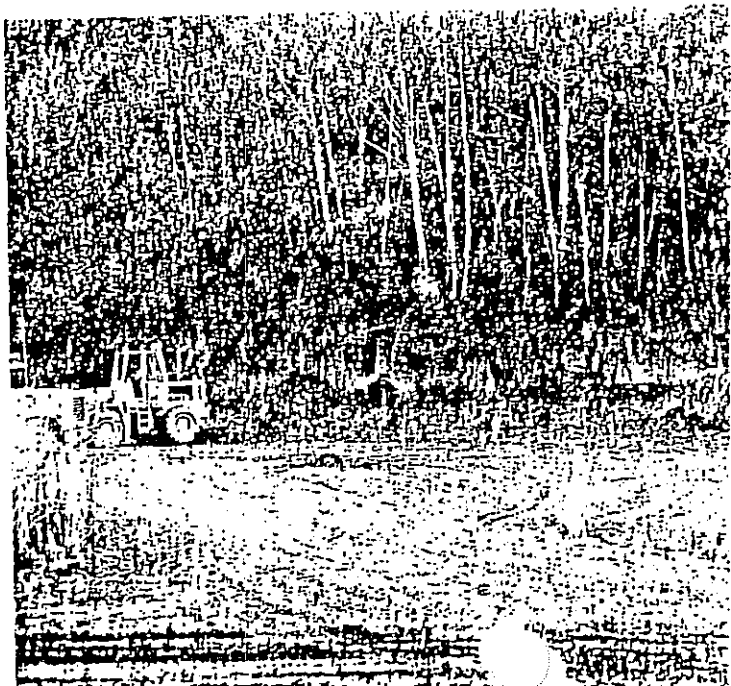
OWNER:	Boise Cascade Route 6, Box 260 Knappa, OR
LOCATION:	Columbia River Highway (Highway 30) 2 miles S.W. of Knappa
MAP NO.:	TWP 8N, RGE 7W, Sec. 29
TAX LOT NO.:	Part of road
DOGAMI:	04.0027
ACREAGE:	Six acres
PLANNING DEPT. INFORMATION:	None
CURRENT USE:	Quarry rock used to construct logging roads
LENGTH OF USE:	Developed by railroad in 1904
ADJACENT USE:	Boise Cascade owns surrounding 22,000 acres Timber uses . . . State Fish Hatchery within one mile
ACREAGE MINED:	3-4 acres periodically . . . 50,000 tons of rock are mined every two years, currently active
CURRENT DEVELOPMENT ON SITE:	Rock crushing and removal machinery
EXISTING PUBLIC FACILITIES:	None
FOREST USE IMPRACTICABILITY DATA:	
EXISTING LEVELS OF DEVELOPMENT INFORMATION:	Nearby tree farm
AREA PARCEL PATTERN:	QM F-80 F-38 AF-20 RA-2

OBSERVATIONS: This site is located on a large parcel of timber owned by Boise Cascade. Access to the quarry is a well maintained clay and gravel road leading to the timber company's tree farm. This road runs parallel to Big Creek.

The quarry is small - less than five acres in size and fenced. Paving material is presently being mined. I observed a large dozer loading County-owned dump trucks at a rate of 2 per hour (estimate).

The immediate area consists of timber and logged off areas. To the north, approximately one-quarter of a mile to one-half a mile, a large subdivision exists. Several other dwellings are located within several thousand feet of the site as is a fish hatchery. Both are separated from the quarry by trees and undergrowth. The Town of Knappa is approximately two miles north.





TAYLORVILLE QUARRY (Oregon State Highway)

OWNER:	Oregon Department of Forestry
LOCATION:	Between Westport and Taylorville off Old Highway 30
MAP NO.:	TWP 8N, RGE 6W, Sec. 35
TAX LOT NO.:	300
DOGAMI:	04.0053
ACREAGE:	
PLANNING DEPT. INFORMATION:	Attached
CURRENT USE:	Quarry rock and gravel
LENGTH OF USE:	35 years
ADJACENT USE:	Small subdivision, several residential parcels - less than 1/4 mile from Westport. Surrounded by ongoing logging operations.
ACREAGE MINED:	
CURRENT DEVELOPMENT ON SITE:	
EXISTING PUBLIC FACILITIES:	
FOREST USE IMPRACTICABILITY DATA:	
EXISTING LEVELS OF DEVELOPMENT INFORMATION:	
AREA PARCEL PATTERN:	F-80 F-38 AF-20 RA-1 RA-2 RA-5

OBSERVATIONS: This quarry is located less than 1/2 mile west of Westport off the Old Columbia River Highway. A 100 yard gravel road provides access to the site. The quarry itself is a two-tier operation. The lower level, at one time, accommodated portable crushing and mixing plants. It appears to be presently inactive as evidenced by accumulations of trash and weed growth. A gravel road leads to the upper level which is covered by quarry rock. This level appears productive and looks as if it is periodically mined.

The immediate area consists of large tracts of forest and clear-cut. Adjoining parcels to the south are being logged and contain hundreds of logging roads. Additionally, power line transmission poles from Bonneville Power rise from these parcels. To the west, less than 1000 feet, a cul-de-sac consisting of several residences exists. The quarry and the homes are separated by trees and underbrush. One residence is located next to the quarry entrance.

04-0053

CLATSOP COUNTY

Courthouse . . . . Astoria, Oregon 97103
February 6, 1980

TO: PLANNING COMMISSION

FROM: DEPARTMENT OF PLANNING AND DEVELOPMENT

RE: TEMPORARY USE PERMIT 04-0053

Applicant: J.C. Compton Company, Box 86, McMinville, Oregon 97128.

Owner: Oregon State Department of Forestry.

Request: Approval of a Temporary Use Permit to allow temporary operation of portable gravel crushing and mixing plants.

Location: Quarry site is in the Knappa area on Old U.S. Highway 30 between Westport and Taylorville. The property is further described as Tax lot 300, Section 35, Township 8 North, Range 6 West, Willamette Meridian. Paving operations would be carried out on portions of Highway 30 between Knappa Junction (mile post 83) and Clatskanie (mile post 60.79).

BACKGROUND:

1. Applicant contacted the Department of Planning and Development in mid-January to inquire if a permit would be required by the County for the operation of two portable gravel crushing and mixing plants on land leased from the State Department of Forestry.

2. Staff sent applicant a Temporary Use Permit form and a copy of a staff report prepared in April, 1979 for a similar request to provide an indication of the types of concerns staff would have about the proposed operation.

3. Applicant returned the completed application, plot plan and an additional three page "Questions and Answers" memo concerning the proposed use (see Attachments A and B).

4. Agency comments were requested and 21 public notices were sent out. A small subdivision is nearby and all the property owners in it received notices. To date, only the State Board of Forestry has returned comment, which was favorable to the operation.

STAFF FINDINGS AND RECOMMENDATIONS:

(1) Under Section 5.500 (Temporary Uses) of Zoning Ordinance 66-2 a Temporary Use Permit may be granted when a temporary use is necessary to meet the needs of a special situation not allowed outright or conditionally in the zone in which the use will occur. Additionally, the proposed use must not qualify as a continuation of a non-conforming use, not permitted by right nor be utilized as a means to abrogate the intent, purpose or procedure of the Comprehensive Plan and Zoning Ordinance.

(2) No temporary permit may be granted that would create a permanent rezoning, confer special privileges for which other property within the same zone may not be equally eligible nor result in hardship when the use permit expires.

(3) Under subsection 5.503 (Allowable Temporary Uses) the proposed use would fall under category "C. New Structures":

> "A use involving a new structure of a temporary nature necessary for the physical or economic welfare and development of the primary permitted use of the property may be granted a temporary permit by the Planning Commission subject to a finding that the new structure permitted by the temporary use permit shall be removed at the end of the temporary permit period."

(4) Subsection 5.504 enumerates the standards to be utilized by the Planning Commission in determining approval or denial of a temporary use request (see Attachment C). Staff makes the following comments concerning these standards:

A. Both the gravel crusher and batching plat are temporary structures which will be removed when road work is completed by applicant. In addition, both plants will be set up and operated within the area of an existing rock quarry.

B. With the exception of the small subdivision in the vicinity previously mentioned, lands surrounding the site are primarily large lot rural properties and forest resource lands. The site and surrounding properties are zoned Conservation under the Northeast Community Plan. The Wauna Rural Service Area boundary is nearby.

C. (1) As mentioned previously, the operation will be limited to the existing quarry site. The material produced will be transported by truck to application points along Highway 30.

(2) The quarry provides an economically advantageous site for the preparation of paving materials because of its proximity to the stretches of highway to be resurfaced. Applicant indicates a traffic volume of approximately 15 trucks per hour to and from the site during hours of operation (between approximately 7 a.m. to 7 p.m.). Portable chemical toilets will provide sanitary facilities for workers on the site.

(3) Applicant indicates there is a substantial buffer of trees between the quarry site and the closest concentration of homes. Staff investigation confirms this statement.

(4) The operation will access directly onto and off old Highway 30. The capacity of the Highway to meet the estimated traffic load generated by the operation appears good.

(5) As mentioned previously, the quarry site is buffered by natural vegetation from neary residential development. The relative isolation of the parcel should also help to minimize any nuisances the operation might generate for residential development in the area.

(6) The quarry operation will be of a relatively short duration (less than two months). Applicant will remove all equipment and materials at the end of the project. Therefore, impacts on the surrounding area can also be expected to be temporary.

D. No hardship to applicant is likely upon termination of the temporary use permit. Applicant's request is consistent with the intent and goals setforth in subsections 5.501 and 5.502 of the Zoning Ordinance.

(5) Subsection 5.505(B) allows the Planning Commission to attach conditions in order to protect public health, safety and welfare or the public interest from present or potential affects resulting from the temporary use permit. Such conditions may include screening requirements, control of noise, odors, vibrations etc., regulation of points of ingress and egress and specific time limits up to one year for the development of the use. Such conditions can help to insure conformance with the standards of the ordinance.

STAFF RECOMMENDATIONS:

1. Based on the information presented in this report and the information submitted by applicant, staff recommends approval of this request.

2. Staff also recommends that the following conditions be included with approval:

   a). Depending on specific recommendations from the State Highway Division, that signs warning motorists of truck traffic be placed on Old Highway 30 at least 100 feet on either side of the entrance to the quarry site.

   b). Because of the noise and vibrations generated by the plants and truck traffic, that the hours of full operation be strictly limited to between 7 a.m. and 7 p.m. Applicant has indicated the crushing operation will be carried out 24 hours a day, 5 days a week. The Planning Commission may wish to set some limitation on this single activity as well if it finds such operation would create a nuisance.

c). Since applicant indicates a total time period of under two months between February and June for the operation, that the permit be granted for a period of six (6) months.

Respectfully submitted,

Alwin M. Turiel, Zoning Administrator

AMT:ta

TO: Clatsop County Planning Commission

SUBJECT: Additional Information as part of J. C. Compton Company Temporary Use Permit application regarding State of Oregon Taylorville quarry.

The following are answers to possible questions relating to the J. C. Compton Company temporary permit regarding the Taylorville quarry:

1. What is the history of this quarry site? During the 1950's and '60's this quarry was used as a material source in the relocating construction of the present US 30 in that vicinity. In the 1970's various crushing operations have been used in supplying rock for maintenance of highway and logging roads. We feel this has been established as a source of rock to be used in roadway surfacing.

2. What temporary permit is required since surface mining, crushing, and stockpiling has been previously permitted? This would be for the purpose of further mixing the crushed rock with a cement to be applied to the roadway. Temporary structures would be required.

3. Will there be any permanent structures erected? No, the crushing plant and the mixing plants are portable and will be removed to other projects at the completion of the crushing and paving respectively.

4. What machinery and equipment will be used in the mining of the material? Dozers and loaders will be used to strip, rip, and charge the crushing plant. The crushing plant is all electric and consists of primary, secondary, and rolls crusher. Loaders will be used to stockpile the materials. No blasting is contemplated. Diesel power will be used to generate electricty.

5. What mixing plants will be used? A self-contained drum-dryer mixing plant occasionally augmented with a pug-mill. The average production rate will be approximately 300 tons per hour. The mixing drum-dryer has a sophisticated dust control system composed of twin fans, venturi scrubber, exhaust stack, and a water reclaimer. The latter eliminates the need for settling ponds and allows the

re-use of the scrubbing water. Air, water, and noise pollutants are required to meet DEQ standards and are monitored by that agency.

6. Do these plants have DEQ operating permits? Yes, all of the crushing and mixing plants have current permits and are on file with the DEQ Headquarters in Portland. Permit Nos. 37-0065 and 37-0173 cover the subject equipment.

7. Will growing and harvesting timber be affected? No, this property is owned by the State of Oregon and under jurisdiction of the State Foresty Department. This operation will not adversly affect the ingress and egress for harvesting adjacent areas.

8. What sanitation facilities will you have for your employees? Portable chemical toilets.

9. What vehicle traffic will result from your operation? No traffic will be generated from the mining. The mixing of the paving material will result in approximately 15 trucks per hour needed for the hauling to the state project.

10. What hours and time span will be estimated for the crusher and mixing operations? Crushing: 24 hours a day, 5 days a week for a total of 4 weeks. Mixing: 7 a.m. to 7 p.m., for a total of 6 weeks.

11. Have you taken steps to obtain the appropriate permits from the State Department of Geology and Mineral Industries? Yes, representatives of DOGMI are aware of our proposed plan. Required paperwork is being finalized prior to their issuance of a permit.

12. Is there a public need and benefit satisfied by this operation? Yes, this will provide the resurfacing and rehabilitation of highway US 30 between Clatskanie and Knappa Jct. (M.P. 83). No facilities are located close enough to economically serve this particular project.

13. How will this affect the surrounding persons, properties, or general public? The immediate area consists of logged off areas. To the

the west, approximately 1000 feet, a culdesac consisting of several residences exist. Rising ground and heavily wooded with alder trees and undergrowth separates our proposed area with the houses. The heavily wooded alders and undergrowth will further tend to eliminate any air or noise pollution. Traffic will travel directly from the quarry to US 30. Visual, sound, and environmental pollution will be minimized or non-existent in the general area surrounding the site.

14. Will the proposed request cause erosion or drainage problems? No, we will be required and subsequently monitored by DOGMI and the Oregon State Highway Division to see that we conduct our operations to prevent such problems.

In addition to the above information and the accompanying planned development overlay, we certify the reproduced aerial photo represents the current property under consideration.

J. C. COMPTON COMPANY

Emerson B. Page

January 25, 1980

INSTRUCTIONS FOR DESIGNING PLOT PLAN

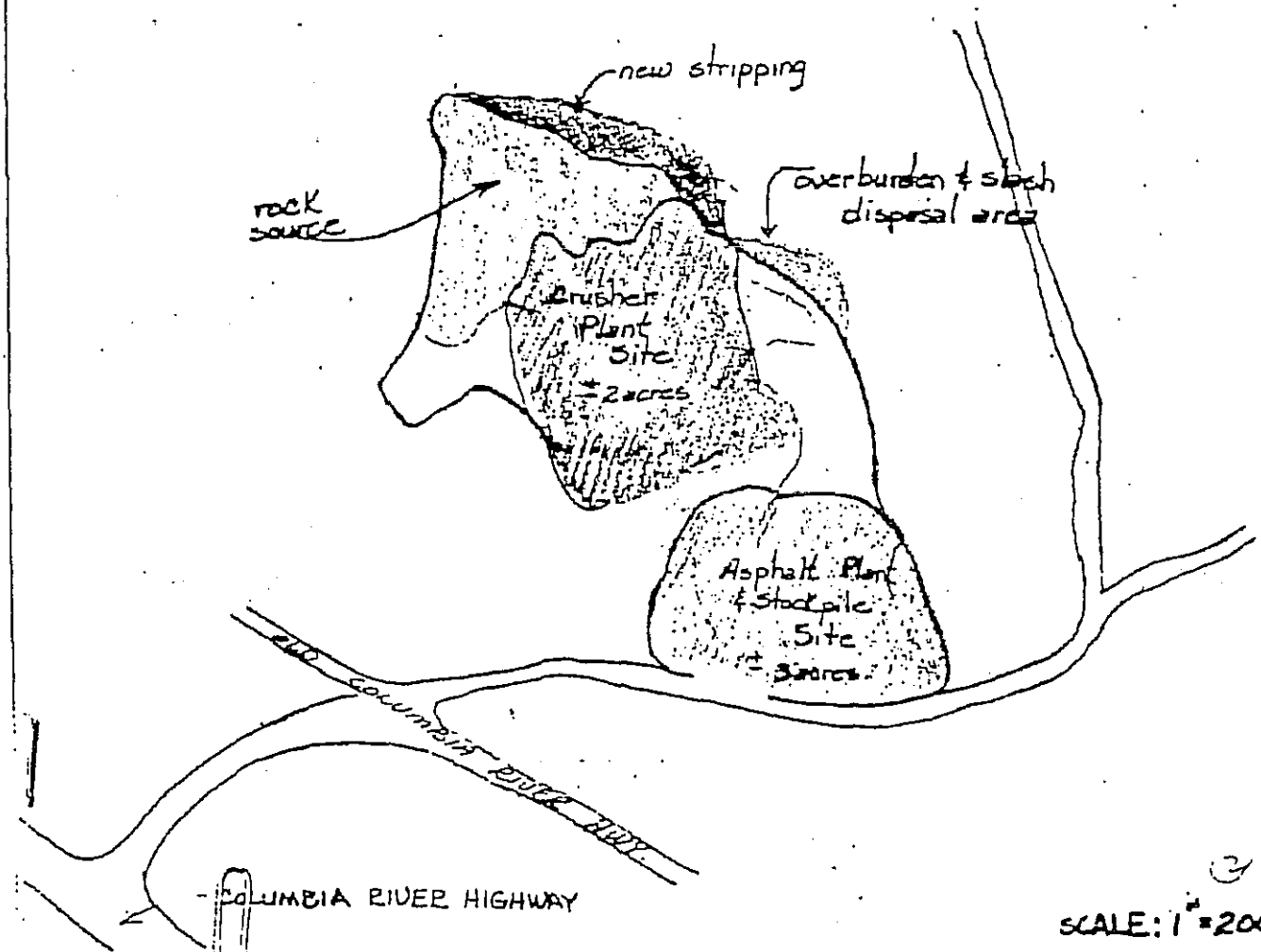
1. Show access road and/or street the property abuts for 25 feet or more.
2. Show property lines.
3. Show location of existing improvements.
4. Show location of proposed use.
5. Use arrows to indicate direction of slope, if any.
6. Use arrow to show north.

Contact Mr. Oat rd. 325-4735

N

PROPOSED DEVELOPMENT PLAN

N

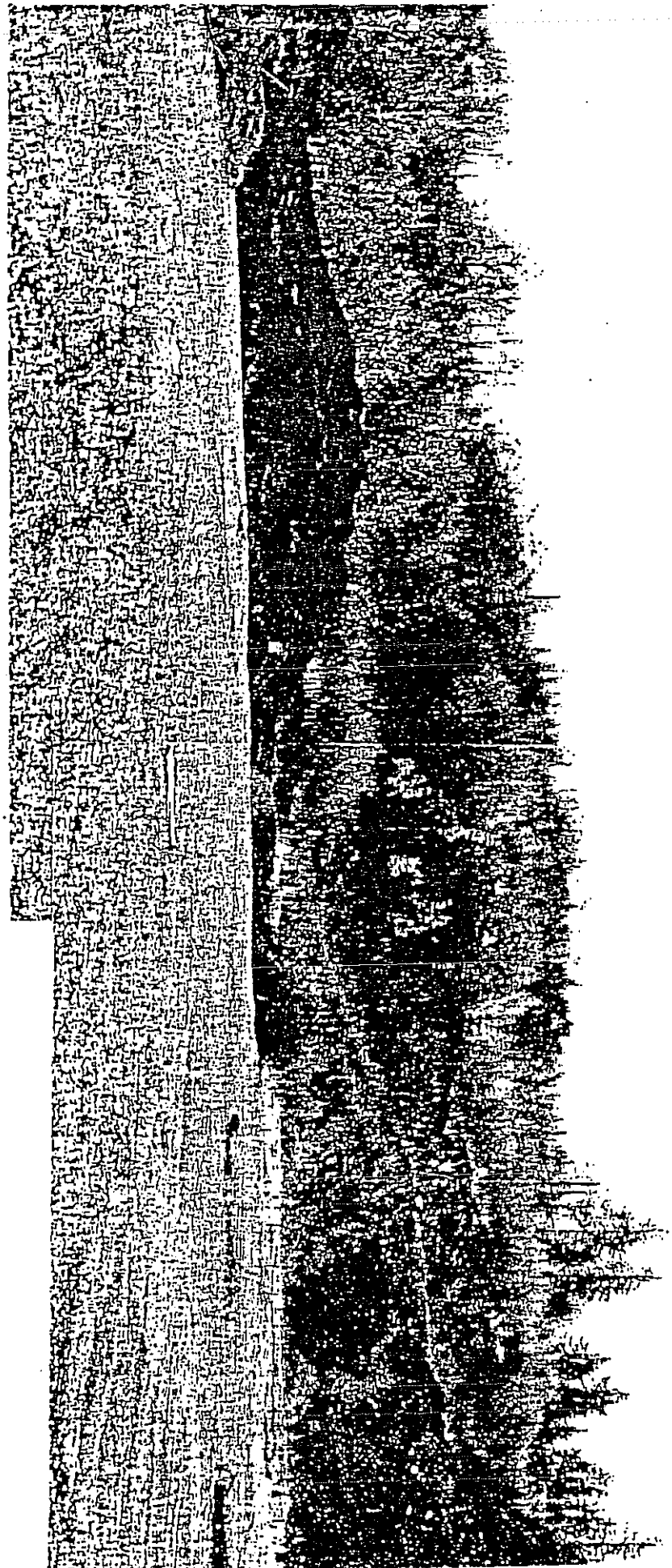


SCALE: 1" = 200'

TAYLORVILLE QUARRY

04-0053

(LOWER LEVEL)

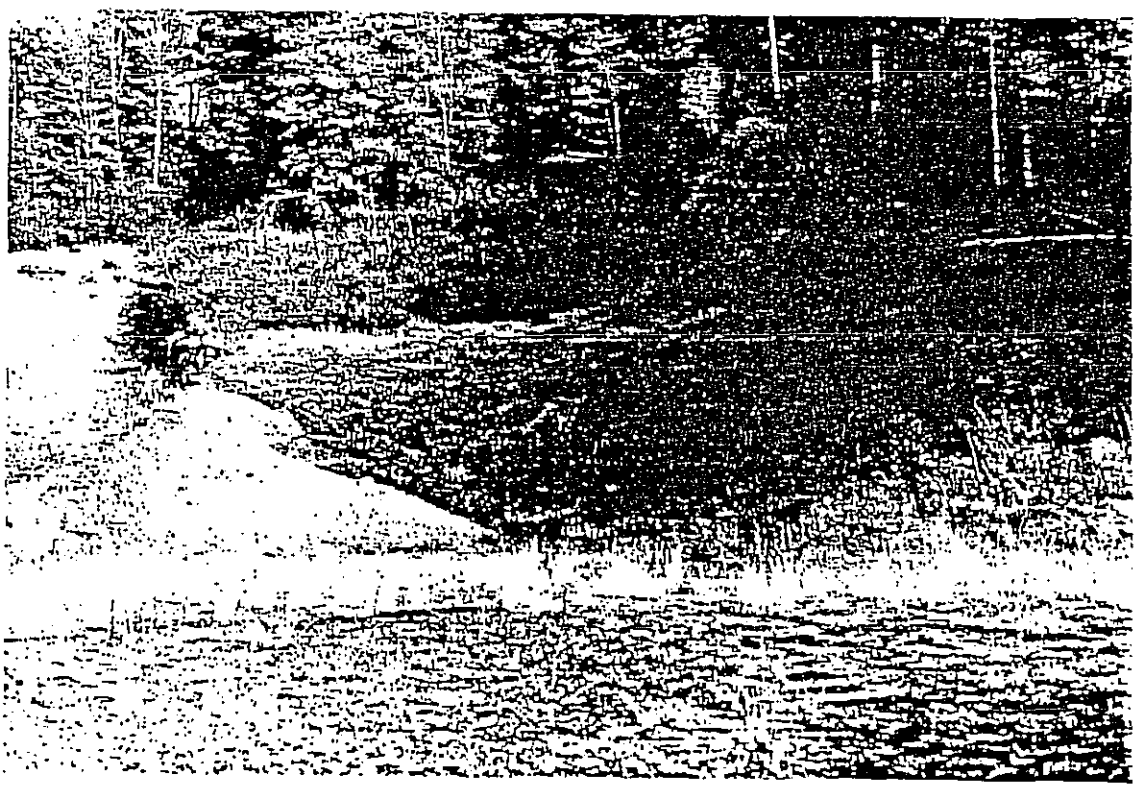


ELDERBERRY QUARRY (Oregon State Highway)

OWNER:	Oregon State Highway Division 9002 S.E. McLoughlin Boulevard Milwaukie, OR 97222
LOCATION:	Highway 26 (Sunset Highway) 3.5 miles east of Elsie
MAP NO.:	TWP 4N, RGE 7W, Sec. 3
TAX LOT NO.:	500
DOGAMI:	04.0055
ACREAGE:	Five acres
PLANNING DEPT. INFORMATION:	Attached
CURRENT USE:	Inactive
LENGTH OF USE:	
ADJACENT USE:	Timber harvesting . . . surrounded by huge areas of clear-cut
ACREAGE MINED:	1
CURRENT DEVELOPMENT ON SITE:	Logging and various mineral test holes
EXISTING PUBLIC FACILITIES:	None
FOREST USE IMPRACTICABILITY DATA:	Timber on site, clear-cut surroundings
EXISTING LEVELS OF DEVELOPMENT INFORMATION:	
AREA PARCEL PATTERN:	QM F-80 RA.1 RA.5

OBSERVATIONS: Elderberry Quarry is the least developed of the five quarries of interest. Located directly off Highway 26 (Sunset Highway), the quarry is accessed by a 500 yard gravel road that climbs rapidly in elevation. The road levels off at the top and forks. To the left are massive areas of clear-cut. To the right is the quarry parcel. The parcel is large (5 acres) and forested. Test holes (5) surround the site, but appear to be inactive. There is little evidence of mining with the exception of these test holes.

The parcel surrounding the quarry is owned by the Wright Blodgett Timber Company and has been extensively logged. Private owners hold the parcels west of the quarry and there are several residences within one mile. The Elderberry Inn is less than half a mile from the access road on Highway 26. The Town of Elsie is 3.5 miles west and a small subdivision exists near the Elsie-Jewell cutoff 1.5 miles west.



04-0055

QM zone

OCT 1983
RECEIVED
Dept. of Planning
& Development

STATE DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

SURFACE MINING OPERATING PERMIT Renewal

Oregon State Highway Division
9002 S. E. McLoughlin Blvd.
Milwaukie, OR 97222

SEPTEMBER 1984
Renewal Month

Location
Elderberry Quarry

3 4N 7W
ec. Twp. Rge.

Clatsop
County

THIS OPERATING PERMIT DOES NOT RELIEVE THE PERMITTEE FROM THE REQUIREMENTS OF CITY, COUNTY, OR OTHER GOVERNMENT AGENCY AUTHORITY.

Fee Paid

#04-0055
I.D. #

Pursuant to ORS 517.830(4), this permit shall be in effect, unless revoked or suspended for cause, from the date of issuance and shall remain in effect so long thereafter as the Operator pays the annual fee to renew the permit, complies with the provisions of ORS 517.750 to 517.900 as amended and subsection (4) 517.990, the Rules and Regulations as promulgated to administer the Oregon Mined Land Reclamation Act, complies with the reclamation plan submitted and maintains a performance bond as required by the Act.

Issued this 4th day of October 1983

STATE DEPARTMENT OF GEOLOGY & MINERAL INDUSTRIES

By Paul F. Lawson, Supervisor Mined Land Reclamation

Paul F. Lawson

SMLR-5-C(rev.7/31/80)

C

RECORDED
AUG 12 1993
BCC DOC # 93-05-15
REEL #

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

ORDINANCE NO 93-17

(AN ORDINANCE AMENDING THE MINERAL
(AND AGGREGATE ELEMENT OF THE COMP
(PLAN AND THE COMP PLAN/ZONING MAP
(BACKGROUND REPORTS AS ADOPTED BY
(THE BOARD OF COMMISSIONERS,
(ADOPTING CERTAIN FINDINGS AND
(RESCINDING INCONSISTENT PROVISIONS

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the 1993 Quarry & Mining Text and Map Amendments.

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to revise and amend the Clatsop County Comprehensive Plan and Comprehensive Plan/Zoning Map. In the interest of the health, safety and welfare of the citizens of Clatsop County and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the said Clatsop county Comprehensive Plan and Comprehensive Plan/Zoning Map.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Planning Commission has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Planning

Commission held a public hearing on June 3, 1993. The Board received and considered the Planning Commission's recommendations on this request and held a public hearing on this ordinance pursuant to law on July 28, 1993.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supercede, control and repeal any inconsistent provision of the Clatsop County Comprehensive Plan, as amended, and the Clatsop County Comprhensive Plan/Zoning Map, as amended, or any other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force and effective 30 days following adoption of this Ordinance.

SECTION 7. ADOPTION CLAUSE.

The Board of Commissioners hereby adopts the 1993 Quarry & Mining Text and Map Amendments, set forth in Exhibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ADOPTED this 11th day of August, 1993.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

By _____
Eric Olsen, Chair

By _____
Recording Secretary

Effective Date: 9/10/93

APPROVED AS TO FORM: _____
Clatsop County Counsel

EXHIBIT "A"

AMEND GOAL 5 QUARRY & MINING ELEMENT OF THE CLATSOP COUNTY COMPREHENSIVE PLAN. ADD THE FOLLOWING:

CLASSIFICATION OF COUNTY MINERAL & AGGREGATE SITES

Primary Sites Requiring QMO Protection

1)	Clatsop County - Clifton	S17,T8N,R6W	rock
2)	Clatsop County - Big Creek	SW,S29,T8N,R7W	gravel
3)	Howard Johnson - US 101	S4,T5N,R10W	rock
4)	Bayview Transit Mix - US 101	SW4,NW9,T5N,R10W	basalt

Primary Sites Requiring Conditional Use Approval

1)	George Ordway	S14,T5N,R10W	basalt
2)	Teeven Bros. Logging	NW,S27,T8N,R6W	rock
3)	Daren Berg, Humbug Rock	S22,T5N,R8	rock
4)	M. Nygaard Logging	NE,S31,T7N,R9W	rock
5)	A. Riekkola	S18,T7N,R8W	basalt
6)	Tagg	S3,T7N,R10W	sand
7)	Horecny	S23,T5N,R9W	rock

Other Sites

1)	Clatsop County (Anderson Rd-Brownsmead)	SW,S2,T8N,R7W	clay
2)	Howard Johnson	NW,S4,T5N,R10W	rock
3)	Ore State Forestry Dept	NW,S14,23,T4N,R9W	rock
4)	Ore State Hwy Division	S16,17,T5N,R9W	basalt
5)	Ore State Hwy Division	NW,S25,T5N,R8W	basalt
6)	McClean Logging	S28,T7N,R8W	basalt

EXHIBIT A

ADD The following site descriptions, maps and ESEE analyses to the Goal 5 Element Quarry and Mining Section of the Clatsop County Comprehensive Plan.

SITE 2.

BAYVIEW TRANSIT MIX ROCK QUARRY

BACKGROUND:

The Bayview Transit Mix Rock Quarry is located on approximately 30 acres to the west of the Highway 26/Highway 101 Cannon Beach in Township 5 North, Range 10 West, Willamette Meridian (portions of Tax Lots 700 and 100 and portion of Tax Lot 100 Section 4), Clatsop County, Oregon. The site includes an extraction area of about 20 acres and an adjoining processing and stockpile area of about 10 acres. The quarry was used as an intermittent source of commercial rock for about 15 to 20 year prior to 1987. In 1987, Clatsop County amended its Comprehensive Plan and zoning map and took an exception to Goal 4 to place the site in the County's Quarry and Mining zoning designation. Since 1987, the site has been continually used as a commercial quarrying site.

PURPOSE:

The purpose of this process is to place the Bayview Transit Mix Rock Quarry in the recently established Clatsop County Quarry and Mining Overlay Zoning district. This overlay will provide land use protection for this valuable commercial rock resource.

CLATSOP COUNTY COMPREHENSIVE PLAN:

The Land Conservation and Development Commission acknowledged the County's Comprehensive Plan on May 31, 1984. However this plan did not contain provisions to identify and protect valuable Goal 5 aggregate resources. This analysis is part of the County's current efforts to inventory and protect its known aggregate resources. The County finds that this site would not be affected by conflicting uses, including nearby residences or forest lands. This designation is consistent with a determination to preserve the resource in accordance with the Goal 5 administrative rule (OAR 660-16-005(1). In the event that the County receives a request to rezone properties in the vicinity to a zone that would permit conflicting uses, this overlay designation would protect the site from encroachment. No such rezoning or development has been proposed at this time.

DESCRIPTION OF PROPOSED MINING ACTIVITIES:

The site is being actively mined under the provisions of State Department of Geology and Mineral Industries permit at this time. The quarry is one of the major commercial extraction and processing sites in Clatsop County.

COMPLIANCE WITH STATEWIDE PLANNING GOAL 5:

The Statewide Planning Goal Number 5, requires in part that "where conflicting uses have been identified the economic, social, environmental and energy consequences of the conflicting uses shall be determine and programs developed to achieve the goal". The goal guideline suggests that "in conjunction with the inventory of mineral and aggregate resources, sites for removal and processing of such resources should be identified and protected".

The Goal 5 rule specifies the requirements and procedures local government must follow to comply with Goal 5. Goal compliance involves six basic steps:

1. Identify a resource's location, quality and quantity;
2. Determine the resource's significance;
3. Identify conflicting uses;
4. Analyze the economic, social, environmental and energy consequences of conflicts;
5. Determine the level of protection for the resource; and,
6. Implement a program to protect significant resources.

The purpose of this process is to complete the Goal 5 analysis and protect the Bayview Transit Mix quarry and processing site for future continued use.

REQUIREMENTS OF THE GOAL 5 ADMINISTRATIVE RULE:

Location

The Bayview Transit Mix Rock Quarry is located on approximately 30 acres to the west of the Highway 26/Highway 101 Cannon Beach in Township 5 North, Range 10 West, Willamette Meridian (portions of Tax Lots 700 and 100 and portion of Tax Lot 100 Section 4), Clatsop County, Oregon. The site includes an extraction area of about 20 acres and an adjoining processing and stockpile area of about 10 acres. The quarry site that is leased on a long term renewable basis by Bayview Transit Mix is part of a larger Hanson Resources ownership .

The location of this quarry near the Highway 26/Highway 101 intersection just to the south of the City of Seaside is ideal for supplying rock to the entire northwest corner of Clatsop County.

Quality

Abrasion, sodium sulfate soundness and air degradation tests have been completed on this source and are on file with Clatsop County in the Quarry and Mining Amendment land use files. This rock source meets all State and Federal quality test requirements. State specification crushed rock has been consistently produced from the site 1987 when the commercial operation was permanently established.

Quantity

The quantity of the rock source is estimated to be 2.0 to 2.5 million cubic yards. Documentation for this estimate can be found in the Clatsop County Quarry and Mining Amendment land use files.

Conclusion

This large rock reserve at a strategic transportation location makes the Bayview Transit Mix quarry a unique resource that is of significant economic value to Clatsop County.

The Bayview Transit Mix quarry is a significant resource by virtue of its location, quality, quantity and established development that should be protected on the inventory of significant Goal 5 resources in the Clatsop County Comprehensive Plan.

Conflicting Uses

Identifying conflicting uses to a significant resource site requires two principle steps: 1) designating and justifying an impact area surrounding the resource, and 2) determining conflicting uses allowed by the zoning ordinance, and identifying conflicts with other significant Goal 5 resources.

Impact Area

The Goal 5 rule (OAR 660-16-0002) requires identification of an impact area itself. The impact area is an area in which identified conflicting uses may adversely may adversely affect the resource. Although impact area is not defined in either the goals or in the Goal 5 rule, the impact area for a mineral and aggregate resource site must be the area which includes uses which could adversely affect the resource, but also the area including those uses which could be affected by the presence of a significant resource. The attached impact area map shows the boundaries of the Bayview Transit Mix quarry operations and an impact area that extends 1000 feet beyond the perimeter of this quarry.

Noise, dust, odor and blasting effects typically have the potential to adversely effect surrounding properties in the immediate proximity to a quarrying operation. In this situation, all properties within the 1000 foot impact area are owned by Hanson Resources, zoned for commercial forest use (F-80), and actively managed as forest lands. There are no existing residential dwellings within the 1000 foot impact area and there is a very low likelihood that any such dwellings will be proposed or constructed in the impact area within the foreseeable future. There are a number of uses allowed in the F-80 zone and it is difficult to forecast whether any of these would be proposed within the impact area.

The quarry operation utilizes an existing access road and paved road approach onto U.S. Highway 101 that is in excellent condition

and which provides safe highway access for existing and proposed traffic volumes. The Bayview Transit Mix quarry operation is not visible from U.S. Highway 101.

Potential Conflicting Uses

All properties within the 1000 foot impact area are zoned F-80. The F-80 zone is intended "to provide for large-scale commercial forest management where parcel size and ownership patterns are adequate to support such activities". In addition to forestry uses, this zone also permits forest related residences and offices, grazing, aquaculture, watershed management, home occupation and other uses.

Since all lands within the 1000 foot impact area are owned by Hanson Resources who also owns the subject quarry site, there is little or no potential for the future establishment of conflicting uses. As the land owner, Hanson Resources has complete control over uses within the impact area. These surrounding lands have been managed for commercial timber production for a number of years and it is safe to assume that they will continue to be use for this purpose.

Conclusion

The Clatsop County Bayview Transit Mix Quarry and Mining Amendment land use files contain an approval findings analysis of other Goal 5 resources that could potentially be impacted by land uses at the Bayview Transit Mix quarry site. A copy of this analysis is attached. Potential impacts upon forest resources, fish and wildlife, and wetlands are detailed. These findings reach the conclusions that the Bayview Transit Mix quarry site contains a valuable aggregate resource that merits Goal 5 protection and that the other Goal 5 resources have been examined and protected by a program of avoidance and use controls.

ESEE Analysis

The Goal 5 rule (OAR 660-16-005(2)) requires that if conflicting uses to the resource are identified, the economic, social, environmental and energy (ESEE) consequences of the conflicts must be determined. "Both the impacts on the resource site and on the conflicting use must be considered in analyzing the ESEE consequences. The applicability and requirements of other Statewide Planning Goals must also be considered, where appropriate, at this stage of the process."

The above referenced Bayview Transit Mix Quarry and Mining Amendment findings fully identify potential conflicting uses and examine associated ESEE conflicts.

REQUIREMENTS OF OTHER APPLICABLE STATEWIDE PLANNING GOALS

Goal 4 - Forest Lands

A Goal 4 exception has previously been approved for this quarry site as part to the 1987 Clatsop County Bayview Transit Mix Quarry and Mining Amendment package. Aggregate extraction and processing operations on this site are not expected to conflict with the protection of adjoining forest lands or forest practices, or other activities necessary and appropriate for management of soil, air, water and fish resources, the provision for recreational opportunities, and agricultural uses. Mining and processing of aggregate and mineral resources are permissible uses of forest lands as specified by Goal 4 administrative rule. No aspects of the quarry's development would force a significant change in, or significantly increase the cost of accepted forest or farming practices on surrounding lands dedicated for resource use. Similarly, no aspects of the proposed operations are expected to significantly increase the fire hazard, the cost of fire suppression, or risks to fire suppression personnel.

Goal 6 - Air, Water and Land Resource Quality

The environmental effects of the quarry operation have been discussed above. The existing quarry has an active DOGAMI mining permit. The existing crushing plant has appropriate DEQ permits. The existing storm water collection and treatment system has appropriate DEQ permits.

The quarry is currently operating under the controls of required environmental permits without any identified problems.

Goal 12 - Transportation

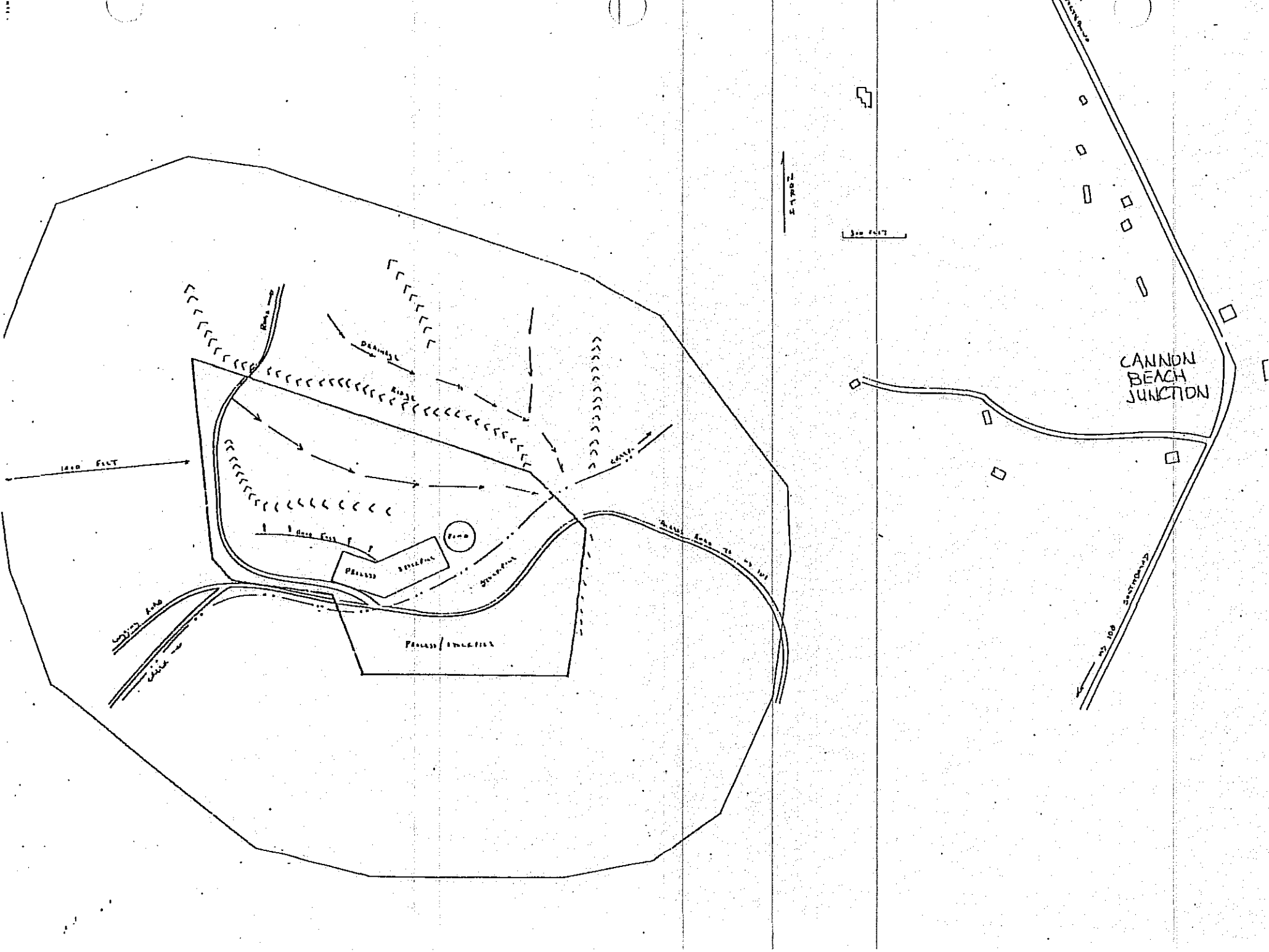
Statewide Planning Goal 12 requires local governments "to provide and encourage a safe, convenient and economic transportation system". The Bayview Transit Mix quarry is a very important source of aggregate materials for a wide range of City, County, State and Federal street and highway construction and repair projects.

Goal 13 - Energy Conservation

The Bayview Transit Mix quarry by virtue of its strategic location promotes energy conservation. It is far most efficient to utilize rock from this centrally located source than to import rock form outlying locations within Clatsop County or from areas outside of our County.

Seventh: Extraction shall be in accordance with the staged extraction plan as submitted by applicant as prepared by David Evans & Associates, Inc. on August 26, 1987. (This condition will result in the mouth of the quarry being oriented away from residences and will result in a lip of rock being maintained between the resources and the quarry. This will insure sound levels are within DEQ standards.)

We conclude that these conditions, together with the conditions imposed and adopted by us in the prior proceeding and together with the Bayview excavation plan and sedimentation control plan, constitute a program designed to achieve Goal 5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5

CLATSOP COUNTY BIG CREEK ROCK PIT

GOAL-5 ANALYSIS

BACKGROUND:

The Big Creek rock pit is located in the north central area of Clatsop County in the Knappa-Svensen area, on the southwest side of Big Creek Hatchery Road, approximately two miles south of US Highway 30. The purpose of the pit is to provide base rock for County roads and dikes in this area of the county. The property which the county owns consists of approximately six acres of land leased from Agency Creek Management and Boise Cascade. The County has operated this pit since the 1950s as a non-commercial quarry. The pit has provided rock for most of the County roads in the northern area of the County, primarily the Knappa-Svensen, Brownsmead, and Westport areas. Approximately 3,000 cubic yards are extracted from the quarry annually, and is primarily used for fill and base rock.

PURPOSE:

The County maintains a number of quarries in order to supply rock for the construction and maintenance of its road system. While virtually all of the 40,000 cubic yards of gravel used by the County is supplied by commercial quarries, the material in the County-owned quarries is used primarily for base rock, fill and other purposes. The County does not maintain its own gravel processing facilities or asphalt plant for surfacing materials. Rather, it relies on private contractors, who are located primarily in the Seaside area. From time to time the County may contract with an operator who will crush the material for future use by the County or its contractors. County-owned aggregate sites provide a source of material which lowers the cost of transportation and saves tax revenues.

CLATSOP COUNTY COMPREHENSIVE PLAN:

The Land Conservation and Development Commission acknowledged the County's Comprehensive Plan on May 31, 1984. However, no mention of the Big Creek rock pit was included in the Goal 5 portion of the Plan. This analysis is intended to be included in the Comprehensive Plan, and to establish the Big Creek quarry as a priority site. The County finds that the site would not be affected by conflicting uses, including nearby residences or forest lands. This designation is consistent with a determination to preserve the resource in accordance with the Goal 5 administrative rule (OAR 660-16-005(1). In the event that the County receives a request to rezone properties in the vicinity to a zone that would permit conflicting uses, this overlay designation would protect the site from encroachment. No such rezoning or development is

proposed as this time.

DESCRIPTION OF PROPOSED MINING ACTIVITIES

Clatsop County Road Department will develop the site over an extended period of time. No commercial activities are proposed. The use of the site will be intermittent, and will be dependent on the County's demand for rock. It is estimated that over 400,000 cubic yards of rock are readily available on the site which could be extracted over a twenty to thirty year period. Full use of the site for extraction could take several decades. The use of the site for stockpiling materials from other locations, such as gravel and sand, is also planned.

The extraction method proposed for the site is benching. Because of the nature of the rock - Columbia River Basalt - controlled blasting will be performed on occasion. The County will require that all trees and other vegetation remain undisturbed in locations not necessary for mining operations, and that berms be constructed to screen stockpiles and mining from the roadway. Because of the presence of the State of Oregon Big Creek Salmon Hatchery, particular attention will be paid to minimizing negative impacts on water quality in the area. Recent construction of residential uses in the Big Creek area places pressure on the County to take greater care to minimize the impacts of quarrying on the tranquillity of the area. The County will ensure that the site is reclaimed in accordance with state regulations administered by DOGAMI.

COMPLIANCE WITH STATEWIDE PLANNING GOAL 5

The Statewide Planning Goal Number 5, requires in part that "where conflicting uses have been identified the economic, social, environmental and energy consequences of the conflicting uses shall be determined and programs developed to achieve the goal."

The goal guideline suggests that "in conjunction with the inventory of mineral and aggregate resources, sites for removal and processing of such resources should be identified and protected."

The Goal 5 rule specifies the requirements and procedures local government must follow to comply with Goal 5. Goal compliance involves six basic steps:

1. Identify a resource's location, quality and quantity;
2. Determine the resource's significance;
3. Identify conflicting uses;
4. Analyze the economic, social, environmental and energy consequences of conflicts;
5. Determine the level of protection for the resource;
6. Implement a program to protect significant resources.

The purpose of this process (and this report) is to complete the Goal 5 process and protect the Big Creek site for future use by the Clatsop County Road Department. It is recognized that future development in the vicinity of the Big Creek pit may be in conflict with future development in the vicinity of the site.

REQUIREMENT OF THE GOAL 5 ADMINISTRATIVE RULE

Location

As described above, the Big Creek quarry property consists of 6.0 acres located on Big Creek Mainline, off of approximately two miles south of US Highway 30 at T8N R7W, Section 29, tax lot 700. The entire property parcel is 128 acres and is owned by Boise Cascade. The impact area includes tax lots 2903, 2904, 3000, 3001, 3002, 3300, 105, 109, 406, 409, 500, and 600. Several of these parcels are of the size suitable for rural residences, although no dwellings are located on them at the present time. Property to the south, west and east are large parcels of timber lands owned by forest management companies. The zoning designation for this area is Forest 80. (F-80).
Protection of the site will include the entire 20 acre Clatsop County parcel, although it is unlikely that the entire site will be mined.

Quality

No abrasion, sodium sulfate soundness or air degradation tests have been performed on the material in this pit. However, it is the considered opinion of the County public works director and engineer that the basalt rock is of high quality. It has been used to good effect on many County roads in the northeast area of the County in the last thirty or forty years. If the material were to be used for asphalt or concrete, tests would be performed specifically for that purpose.

Quantity

The estimated 300,000 cubic yards in this pit qualifies it as a medium size quarry in Clatsop County. This estimate is based on visual examination of the site and aerial photos by County staff, but no geologic investigation has been carried out.

Conclusion

The large amount of basalt in this location makes the Big Creek pit

a unique resource. It is a significant pit in the northern portion of the County, and is centrally located with respect to County roads. Its lack of surrounding development means minimal conflicts in the future.

The quarry is a significant resource by virtue of its location, quality and quantity, and should be retained on the inventory of significant Goal 5 resources in the Clatsop County Comprehensive Plan.

Conflicting Uses

Identifying conflicting uses to a significant resource site requires two principal steps: 1) designating and justifying an impact area surrounding the resource, and 2) determining conflicting uses allowed by the zoning ordinance, and identifying conflicts with other significant Goal 5 resources.

Impact Area

The Goal 5 rule (OAR 660-16-0002) requires identification of an impact area surrounding the resource site if different from the resource site itself. The impact area is the area in which identified conflicting uses may adversely affect the resource. Although impact area is not defined in either the goals or in the Goal 5 rule, the impact area for a mineral and aggregate resource site must be the area which includes uses which could adversely affect the resource, but also the area including those uses which could be affected by the presence of a significant resource.

Noise, dust odor and blasting effects may adversely affect surrounding land uses. Conversely, the complaints expressed by surrounding property owners about these effects, as well as complaints about traffic and the effects to visual quality influence whether, or how, a resource may be mined. At the present time there is no conflicting use in the vicinity of the quarry. However, the purpose of the designation of the overlay zone is to anticipate future rezonings or other incompatible use of the property. There are twenty-one uses permitted in the F-80 zone, including forest related dwellings, and it is impossible to determine with certainty whether a parcel will be used for a particular use.

The Big Creek quarry is not visible from the adjacent County road or the residential area in the Big Creek valley. Any future expansion will ensure that the existing buffering and screening from the road and residences will be enhanced. Traffic is not a problem because of the occasional use of the quarry. Big Creek Road (Hillcrest Loop) is a collector road, and services the State of Oregon Big Creek hatchery. The hatchery has seven residences on the site for State hatchery employees. There have been no known conflicts between the quarry and the hatchery in the recent past.

More frequent use of the site, even on a daily basis, is not anticipated to impact any other users of the road.

Potential Conflicting Uses

Most of the property surrounding the Big Creek quarry is zoned F-80, the County's prime forest production zone. It is intended "to provide for large-scale commercial forest management where parcel size and ownership patterns are adequate to support such activities." In addition to forestry uses, this zone also permits forest related residences and offices, grazing, aquaculture, watershed management, and home occupations.

Conclusion

Within the impact area surrounding the Big Creek Quarry, few conflicting uses are found, and few land uses which may have conflicts with a rock quarry are anticipated. Nonetheless it is in the interest of Clatsop County and its citizens to protect this resource for the future.

ESEE Analysis

The Goal 5 rule (OAR 660-16-005(2)) requires that if conflicting uses to the resource are identified, the economic, social, environmental and energy (ESEE) consequences of the conflicts must be determined. "Both the impacts on the resource site and on the conflicting use must be considered in analyzing the ESEE consequences. The applicability and requirements of other Statewide Planning Goals must also be considered, where appropriate, at this stage of the process."

Economic

The economic consequences of allowing conflicting uses to be established near Big Creek quarry are significant. While large scale urban development is not likely, even one or two dwellings could affect the operation of the quarry through neighbor complaints, particularly when the quarry is owned by a local government. The economic consequences of allowing the conflicting uses in monetary terms is difficult to predict. On the assumption that there are 250,000 usable cubic yards of material in the quarry, and the average price of pit run rock is $5.00 per yard, the current value of the quarry is $1.25 million at the quarry site. Transportation is a significant factor in the cost of aggregate materials. The Big Creek quarry is strategically located for the northeastern portion of the County. Not having access to the Big Creek quarry would mean the county would have to haul rock from the Clifton quarry, or possibly the Fishhawk quarry. Additional costs include resolving conflicts after they have surfaced. Political entities such as the County are especially

vulnerable to conflicts. Delays during the construction season can create severe problems for project budgets.

Since the surrounding property is undeveloped at this time, economic consequences for these parcels are speculative. Uses may be proposed for these parcels which can be compatible with the quarry operation.

Social

The consequences of allowing conflicting uses adjacent to quarry operations are not directly applicable to protection of the rock resource itself. However, the social consequences of development upon surrounding land uses may cause significant modification of quarry operations. Even one single family dwelling could bring pressure to bear on the County to restrict or terminate operations. If conflicting uses are allowed near the site, it is possible that the resource could not be developed because of the inability to meet environmental regulations designed to protect the livability of surrounding property. Requiring measures to protect conflicting land uses from the impacts typically generated by quarry operations could result in curtailed productivity and a reduction in livability for other County residents which rely on a high standard of roads and dikes. The effect on conflicting uses if the development is allowed includes the typical and unavoidable effects of quarry operations, including noise, dust and truck traffic. The site is not a permanent, year-round commercial quarry operation, and it is difficult to predict the effects totally. The County will work with DEQ and ODFW to develop the site in the most appropriate manner. The recently adopted Quarry and Mining Overlay Zone (QMO) contains standards to regulate the operation of the quarry, but they may not be sufficient to satisfy neighbors.

Environmental

No adverse environmental consequences are anticipated from fully allowing the conflicting use. However, allowing a sensitive use in the vicinity, such as a residence, may cause the County to curtail or abandon the operation. Environmental impacts such as dust, noise and vibration, as well as visual or aesthetic impacts, can have a real impact on the quality of life for residents in the area, or for schools. As described above, the County will work with DEQ and ODFW to control adverse impacts during operation, and will reclaim the site in accordance with DOGAMI requirements upon closure.

Energy

Since the distance traveled between an aggregate resource site and job site is the most critical part in assessing energy consumption, eliminating the Big Creek quarry from the choice of sites would

increase overall County energy usage. Material would have to be trucked in for use on County and State Highway projects from out of the County, barged in from up the Columbia River, or trucked from quarries such as Fishhawk, or the Highway 202 area. Energy impacts on conflicting uses would be negligible. Any potential conflicting use would likely be a rural residence. Not locating in this area could have positive energy impacts, particularly if the occupant located closer to employment.

REQUIREMENTS OF OTHER APPLICABLE STATEWIDE PLANNING GOALS

Goal 4 - Forest Lands

Goal 4 - Forest Lands

The quarry is located in the F-80 zone, which is intended to protect the forest resource. Aggregate operations on this site are not expected to conflict with the protection of forest land, forest practices, or other activities necessary and appropriate for management of soil, air, water, fish and wildlife resources, the provision for recreational opportunities, and agricultural uses. Use of the quarry is a transient or temporary land use which should not preclude forest activities on surrounding lands.

Mining and processing of aggregate and mineral resources are permissible uses of forest lands as specified by the Goal 4 administrative rule. No aspects of the quarry's development, as envisioned by the County, would force a significant change in, or significantly increase the cost of accepted forest or farming practices on surrounding lands dedicated for resource use. Similarly, no aspects of proposed operations are expected to significantly increase the fire hazard, the cost of fire suppression, or the risks to fire suppression personnel.

Goal 6 - Air, Water and Land Resources Quality

The environmental effects of quarry operation is discussed above. As mentioned, the County will comply with all DEQ, ODFW, and DOGAMI requirements during operation and during closure of the site. Any crushing equipment used on the site will require permits from DEQ; contractors are required to obtain and comply with all permits. The County has not yet been required to prepare a reclamation plan for DOGAMI because of the limited amount of activity on the site. However, a plan will be prepared when the threshold level of activity is reached.

Goal 12 - Transportation

Statewide planning goal 12 requires local governments "to provide

and encourage a safe, convenient and economic transportation system." The purpose of the Big Creek site is to provide a low cost source of rock for County, and possibly State, roads and highways. With the proximity of the site to the Knappa - Svensen areas, and to US Highway 30, the cost of the public road system can be reduced by the protection of this quarry.

Goal 13 - Energy Conservation

As described above, the location of the quarry will save energy by virtue of its strategic location, and the fact that rock would have to be imported from other places such as the Willamette Valley.

DETERMINATION AND PROGRAM TO ACHIEVE THE GOAL

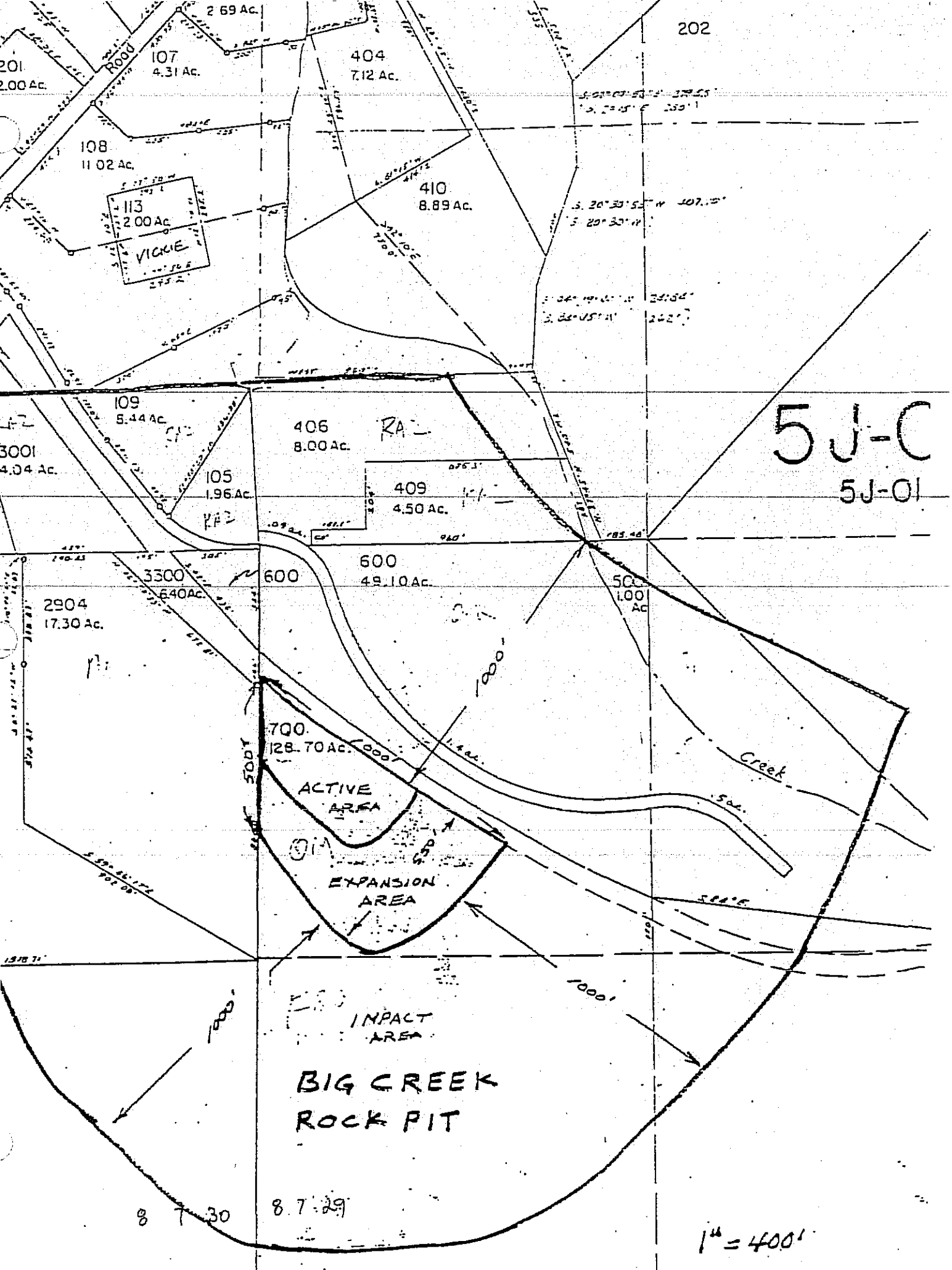
Summary of the ESEE Analysis

The ESEE analysis demonstrates that the Big Creek site is a significant aggregate resource for Clatsop County, and should be protected through the County planning process.

Program to Achieve the Goal

The Goal 5 rule (OAR 660-16-010) provides: "Based on the determination of the economic, social environmental and energy consequences, a jurisdiction must develop a program to achieve the Goal."

The County has adopted policies in the Comprehensive Plan and a zoning overlay zone to protect significant quarry sites. The purpose of this analysis is to demonstrate that the Big Creek quarry is significant. The attached map (Attachment 1) illustrates the active quarry site, the expansion area and a 1,000' impact area surrounding the expansion area. The underlying zone will continue to be F-80, and the QMO overlay will be on the expansion area until the site is no longer useful for mineral or aggregate extraction or processing. At the end of the site's usefulness the QMO zone will be removed and the site will be reclaimed.


2 69 Ac.
202
201
2.00 Ac.
Road
107
4.31 Ac.
404
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108
11 02 Ac.
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VICKIE
410
8.89 Ac.
109
5.44 Ac.
406
8.00 Ac.
5J-C
5J-01
3001
4.04 Ac.
105
1.96 Ac.
409
4.50 Ac.
600
48.10 Ac.
3300
6.40 Ac.
600
2904
17.30 Ac.
1.00
Ac
700
128.70 Ac.
ACTIVE
AREA
EXPANSION
AREA
Creek
IMPACT
AREA
BIG CREEK
ROCK PIT
8 7 30
8 7 29
1" = 400'

MAP & FINDINGS

REQUEST FOR QUARRY AND MINING OVERLAY ZONE
JOHNSON ROCK QUARRY
MAY 24, 1993

INTRODUCTION:

Howard E. Johnson & Sons, Inc. owns 55.52 acres near Cannon Beach Junction in which they operate a quarry and mine for rock aggregate. The site has been in existence for 41 years. It is anticipated, at the current rate of mining, that it will provide rock and gravel for the next twenty years.

The properties are described as Tax Lots 101 and 200, Section 4, Township 5 North, Range 10 West, W.M. and a portion of tax lot 301, Section 3, Township 5 North, Range 10 West, W.M.

Lots 101 & 200, Section 4, T5N, R10 W, WM are zoned Quarry Mining. The portion of lot 301, Section 3, T5N, R10W, WM is zoned F-80, Forest 80, With a QMO, Quarry Mining Overlay Zone.

In November 1992, Clatsop County amended the Comprehensive Plan and Zoning Ordinance to provide for the Quarry Mining Overlay Zone and to establish the Mineral and Aggregate Impact Area with a minimum width of 1000 feet from the extraction area. A map of the impact area and extraction area is attached.

The following Economic, Social, Environmental and Energy Consequences Analysis (ESEE Analysis) is to address these new county regulations for the Johnson Rock Quarry.

FINDINGS:

Description of the Extraction Area:

The northerly one third of the property is primarily devoted to nonmining activities such as the office and storage. The area of the actual mining is in the southerly two-thirds of the property and the actual mining and crushing activities are moving toward the southerly and easterly boundary of the property.

Description of the Impact Area:

A one thousand foot radius includes most of the Cannon Beach Junction which is a Commercial environment. Commercial activities included are: A lumber company storage yard, a restaurant, a yard and garden store and an auto wrecking business. Directly to the south, the area includes a farm operation and directly west is a horse riding and boarding farm. The impact area also includes 11 single family residences. To the north is a mobile home park and campground with fifteen permanent residential units and the City of Seaside's water reservoir. To the east is forest land. The Necanicum River also traverses the site.

These Impact Areas are zoned RA 2, RA 5, AF 20 and GC.

ESEE Analysis:

Economic Consequences.

The proposal will have positive economic impacts for the county. The site has served as a primary source of aggregate resources for this portion of the county for over 40 years. Continuation of the site for aggregate use will provide continued employment and aid the economy of the county. Many development projects in our area require rock and aggregate materials.

There is currently insufficient land identified or available for extraction of aggregate material to meet the needs over a 20 year period. This site has the potential to continue to provide aggregate for the next 20 years.

Social Consequences.

The most significant potential social impacts of the site are visibility and noise from mining operations and truck traffic. There are 11 homes and 15 mobile homes at Riverside Mobile Home Park and Campground that are within 1000 feet of the site. The shift of the mining eastward will move the operation further away from these residences.

Visual impacts are discussed under environmental consequences.

Noise impacts are controlled by maintaining all equipment to insure proper functioning and minimized noise levels. Temporary noise barriers will be used whenever other noise mitigation measures and barriers are not adequate to maintain required noise levels for particular operations. There is little noise impact under present operations as the company receives few noise complaints from adjoining residents. Future noise impacts should stay approximately the same or lessen as the gravel crusher and auxiliary equipment are moved to the east.

Increases in truck traffic are not expected for the continuation of the operation. The only additional roads anticipated are to access the new area to the east. All truck traffic will continue to access Highway 101 at the present location.

Environmental Consequences.

Environmental consequences at the site include potential impacts on water quality, forest resources and wildlife.

Water drains from the quarry site through a series of siltation ponds and then ultimately discharges into the Necanicum River, a Class I stream. As the operation moves eastward, drainage flows will continue to be channeled into the present system of siltation ponds. This system is providing adequate settling opportunities for drainage and runoff and protects the aquatic resources of the Necanicum River. Regular consultation with Oregon Department of Fish and Wildlife officials insures that water quality of drainage and runoff discharges from the operation remains at or exceeds high water quality levels.

The City of Seaside water reservoir is located within the 1000 foot impact area. The City has two concerns, one is having dust and particulate carried airborne into the reservoir. The city has been acquiring additional property to buffer the reservoir site. Further, future plans for the reservoir call for treatment after the water leaves this particular reservoir. The second concern is that continued mining in the area of the material that also supports the reservoir could cause an impact in the ability of the reservoir to hold water. However, this has not been a problem in the past and all future mining operations are moving away from the reservoir site.

Expansion of mining operations will produce a less aesthetically pleasing appearance on the site. However, impacts will be screened. A fringe of alder trees and other existing riparian vegetation will be maintained along the Necanicum River and no mining or stockpiling or other aggregate-associated activities will be allowed to occur within these areas, thereby further protecting water quality as well as appearance. Areas not actively mined will be maintained in their present conditon. At such time as the operation nears completion, the mine will be reclaimed in accordance with a reclamation plan required and approved through the Department of Geology and Mineral Industries.

The current mining operation is located approximately 1000 feet east of U.S. Highway 101. A portion of that operation includes stockpiling of material on a small parcel of land between the operation and Highway 101. As the operation continues, it will move south and east so that the active face of the mine will be approximately 1500 feet from the highway. The actual mining will remain partially visible from the highway although better screened than the present mine.

The impact of the expanding mine and the purchase of property in the F-80 zone will cause some impact in terms of loss of the timber resource. It is not significant because only a small portion of the timber resources that once existed on this site still remain. The site contains no significant forest resources and has been substantially altered in its ability to be used for the production of trees or other forest products due to the steep slopes created by the mining operation.

Both the RA 5 and F 80 properties lie within the Peripheral Big Game Range classification of the county's comprehensive plan. The number of elk within a four square mile area surrounding the F 80 site is estimated to be a couple of hundred animals. ODFW does not consider the site to be important big game habitat, however, the operation avoids the use of fences to allow elk passage through the area.

Energy Consequences.

The Johnson property is only a short distance from the Cannon Beach Junction and is close to the market area. Its location near Highway 101 should reduce transportation and energy costs over site located further from the highway.

CONCLUSIONS:

Conflicting resources that exist as a result of the Quarry Mining operation at this site and for the impact area include:

1. Protection of the Nelcanicum River including water quality and fish resource.

Setbacks of a minimum or 150 feet from the river are required to protect this resource. Riparian vegetation is protected adjoining the river. Run off is controlled through the use of sediment ponds which are in place on the property. The Oregon Department of Fish and Wildlife monitors the water quality as it runs into the river and in the river adjoining the operation.

2. Wildlife (Elk) habitat.

No barriers such as fences are constructed that prevent wildlife migration. Elk are able to migrate and take advantage of the adjoining forest lands.

3. Protection of the Seaside Water Reservoir.

Although there has not been conflict between the mining operation and the water reservoir in the past, to prevent problems in the future, the city is acquiring additional buffer land to protect its own reservoir. Also, the city is under a DEQ order to either cover this reservoir or treat the water after it leaves the reservoir. The protect the reservoir is enhanced as mining operations are moved away from the reservoir to the opposite end of the property.

4. Visual impacts.

The site will become less visable as the operation moves to the east. Vegetated buffers are maintained to lessen the impact.

5. Noise impacts.

Extraction operations on the site are limited to the hours of 7:00 AM through 10:00 PM. Setbacks and noise barriers help to mitigate noise factors.

DETERMINATION AND PROGRAM TO ACHIEVE THE GOAL

Summary of ESEE Analysis

The ESEE analysis demonstrates that the Bayview Transit Mix quarry site is a significant aggregate resource for Clatsop County that merits protection through the County land use planning process.

Program to Achieve Goal

The Goal 5 rule (OAR 660-16-010) provides: "Based upon the determination of the economic, social, environmental and energy consequences, a jurisdiction must develop a program to achieve the goal".

The County has adopted policies in the Comprehensive Plan and a zoning overlay zone to protect significant quarry sites. The purpose of this analysis is to demonstrate that the Bayview Transit Mix quarry site is significant. The attached map illustrates the active quarry site, expansion area, processing and stockpile areas and a 1000 foot impact area surrounding the entire existing and proposed quarry activity area. The underlying zone will continue to be Quarry and Mining and the QMO overlay will be added until such time as the subject rock resource is depleted and the site is reclaimed. The quarry will continue to operate under the provisions of approval conditions that were adopted for the site in 1987 with the exception that the quarry will be allowed to operate on the same year-round basis as other commercial quarries in Clatsop County. Use restrictions for the months of December and January are no longer required because the quarry operator has demonstrated the ability to satisfactorily handle site storm water runoff during these months with an engineered storm water collection and settlement pond system.

ATTACHMENT #1

THE FINDINGS FROM ORD # 87-18 SHOULD BE INCORPORATED IN THEIR ENTIRETY. PAGE 26-35 ARE ATTACHED TO REDUCE THE VOLUME OF MATERIAL BEFORE THE PLANNING COMMISSION.

Issue No. 8.

What are the economic, social, environmental and energy consequences to Goal 5 resources of allowing processing of crushed rock at the proposed site?

We find the following facts on the record relevant to this issue:

Bayview has proposed rock extraction and stockpiling operations that are 30 acres in total. Twenty acres of this area will be devoted to rock extraction, and approximately 10 acres will be devoted to a stockpile operation. The proposed use is designed to produce quality rock for a 20-year period. The rock from the pit will be produced at a cost below the average price from presently existing sources, including Johnson and imported rock from outside the County. An existing quarry is present at the proposed extraction site. The quarry has been used on numerous occasions in the past, and approximately 100,000 cubic yards of aggregate material has been removed from the site. No merchantable timber exists on the extraction site or on approximately 3 acres of the stockpile site. Seven acres of the stockpile site contains trees that are approximately 30 feet in height. The stockpile area and the extraction area are distinct areas and are separated by forest uses which will be maintained. The two areas are completely surrounded by forest land. Areas described as "wetland" have been briefly discussed by the opponents during this remand proceeding. We find, as described in the site analysis of the area by Mr. Lampi, that vegetation which might be found in wetland is primarily contiguous with Square Creek. One pocket containing vegetation which might be found in wetlands is located near the extraction area. We find that no significant wetlands, as indicated on Department of the Interior maps or in Clatsop County Goal 5 or Goal 17 inventories, are located at the Bayview site. We find that the extent of area which contains vegetation which might be found in wetlands is delineated on the map as attached to Mr. Lampi's August 25, 1987 report, and we adopt this description of the area. We note that our own staff has reported that

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Mr. Redfern's wetland contention is without merit. The Bayview Quarry site is located in major big game habitat. No barriers will be constructed during the operation of the quarry which would affect big game migration. Square Creek, a perennial stream, runs adjacent to the extraction area. It is considered fish habitat as it has a summer flow of .5 cubic foot per second. Up to nine salmon have been seen in the creek during winter months. Salmonoid fish fry have been released into Square Creek by STEP volunteers. Square Creek is adequate fish habitat but not excellent or ideal habitat. Bayview has provided a sediment control plan which is designed to handle a 100-year flood event. In January of 1986, the Oregon Department of Fish and Wildlife suggested conditions for a plan to reduce impacts on Square Creek. After reviewing the Bayview sediment control plan, an Oregon Department of Fish and Wildlife biologist described the plan as a good plan. Other facts concerning the Bayview site contained in Parts I through IV of these findings are incorporated herein by reference. Identified resources at the Bayview site are elk, anadromous fish, wetlands, trees and aggregate.

Economic Factors.

A. Trees. Loss of overburden due to prior operations at the existing aggregate quarry has prevented the growth of trees over a large portion of the extraction site. The remainder of the extraction area was recently clear-cut and now supports very young trees. There will be no economic loss of trees approaching market value on the extraction area. The stockpile area contains 7 acres of trees approaching marketable size. In the short term, aggregate operations on the site will cause the loss of these trees. Cumulative impact of tree loss should be minimized by development of this quarry as it will present a long-term quarry site and may alleviate the need for development of other aggregate sites in forest lands. In the short term, forest economic uses of the 30-acre area will be replaced by mining uses. In the long term, the reclamation plan for the quarry area will insure that the majority of the area is returned to forestry uses.

B. Elk and Fish. Hunting for elk and the provision of household meat produces some economic value from this habitat parcel. The applicant intends to construct no barriers on the site, and development of the quarry does not prevent elk from coexisting on this site. A small temporary loss of habitat does not necessarily entail a loss of elk. Elk migrate freely and can take advantage of the surrounding forest area. As with timber, development of this quarry may result in less cumulative loss of elk habitat, because the large capacity of

this quarry may limit the need for other smaller pits on forest land. Adjacent Square Creek provides habitat for up to nine salmon and provides an area for STEP volunteers to release salmonoid fry. Square Creek flows between the extraction and stockpile areas. It has an August flow of .5 cubic feet per second ("CFS"). It passes under the access road via a permanent culvert. These are not uses of the area which provide specific economic benefits. However, enhancement efforts on small streams may help restore salmon runs which would provide economic benefit. The applicant will need variable amounts of water, up to 3,000 gallons of water per day for dust control, and possibly up to 2,000 gallons per day for other uses. Possible sources are Square Creek, on-site sump collection and hauling water to the site. Because of low summer flows in Square Creek and the impact of any further activities on fish habitat, it may not be possible to take this water from Square Creek. A condition of approval is that the State Water Resources Department establish a minimum stream flow for Square Creek, and removal in excess thereof is prohibited. Applicant currently owns a 4,000-gallon water truck and intends to place a 10,000-gallon tank at the site. If the water must be hauled to the site, the cost is approximately 6.3 cents a cubic yard of rock product, a minimal effect on overall costs. Cut-off ditches, berms, erosion-control mechanisms and sediment-trapping ponds at both the extraction area and the stockpile site will be constructed or placed to handle a 100-year storm event. The ponds will be draped with filter fabric to insure sediment is trapped. The applicant's sediment control plans are designed to insure that any economic gains associated with fish can coexist at the same time if rock is extracted at this site.

C. Wetlands. Areas near the proposed extraction site that contain vegetation which might be found in wetlands are not inventoried in the County-wide Goal 5 Element. These areas also do not appear on the U.S. Department of the Interior National Wetland Inventory maps used for establishing significant wetlands in the Clatsop County Comprehensive Plan. No part of the Bayview site contains wetlands identified in the Comprehensive Plan. Wetlands can have an economic value as furbearing animal and wetland bird habitats, but there is no evidence of furbearing animals or wetland birds at this site. Wetlands can also have marginal economical benefits as flood buffers. However, the areas near the extraction area that contain vegetation which might be found in wetlands are too small to be needed as flood protection. As with elk and fish, the conditions imposed by Clatsop County provide the necessary steps to insure that wetland habitat will be protected to preserve any economic value that may be assigned to it.

D. Aggregate. Aggregate is a necessary commodity for the economy of Clatsop County. This particular site has enormous economic value because of the quality of rock and quantity of rock that are present. As recognized in the Clatsop County Comprehensive Plan, rock sources are scarce in Clatsop County and should be developed where feasible. Use of this site for aggregate extraction would provide high-quality rock for a number of years at a favorable price in Clatsop County markets. Development of this quarry will increase competition in the market area and may lessen the need for imported aggregate products in Clatsop County. Development of the site may also create four jobs. As noted in Parts I-V of these findings, other aggregate pits in the area have limited quantity and quality of material available for extraction. To not use this site would have significant negative economic impacts, including continued higher aggregate prices and uncertain future supplies.

Social Impacts.

A. Trees. An adequate timber base is important to preserve County jobs and to provide areas for recreation. Because the Bayview extraction area has recently been clear-cut and the area supports an existing aggregate pit, this area is not an ideal choice for timber production or forest recreation. Loss of seven acres of timber on the stockpile site will reduce the County timber base. Clatsop County has approximately 474,000 acres of timberland. The reduction in timber base caused by Bayview is a miniscule fraction of the amount of timber available in Clatsop County, and development of this site may prevent a larger cumulative loss of timber due to reduced need for smaller aggregate pits in other forest areas. In addition, nearly all the alternative sites would entail loss of productive forest while aggregate is being extracted. The reclamation plan for the Bayview site insures that the area will be returned to forest uses after extraction has stopped.

B. Elk and Fish. Although the land is private, public access has not been generally limited by the landowner. Access to the extraction and stockpile areas might be restricted if operations are ongoing. This could, in turn, limit elk hunting. However, as stated above, although use of this area for an extraction site may affect habitat, such use does not necessarily cause a decrease in the number of elk. Indiscriminate operation on this site could cause problems to fish habitat and the success of the STEP program. However, the sediment control plan proposed by the applicant mitigates any potential negative social effects in this regard.

C. Wetlands. Social and recreational values are sometimes assigned to wetlands if they are large enough to support animal populations. The small size of the area associated with the site on which vegetation might be found in wetlands would limit any such recreational value. Further, it is unlikely that the areas which might contain vegetation found in wetlands would provide large social value, as they were discovered only at the very end of this remand proceeding. In addition, the areas are small and directly adjacent to an existing forest gravel pit which limits their recreational value.

D. Aggregate. One of the principal reasons for developing this quarry is to eliminate reliance on the sole source of aggregate in the County which provides relatively high-priced materials to consumers. Unlike existing commercially operated sites considered in this proceeding, this proposed site is well away from people, being approximately 2,800 feet from the nearest residence. The extraction plan provided by Bayview indicates that use of this area for rock be handled in such a manner to minimize any effects, including dust and noise, on nearby residents. The evidence produced in this proceeding indicates that other rock sources in the County have limited life spans, and, eventually, other new sites must be developed for aggregate use. Finally, it is possible that four jobs would be created in the use of this pit for its aggregate resource.

Environmental Impacts.

A. Trees. As discussed in the economic portion of this analysis above, trees provide potential habitat for elk on the site. However, as the applicant will construct no barriers and reclaim the area for forestry uses, this habitat value will be reestablished through reclamation in the future. Aggregate uses on the site will create more dust and noise than tree production on the site, but the applicant has proposed measures to control both dust and noise. As discussed above, the site will remove approximately 30 acres from the timber base in the County. However, the site has been designed to allow trees to grow between the extraction area and the separate stockpiling area. Applicant's extraction plan is designed to minimize any adverse environmental effects on forest resources, and development of this site may limit the need for a larger number of smaller pits on forest lands. Forest uses might provide shade for Square Creek, but the proposed plan of operation at this site has preserved a 50-foot setback which will also provide shade for Square Creek. Use of the area for aggregate extraction will prevent periodic herbicide spraying which would accompany forest uses. As most of the site has been clear-cut, no major

habitat changes or loss of trees will accompany aggregate uses. There will be a premature harvest of trees on seven acres of the stockpile site, but no market-size trees will be lost at the extraction site.

B. Elk and Fish. The existing rock pit on the site is still used by elk. These habitat values will gradually change as the proposed aggregate use expands on the site. However, no barriers will be constructed to prevent elk from using the remainder of the site, and the area will be returned to forest uses and elk habitat after it has been reclaimed. Aggregate use on the site will entail some dust and noise emissions. However, the applicant will abide by the appropriate DEQ standards and will keep the road in a dust-free condition. In 20 years, the surrounding forest areas will support larger trees, and the small vegetation on the reclaimed portions of the proposed quarry will present habitat variety. Nine adult salmon have been counted in the lower one-half mile of Square Creek, and approximately 25,000 Coho and 10,000 Cutthroat Fry were released into Square Creek in 1987 as part of the STEP program. The creek provides an adequate, but not excellent, habitat. Low summer flows are a limiting factor, and maintaining minimum stream flows is important to sustain fish habitat. We have imposed a condition which will prohibit the applicant from removing water from Square Creek in excess of the proscribed minimum stream flow developed by the Water Resources Department. Indiscriminate operation at the site could cause sediment problems and damage to fish values in the nearby stream. However, the applicant has proposed a sediment containment program which will prevent any adverse impacts on the stream. This program has been described by the representative of the Oregon Fish and Wildlife Department as a good plan. Environmental values associated with fish will be able to coexist with the operation of the aggregate site.

C. Wetlands. The area which contains vegetation which might be found in wetlands primarily consists of a narrow strip along Square creek and one pocket near the extraction area. We find that the area containing vegetation which might be found in wetlands consists of riparian strips and small isolated pockets. These areas are shown on the map attached to Mr. Lampi's August 25, 1987 report, and we adopt that map as delineating the extent of any area at the Bayview site containing vegetation which might be found in wetlands. In the event that any of these areas would be determined to be wetlands, we have imposed a condition that will protect them by imposing a condition designated to maintain minimum setbacks from areas determined to be wetlands. Indiscriminate operation of the proposed use could cause damage to these areas. However,

However, the applicant has proposed acceptable setbacks from Square creek and has also proposed to keep all activities out of wetland areas.

D. Aggregate. As is recognized by the comprehensive plan, the geology of the Oregon coast limits good aggregate sites in Clatsop County. The Bayview site is one of the few sites with high quality and high quantity of rock. The site is already disturbed and has been used for a number of years as a rock pit for forest uses.

Energy Impacts.

A. Trees. Little energy use accompanies the growing of trees, with the exception of occasional spraying, pruning and harvesting activities. Rock extraction and processing would require more energy consumption.

B. Elk and Fish. Elk and fish resource uses entail no energy use. Extraction and processing of rock material requires more energy than these uses.

C. Wetlands. Wetlands uses require no energy use. Extraction processing of rock requires more energy than these uses.

D. Aggregate. Energy expenditure necessarily accompanies aggregate extraction, but aggregate provides a correspondingly greater economic return. The proposed site is close to the market area which reduces fuel consumption and provides a superior choice in terms of energy consumption from sites that are farther away from the market area.

Considering the economic, social, environmental and energy impacts and consequences of locating the proposed use at the Bayview site, we make the following findings. Aggregate is a scarce resource in Clatsop County. It requires an energy consumptive extraction process and necessarily creates some dust and noise. However, we find that the limited sites available for aggregate extraction in Clatsop County make the economic value of a good quality, long-term site, such as the Bayview site, extremely high. We find that 30 acres of timbered land, nearby fish and wildlife habitats, and areas which contain vegetation which might be found in wetlands will be affected by allowing the proposed aggregate use. However, we find the effects on the forest resources will be temporary, and the reclamation plan will return the area to forest uses in the long-term. Similarly, any effects on the elk habitat will be reduced, because no steps will be taken to prevent movement

of the elk across the site. As with forest uses, once the area is reclaimed, it will return to its prior elk habitat value. The applicant has proposed an adequate sediment control plan which will allow fish uses to continue and coexist with the aggregate extraction uses. Similarly, the applicant has given necessary assurances that wetlands will be protected by adequate setbacks. We determine, on balance, and giving consideration of the steps taken by Bayview to reduce any adverse impacts, that the economic, social, environmental and energy analysis mitigates in favor of allowing the use at this site, with conditions. As discussed below, we have developed a program to achieve Goal 5 purposes.

Issue No. 9.

Given the economic, social, environmental and energy consequences to Goal 5 resources, the County must "develop a program to achieve the Goal."

Our initial decision in this matter was accompanied by 14 conditions which were designed to limit the adverse impacts of the proposed quarry operation. We specifically adopt those 14 conditions by reference herein as part of the program to achieve Goal 5 purposes. These conditions include compliance with DEQ noise standards. We note that this condition will help to mitigate any impacts on Goal 5 wildlife resources. In addition, we note that this condition will help insure compatibility of the operation with adjacent forest and residential uses. These conditions also contain a requirement that the operator obtain all State and federal permits. This would include the appropriate DOGAMI permits, including a reclamation plan. This condition will help to preserve Goal 5 values by returning the area to forest and habitat uses once the aggregate extraction operation has terminated. These conditions also contain the requirement that sedimentation ponds be installed so that water turbidity levels in Square Creek are not increased. Applicant has agreed to construct ponds in such a manner that they will handle a 100-year flood event without adverse effect on Square Creek. This condition is designed to protect Goal 5 fishery resources in the adjacent creek. We find that after consideration of the applicant's proposed settlement control plan, the Oregon Department of Fish and Wildlife indicated the applicant's plan for sediment control was a good plan. Conditions also require that roads shall be maintained in a dust-free condition during intensive operations. This condition is designed to reduce dust impacts on adjacent wildlife and fishery uses and minimize any impact on forest resources. Conditions also require observance of riparian setbacks. This condition insures that riparian values

(fish and wetland) are protected. Finally, the original conditions include the requirement that the applicant provide adequate boundary line delineation of the quarry and stockpile sites. This condition allows the applicant flexibility in locating sediment ponds to maximize the effectiveness of the sedimentation pond design. We hereby add the following conditions which are designed to implement and achieve Goal 5 purposes:

First: No barriers will be constructed to prevent wildlife migration, unless required by adjacent residential uses. (This condition will protect Goal 5 wildlife values by allowing continued migration and access by elk to the site.)

Second: Extraction operations on the site will be limited to the hours of 7:00 a.m. through 10:00 p.m. (This condition will help reduce noise impacts on adjacent Goal 5 wildlife values, as well as increase compatibility with adjacent residential uses.)

Third: No extraction activities will occur during the months of December and January. (This condition will eliminate sediment impacts during rainy months and preserve Goal 5 fish values. In addition, this condition will reduce noise and dust impacts upon residences located to the northeast in the event that winds would come from the southwest during this period of time.)

Fourth: The toe of any development will be located according to regulatory approval to protect wetlands. (In conjunction with the setback requirement of the original 14 conditions, this condition is to preserve and protect Goal 5 wetland values.)

Fifth: Rock drilling equipment no louder than 90 dBA [L(50)] will be used at the extraction site. This condition will insure that quieter equipment will be used and thereby eliminate noise impacts on Goal 5 wildlife resources and increase compatibility with nearby residential uses.

Sixth: Minimum stream flow for Square Creek needs to be established by the Oregon Water Resources Department. Water in excess of the prescribed minimum stream flow developed by the Water Resources Department shall not be removed from Square Creek. (This condition will preserve water during low flow periods for fishery purposes.)

Seventh: Extraction shall be in accordance with the staged extraction plan as submitted by applicant as prepared by David Evans & Associates, Inc. on August 26, 1987. (This condition will result in the mouth of the quarry being oriented away from residences and will result in a lip of rock being maintained between the resources and the quarry. This will insure sound levels are within DEQ standards.)

We conclude that these conditions, together with the conditions imposed and adopted by us in the prior proceeding and together with the Bayview excavation plan and sedimentation control plan, constitute a program designed to achieve Goal 5 purposes.

Seventh: Extraction shall be in accordance with the staged extraction plan as submitted by applicant as prepared by David Evans & Associates, Inc. on August 26, 1987. (This condition will result in the mouth of the quarry being oriented away from residences and will result in a lip of rock being maintained between the resources and the quarry. This will insure sound levels are within DEQ standards.)

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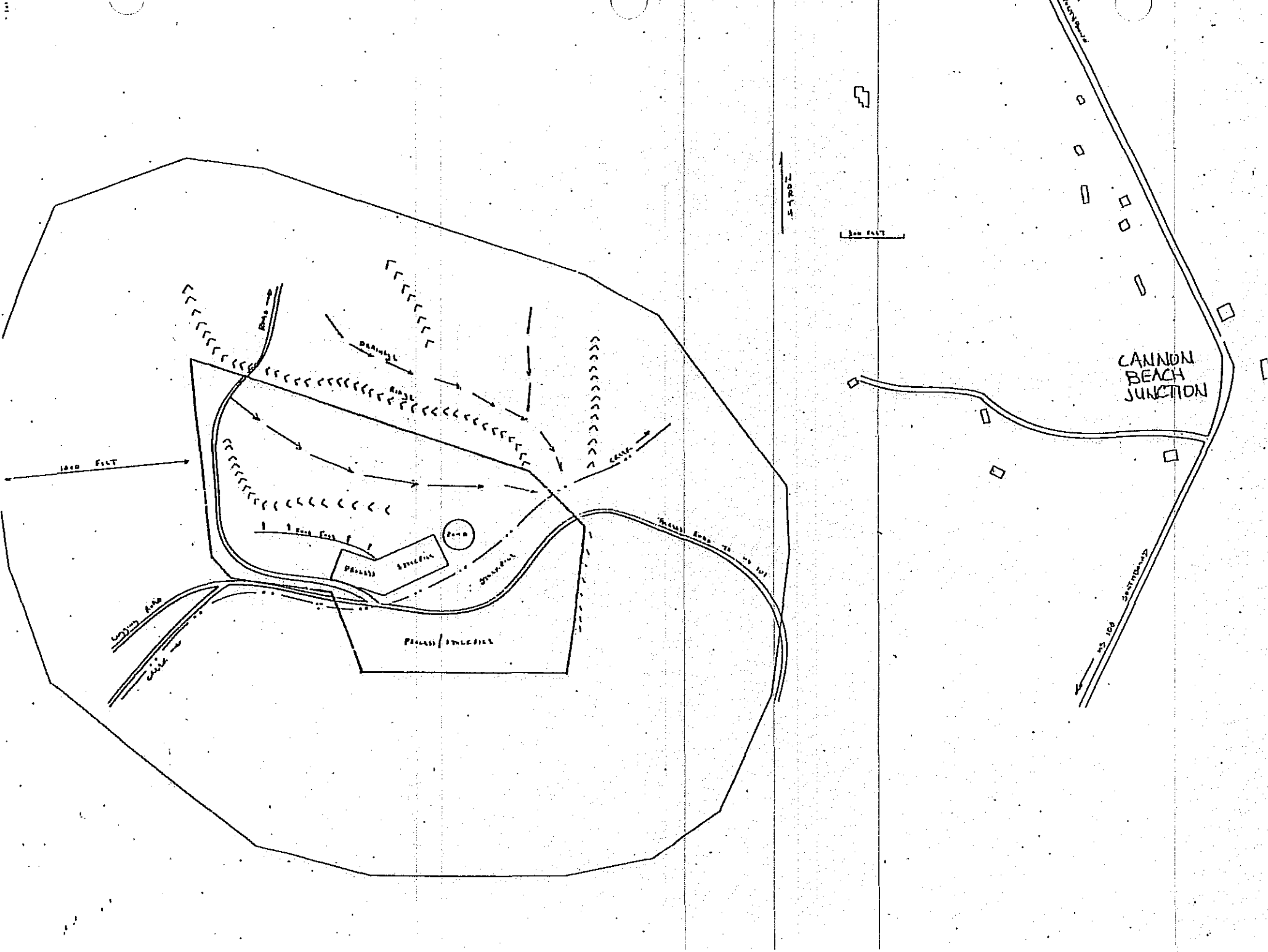
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CLATSOP COUNTY BIG CREEK ROCK PIT

GOAL 5 ANALYSIS

BACKGROUND:

The Big Creek rock pit is located in the north central area of Clatsop County in the Knappa-Svensen area, on the southwest side of Big Creek Hatchery Road, approximately two miles south of US Highway 30. The purpose of the pit is to provide base rock for County roads and dikes in this area of the county. The property which the county owns consists of approximately six acres of land leased from Agency Creek Management and Boise Cascade. The County has operated this pit since the 1950s as a non-commercial quarry. The pit has provided rock for most of the County roads in the northern area of the County, primarily the Knappa-Svensen, Brownsmead, and Westport areas. Approximately 3,000 cubic yards are extracted from the quarry annually, and is primarily used for fill and base rock.

PURPOSE:

The County maintains a number of quarries in order to supply rock for the construction and maintenance of its road system. While virtually all of the 40,000 cubic yards of gravel used by the County is supplied by commercial quarries, the material in the County-owned quarries is used primarily for base rock, fill and other purposes. The County does not maintain its own gravel processing facilities or asphalt plant for surfacing materials. Rather, it relies on private contractors, who are located primarily in the Seaside area. From time to time the County may contract with an operator who will crush the material for future use by the County or its contractors. County-owned aggregate sites provide a source of material which lowers the cost of transportation and saves tax revenues.

CLATSOP COUNTY COMPREHENSIVE PLAN:

The Land Conservation and Development Commission acknowledged the County's Comprehensive Plan on May 31, 1984. However, no mention of the Big Creek rock pit was included in the Goal 5 portion of the Plan. This analysis is intended to be included in the Comprehensive Plan, and to establish the Big Creek quarry as a priority site. The County finds that the site would not be affected by conflicting uses, including nearby residences or forest lands. This designation is consistent with a determination to preserve the resource in accordance with the Goal 5 administrative rule (OAR 660-16-005(1). In the event that the County receives a request to rezone properties in the vicinity to a zone that would permit conflicting uses, this overlay designation would protect the site from encroachment. No such rezoning or development is

proposed as this time.

DESCRIPTION OF PROPOSED MINING ACTIVITIES

Clatsop County Road Department will develop the site over an extended period of time. No commercial activities are proposed. The use of the site will be intermittent, and will be dependent on the County's demand for rock. It is estimated that over 400,000 cubic yards of rock are readily available on the site which could be extracted over a twenty to thirty year period. Full use of the site for extraction could take several decades. The use of the site for stockpiling materials from other locations, such as gravel and sand, is also planned.

The extraction method proposed for the site is benching. Because of the nature of the rock - Columbia River Basalt - controlled blasting will be performed on occasion. The County will require that all trees and other vegetation remain undisturbed in locations not necessary for mining operations, and that berms be constructed to screen stockpiles and mining from the roadway. Because of the presence of the State of Oregon Big Creek Salmon Hatchery, particular attention will be paid to minimizing negative impacts on water quality in the area. Recent construction of residential uses in the Big Creek area places pressure on the County to take greater care to minimize the impacts of quarrying on the tranquillity of the area. The County will ensure that the site is reclaimed in accordance with state regulations administered by DOGAMI.

COMPLIANCE WITH STATEWIDE PLANNING GOAL 5

The Statewide Planning Goal Number 5, requires in part that "where conflicting uses have been identified the economic, social, environmental and energy consequences of the conflicting uses shall be determined and programs developed to achieve the goal."

The goal guideline suggests that "in conjunction with the inventory of mineral and aggregate resources, sites for removal and processing of such resources should be identified and protected."

The Goal 5 rule specifies the requirements and procedures local government must follow to comply with Goal 5. Goal compliance involves six basic steps:

1. Identify a resource's location, quality and quantity;
2. Determine the resource's significance;
3. Identify conflicting uses;
4. Analyze the economic, social, environmental and energy consequences of conflicts;
5. Determine the level of protection for the resource;
6. Implement a program to protect significant resources.

The purpose of this process (and this report) is to complete the Goal 5 process and protect the Big Creek site for future use by the Clatsop County Road Department. It is recognized that future development in the vicinity of the Big Creek pit may be in conflict with future development in the vicinity of the site.

REQUIREMENT OF THE GOAL 5 ADMINISTRATIVE RULE

Location

As described above, the Big Creek quarry property consists of 6.0 acres located on Big Creek Mainline, off of approximately two miles south of US Highway 30 at T8N R7W, Section 29, tax lot 700. The entire property parcel is 128 acres and is owned by Boise Cascade. The impact area includes tax lots 2903, 2904, 3000, 3001, 3002, 3300, 105, 109, 406, 409, 500, and 600. Several of these parcels are of the size suitable for rural residences, although no dwellings are located on them at the present time. Property to the south, west and east are large parcels of timber lands owned by forest management companies. The zoning designation for this area is Forest 80. (F-80).
Protection of the site will include the entire 20 acre Clatsop County parcel, although it is unlikely that the entire site will be mined.

Quality

No abrasion, sodium sulfate soundness or air degradation tests have been performed on the material in this pit. However, it is the considered opinion of the County public works director and engineer that the basalt rock is of high quality. It has been used to good effect on many County roads in the northeast area of the County in the last thirty or forty years. If the material were to be used for asphalt or concrete, tests would be performed specifically for that purpose.

Quantity

The estimated 300,000 cubic yards in this pit qualifies it as a medium size quarry in Clatsop County. This estimate is based on visual examination of the site and aerial photos by County staff, but no geologic investigation has been carried out.

Conclusion

The large amount of basalt in this location makes the Big Creek pit

a unique resource. It is a significant pit in the northern portion of the County, and is centrally located with respect to County roads. Its lack of surrounding development means minimal conflicts in the future.

The quarry is a significant resource by virtue of its location, quality and quantity, and should be retained on the inventory of significant Goal 5 resources in the Clatsop County Comprehensive Plan.

Conflicting Uses

Identifying conflicting uses to a significant resource site requires two principal steps: 1) designating and justifying an impact area surrounding the resource, and 2) determining conflicting uses allowed by the zoning ordinance, and identifying conflicts with other significant Goal 5 resources.

Impact Area

The Goal 5 rule (OAR 660-16-0002) requires identification of an impact area surrounding the resource site if different from the resource site itself. The impact area is the area in which identified conflicting uses may adversely affect the resource. Although impact area is not defined in either the goals or in the Goal 5 rule, the impact area for a mineral and aggregate resource site must be the area which includes uses which could adversely affect the resource, but also the area including those uses which could be affected by the presence of a significant resource.

Noise, dust odor and blasting effects may adversely affect surrounding land uses. Conversely, the complaints expressed by surrounding property owners about these effects, as well as complaints about traffic and the effects to visual quality influence whether, or how, a resource may be mined. At the present time there is no conflicting use in the vicinity of the quarry. However, the purpose of the designation of the overlay zone is to anticipate future rezonings or other incompatible use of the property. There are twenty-one uses permitted in the F-80 zone, including forest related dwellings, and it is impossible to determine with certainty whether a parcel will be used for a particular use.

The Big Creek quarry is not visible from the adjacent County road or the residential area in the Big Creek valley. Any future expansion will ensure that the existing buffering and screening from the road and residences will be enhanced. Traffic is not a problem because of the occasional use of the quarry. Big Creek Road (Hillcrest Loop) is a collector road, and services the State of Oregon Big Creek hatchery. The hatchery has seven residences on the site for State hatchery employees. There have been no known conflicts between the quarry and the hatchery in the recent past.

More frequent use of the site, even on a daily basis, is not anticipated to impact any other users of the road.

Potential Conflicting Uses

Most of the property surrounding the Big Creek quarry is zoned F-80, the County's prime forest production zone. It is intended "to provide for large-scale commercial forest management where parcel size and ownership patterns are adequate to support such activities." In addition to forestry uses, this zone also permits forest related residences and offices, grazing, aquaculture, watershed management, and home occupations.

Conclusion

Within the impact area surrounding the Big Creek Quarry, few conflicting uses are found, and few land uses which may have conflicts with a rock quarry are anticipated. Nonetheless it is in the interest of Clatsop County and its citizens to protect this resource for the future.

ESEE Analysis

The Goal 5 rule (OAR 660-16-005(2)) requires that if conflicting uses to the resource are identified, the economic, social, environmental and energy (ESEE) consequences of the conflicts must be determined. "Both the impacts on the resource site and on the conflicting use must be considered in analyzing the ESEE consequences. The applicability and requirements of other Statewide Planning Goals must also be considered, where appropriate, at this stage of the process."

Economic

The economic consequences of allowing conflicting uses to be established near Big Creek quarry are significant. While large scale urban development is not likely, even one or two dwellings could affect the operation of the quarry through neighbor complaints, particularly when the quarry is owned by a local government. The economic consequences of allowing the conflicting uses in monetary terms is difficult to predict. On the assumption that there are 250,000 usable cubic yards of material in the quarry, and the average price of pit run rock is $5.00 per yard, the current value of the quarry is $1.25 million at the quarry site. Transportation is a significant factor in the cost of aggregate materials. The Big Creek quarry is strategically located for the northeastern portion of the County. Not having access to the Big Creek quarry would mean the county would have to haul rock from the Clifton quarry, or possibly the Fishhawk quarry. Additional costs include resolving conflicts after they have surfaced. Political entities such as the County are especially

vulnerable to conflicts. Delays during the construction season can create severe problems for project budgets.

Since the surrounding property is undeveloped at this time, -- economic consequences for these parcels are speculative. Uses may be proposed for these parcels which can be compatible with the quarry operation.

Social

The consequences of allowing conflicting uses adjacent to quarry operations are not directly applicable to protection of the rock resource itself. However, the social consequences of development upon surrounding land uses may cause significant modification of quarry operations. Even one single family dwelling could bring pressure to bear on the County to restrict or terminate operations. If conflicting uses are allowed near the site, it is possible that the resource could not be developed because of the inability to meet environmental regulations designed to protect the livability of surrounding property. Requiring measures to protect conflicting land uses from the impacts typically generated by quarry operations could result in curtailed productivity and a reduction in livability for other County residents which rely on a high standard of roads and dikes. The effect on conflicting uses if the development is allowed includes the typical and unavoidable effects of quarry operations, including noise, dust and truck traffic. The site is not a permanent, year-round commercial quarry operation, and it is difficult to predict the effects totally. The County will work with DEQ and ODFW to develop the site in the most appropriate manner. The recently adopted Quarry and Mining Overlay Zone (QMO) contains standards to regulate the operation of the quarry, but they may not be sufficient to satisfy neighbors.

Environmental

No adverse environmental consequences are anticipated from fully allowing the conflicting use. However, allowing a sensitive use in the vicinity, such as a residence, may cause the County to curtail or abandon the operation. Environmental impacts such as dust, noise and vibration, as well as visual or aesthetic impacts, can have a real impact on the quality of life for residents in the area, or for schools. As described above, the County will work with DEQ and ODFW to control adverse impacts during operation, and will reclaim the site in accordance with DOGAMI requirements upon closure.

Energy

Since the distance traveled between an aggregate resource site and job site is the most critical part in assessing energy consumption, eliminating the Big Creek quarry from the choice of sites would

increase overall County energy usage. Material would have to be trucked in for use on County and State Highway projects from out of the County, barged in from up the Columbia River, or trucked from quarries such as Fishhawk, or the Highway 202 area. Energy impacts on conflicting uses would be negligible. Any potential conflicting use would likely be a rural residence. Not locating in this area could have positive energy impacts, particularly if the occupant located closer to employment.

REQUIREMENTS OF OTHER APPLICABLE STATEWIDE PLANNING GOALS

Goal 4 - Forest Lands

Goal 4 - Forest Lands

The quarry is located in the F-80 zone, which is intended to protect the forest resource. Aggregate operations on this site are not expected to conflict with the protection of forest land, forest practices, or other activities necessary and appropriate for management of soil, air, water, fish and wildlife resources, the provision for recreational opportunities, and agricultural uses. Use of the quarry is a transient or temporary land use which should not preclude forest activities on surrounding lands.

Mining and processing of aggregate and mineral resources are permissible uses of forest lands as specified by the Goal 4 administrative rule. No aspects of the quarry's development, as envisioned by the County, would force a significant change in, or significantly increase the cost of accepted forest or farming practices on surrounding lands dedicated for resource use. Similarly, no aspects of proposed operations are expected to significantly increase the fire hazard, the cost of fire suppression, or the risks to fire suppression personnel.

Goal 6 - Air, Water and Land Resources Quality

The environmental effects of quarry operation is discussed above. As mentioned, the County will comply with all DEQ, ODFW, and DOGAMI requirements during operation and during closure of the site. Any crushing equipment used on the site will require permits from DEQ; contractors are required to obtain and comply with all permits. The County has not yet been required to prepare a reclamation plan for DOGAMI because of the limited amount of activity on the site. However, a plan will be prepared when the threshold level of activity is reached.

Goal 12 - Transportation

Statewide planning goal 12 requires local governments "to provide

and encourage a safe, convenient and economic transportation system." The purpose of the Big Creek site is to provide a low cost source of rock for County, and possibly State, roads and highways. With the proximity of the site to the Knappa - Svensen areas, and to US Highway 30, the cost of the public road system can be reduced by the protection of this quarry.

Goal 13 - Energy Conservation

As described above, the location of the quarry will save energy by virtue of its strategic location, and the fact that rock would have to be imported from other places such as the Willamette Valley.

DETERMINATION AND PROGRAM TO ACHIEVE THE GOAL

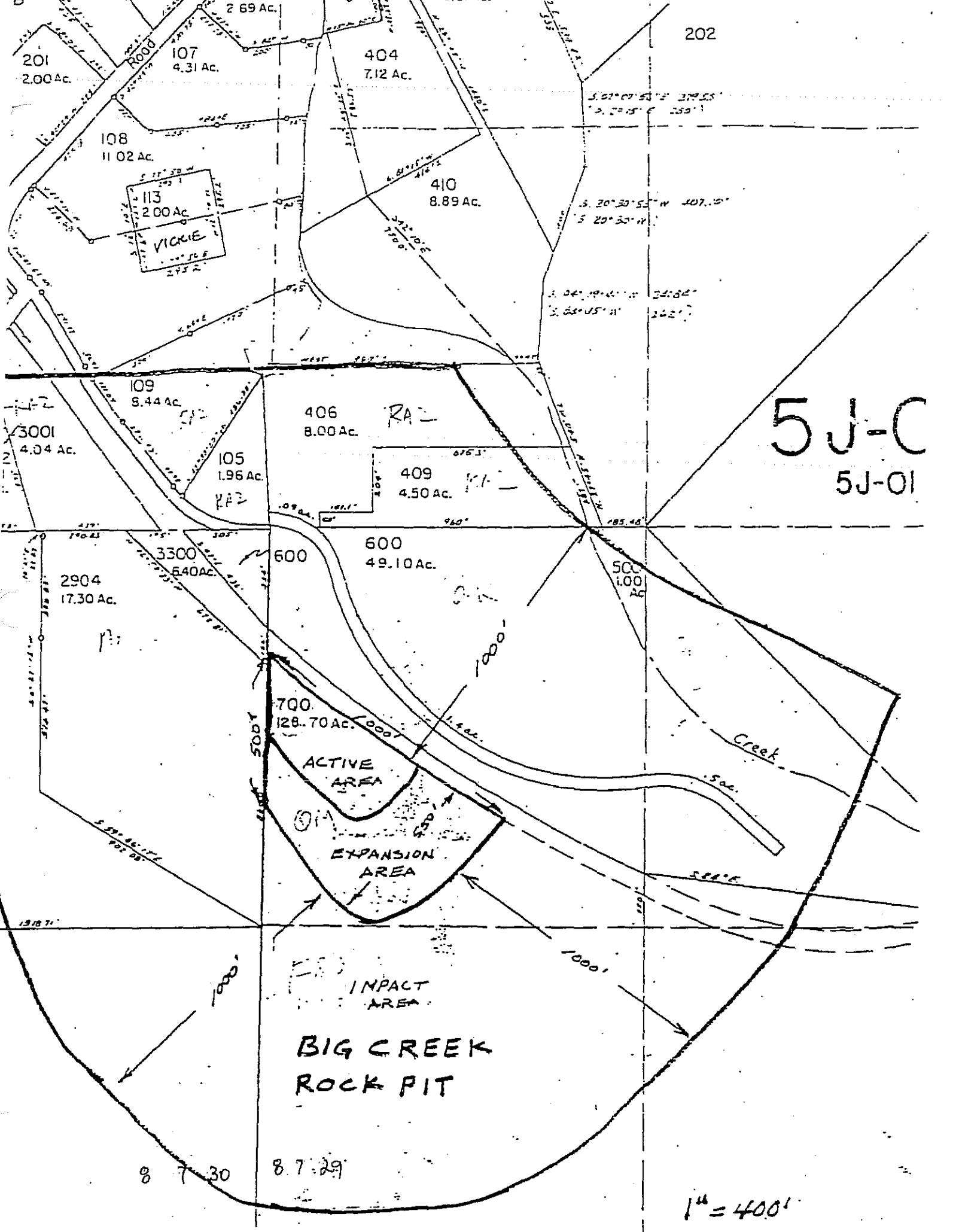
Summary of the ESEE Analysis

The ESEE analysis demonstrates that the Big Creek site is a significant aggregate resource for Clatsop County, and should be protected through the County planning process.

Program to Achieve the Goal

The Goal 5 rule (OAR 660-16-010) provides: "Based on the determination of the economic, social environmental and energy consequences, a jurisdiction must develop a program to achieve the Goal."

The County has adopted policies in the Comprehensive Plan and a zoning overlay zone to protect significant quarry sites. The purpose of this analysis is to demonstrate that the Big Creek quarry is significant. The attached map (Attachment 1) illustrates the active quarry site, the expansion area and a 1,000' impact area surrounding the expansion area. The underlying zone will continue to be F-80, and the QMO overlay will be on the expansion area until the site is no longer useful for mineral or aggregate extraction or processing. At the end of the site's usefulness the QMO zone will be removed and the site will be reclaimed.


2.69 Ac.
201
2.00 Ac.
Road
107
4.31 Ac.
404
7.12 Ac.
202
108
11.02 Ac.
113
2.00 Ac.
VICKIE
410
8.89 Ac.
109
5.44 Ac.
406
8.00 Ac.
3001
4.04 Ac.
105
1.96 Ac.
409
4.50 Ac.
5J-C
5J-01
3300
6.40 Ac.
600
600
49.10 Ac.
2904
17.30 Ac.
500
1.00 Ac.
1000'
700
128.70 Ac.
500'
ACTIVE AREA
EXPANSION AREA
Creek
1000'
IMPACT AREA
BIG CREEK ROCK PIT
8 7 30
8 7 29
1" = 400'

JOHNSON & SONS

6.

MAP & FINDINGS

REQUEST FOR QUARRY AND MINING OVERLAY ZONE
JOHNSON ROCK QUARRY
MAY 24, 1993

INTRODUCTION:

Howard E. Johnson & Sons, Inc. owns 55.52 acres near Cannon Beach Junction in which they operate a quarry and mine for rock aggregate. The site has been in existence for 41 years. It is anticipated, at the current rate of mining, that it will provide rock and gravel for the next twenty years.

The properties are described as Tax Lots 101 and 200, Section 4, Township 5 North, Range 10 West, W.M. and a portion of tax lot 301, Section 3, Township 5 North, Range 10 West, W.M.

Lots 101 & 200, Section 4, T5N, R10 W, WM are zoned Quarry Mining. The portion of lot 301, Section 3, T5N, R10W, WM is zoned F-80, Forest 80, with a QMO, Quarry Mining Overlay Zone.

In November 1992, Clatsop County amended the Comprehensive Plan and Zoning Ordinance to provide for the Quarry Mining Overlay Zone and to establish the Mineral and Aggregate Impact Area with a minimum width of 1000 feet from the extraction area. A map of the impact area and extraction area is attached.

The following Economic, Social, Environmental and Energy Consequences Analysis (ESEE Analysis) is to address these new county regulations for the Johnson Rock Quarry.

FINDINGS:

Description of the Extraction Area:

The northerly one third of the property is primarily devoted to nonmining activities such as the office and storage. The area of the actual mining is in the southerly two-thirds of the property and the actual mining and crushing activities are moving toward the southerly and easterly boundary of the property.

Description of the Impact Area:

A one thousand foot radius includes most of the Cannon Beach Junction which is a Commercial environment. Commercial activities included are: A lumber company storage yard, a restaurant, a yard and garden store and an auto wrecking business. Directly to the south, the area includes a farm operation and directly west is a horse riding and boarding farm. The impact area also includes 11 single family residences. To the north is a mobile home park and campground with fifteen permanent residential units and the City of Seaside's water reservoir. To the east is forest land. The Necanicum River also traverses the site.

These Impact Areas are zoned RA 2, RA 5, AF 20 and GC.

ESEE Analysis:

Economic Consequences.

The proposal will have positive economic impacts for the county. The site has served as a primary source of aggregate resources for this portion of the county for over 40 years. Continuation of the site for aggregate use will provide continued employment and aid the economy of the county. Many development projects in our area require rock and aggregate materials.

There is currently insufficient land identified or available for extraction of aggregate material to meet the needs over a 20 year period. This site has the potential to continue to provide aggregate for the next 20 years.

Social Consequences.

The most significant potential social impacts of the site are visibility and noise from mining operations and truck traffic. There are 11 homes and 15 mobile homes at Riverside Mobile Home Park and Campground that are within 1000 feet of the site. The shift of the mining eastward will move the operation further away from these residences.

Visual impacts are discussed under environmental consequences.

Noise impacts are controlled by maintaining all equipment to insure proper functioning and minimized noise levels. Temporary noise barriers will be used whenever other noise mitigation measures and barriers are not adequate to maintain required noise levels for particular operations. There is little noise impact under present operations as the company receives few noise complaints from adjoining residents. Future noise impacts should stay approximately the same or lessen as the gravel crusher and auxiliary equipment are moved to the east.

Increases in truck traffic are not expected for the continuation of the operation. The only additional roads anticipated are to access the new area to the east. All truck traffic will continue to access Highway 101 at the present location.

Environmental Consequences.

Environmental consequences at the site include potential impacts on water quality, forest resources and wildlife.

Water drains from the quarry site through a series of siltation ponds and then ultimately discharges into the Necanicum River, a Class I stream. As the operation moves eastward, drainage flows will continue to be channeled into the present system of siltation ponds. This system is providing adequate settling opportunities for drainage and runoff and protects the aquatic resources of the Necanicum River. Regular consultation with Oregon Department of Fish and Wildlife officials insures that water quality of drainage and runoff discharges from the operation remains at or exceeds high water quality levels.

The City of Seaside water reservoir is located within the 1000 foot impact area. The City has two concerns, one is having dust and particulate carried airborne into the reservoir. The city has been acquiring additional property to buffer the reservoir site. Further, future plans for the reservoir call for treatment after the water leaves this particular reservoir. The second concern is that continued mining in the area of the material that also supports the reservoir could cause an impact in the ability of the reservoir to hold water. However, this has not been a problem in the past and all future mining operations are moving away from the reservoir site.

Expansion of mining operations will produce a less aesthetically pleasing appearance on the site. However, impacts will be screened. A fringe of alder trees and other existing riparian vegetation will be maintained along the Necanicum River and no mining or stockpiling or other aggregate-associated activities will be allowed to occur within these areas, thereby further protecting water quality as well as appearance. Areas not actively mined will be maintained in their present conditon. At such time as the operation nears completion, the mine will be reclaimed in accordance with a reclamation plan required and approved through the Department of Geology and Mineral Industries.

The current mining operation is located approximately 1000 feet east of U.S. Highway 101. A portion of that operation includes stockpiling of material on a small parcel of land between the operation and Highway 101. As the operation continues, it will move south and east so that the active face of the mine will be approximately 1500 feet from the highway. The actual mining will remain partially visible from the highway although better screened than the present mine.

The impact of the expanding mine and the purchase of property in the F-80 zone will cause some impact in terms of loss of the timber resource. It is not significant because only a small portion of the timber resources that once existed on this site still remain. The site contains no significant forest resources and has been substantially altered in its ability to be used for the production of trees or other forest products due to the steep slopes created by the mining operation.

Both the RA 5 and F 80 properties lie within the Peripheral Big Game Range classification of the county's comprehensive plan. The number of elk within a four square mile area surrounding the F 80 site is estimated to be a couple of hundred animals. ODFW does not consider the site to be important big game habitat, however, the operation avoids the use of fences to allow elk passage through the area.

Energy Consequences.

The Johnson property is only a short distance from the Cannon Beach Junction and is close to the market area. Its location near Highway 101 should reduce transportation and energy costs over site located further from the highway.

CONCLUSIONS:

Conflicting resources that exist as a result of the Quarry Mining operation at this site and for the impact area include:

1. Protection of the Nelcanicum River including water quality and fish resource.

Setbacks of a minimum or 150 feet from the river are required to protect this resource. Riparian vegetation is protected adjoining the river. Run off is controlled through the use of sediment ponds which are in place on the property. The Oregon Department of Fish and Wildlife monitors the water quality as it runs into the river and in the river adjoining the operation.

2. Wildlife (Elk) habitat.

No barriers such as fences are constructed that prevent wildlife migration. Elk are able to migrate and take advantage of the adjoining forest lands.

3. Protection of the Seaside Water Reservoir.

Although there has not been conflict between the mining operation and the water reservoir in the past, to prevent problems in the future, the city is acquiring additional buffer land to protect its own reservoir. Also, the city is under a DEQ order to either cover this reservoir or treat the water after it leaves the reservoir. The protect the reservoir is enhanced as mining operations are moved away from the reservoir to the opposite end of the property.

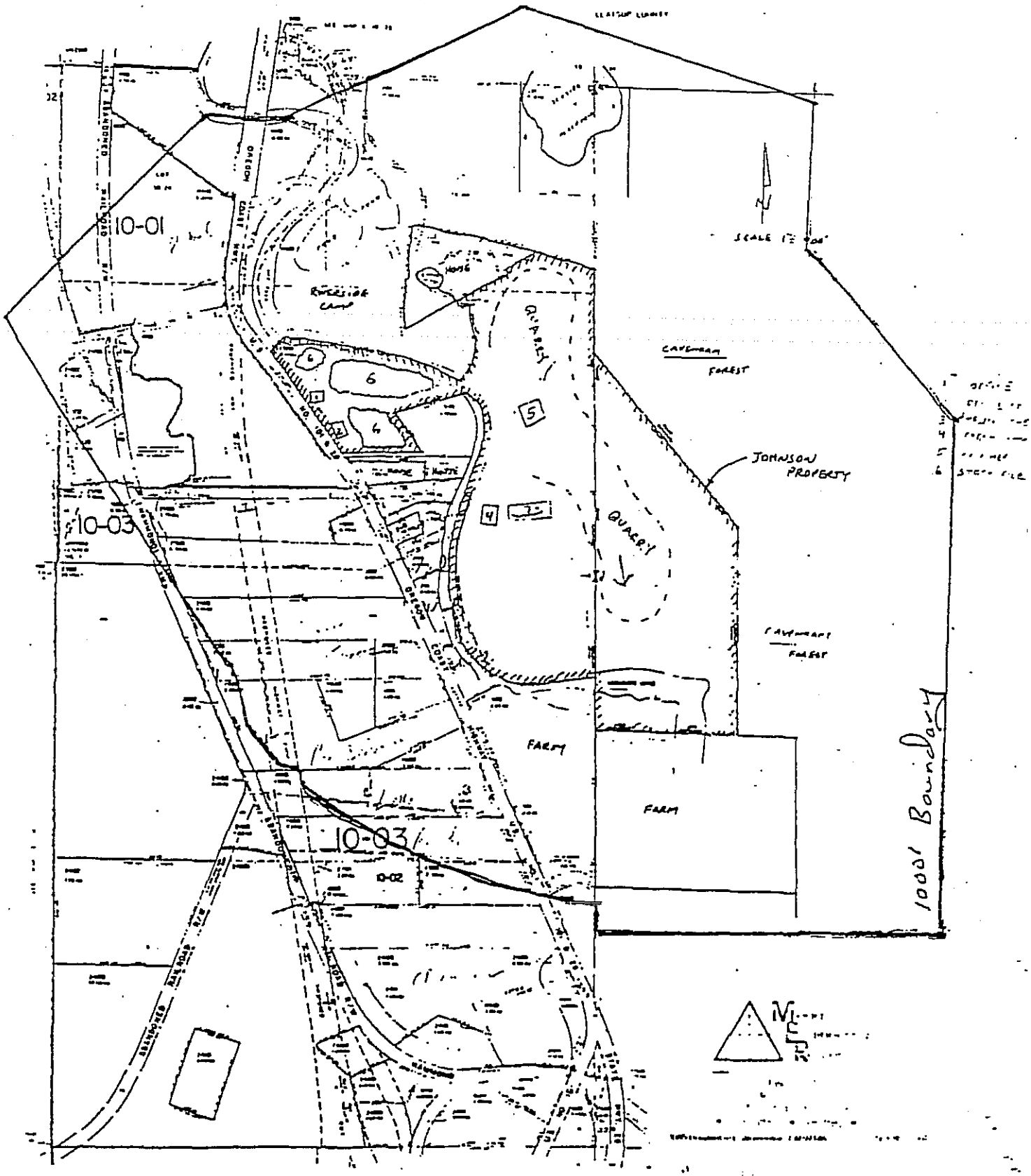
4. Visual impacts.

The site will become less visable as the operation moves to the east. Vegetated buffers are maintained to lessen the impact.

5. Noise impacts.

Extraction operations on the site are limited to the hours of 7:00 AM through 10:00 PM. Setbacks and noise barriers help to mitigate noise factors.

NE¼ SEC. 4 T.5N. R.10W. W.M.
CLATSOP COUNTY



RECORDED
AUG 1993
BCC DOC # 93-CS-16
REEL #
JDP

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

(AN ORDINANCE AMENDING THE
(CLATSOP COUNTY LAND AND WATER
(DEVELOPMENT AND USE ORDINANCE
(80-14 AS ADOPTED BY THE BOARD OF
(COMMISSIONERS, ADOPTING CERTAIN
(FINDINGS AND RESCINDING
(INCONSISTENT PROVISIONS

ORDINANCE NO. 93-18

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the QM Overlay/Zone Change, Johnson Quarry Expansion Amendment.

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to revise and amend the Clatsop County Land and Water Development and Use Ordinance. In the interest of the health, safety and welfare of the citizens of Clatsop County and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the said Clatsop County Land and Water Development and Use Ordinance.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Planning Commission has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Planning Commission held a public hearing on June 3, 1993. The Board received and considered the Planning Commission's recommendations

on this request and held a public hearing on this ordinance pursuant to law on July 28, 1993.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supercede, control and repeal any inconsistent provision of the Clatsop County Land and Water Development and Use Ordinance, as amended, or any other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force and effective 30 days following adoption of this Ordinance.

SECTION 7. ADOPTION CLAUSE.

The Board of Commissioners hereby adopts the QM Overlay/Zone Change, Johnson Quarry Expansion Amendment, set forth in Exhibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ADOPTED this 11th day of August, 1993.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

By _____
Eric Olsen, Chair

By _____
Recording Secretary

Effective Date: 9/10/93

APPROVED AS TO FORM: _____
Clatsop County Counsel

EXHIBIT "A"

REQUEST FOR QUARRY AND MINING OVERLAY ZONE CHANGE
JOHNSON QUARRY EXPANSION
TAX LOT 301, SECTION 3, TOWNSHIP 5 NORTH, RANGE 10 WEST, W. M.

INTRODUCTION:

Howard E. Johnson & Sons, Inc. proposes to acquire 8.62 acres adjoining the present quarry to the east for the purpose of expanding the quarry. The property is currently owned by Cavenham Forest Industries. The primary purpose for this property is for storage of rock aggregate, although some mining of rock will occur. The Necanicum River flows through the southernmost 300 feet of the property. The existing quarry is located in T5N, R10W, Section 4, Tax Lots 101 and 200. These properties are zone Quarry and Mining (QM). The Quarry consists of 47.9 acres. The Johnson Quarry site is one of five zoned sites in the County. Of the five sites, only two are commercial sites. The others are county or state sites. The proposal is to apply the Quarry and Mining Overlay Zone to the 8.62 acres being acquired.

FINDINGS:

The property is zoned F-80, Forest 80.

The property is described as a portion of tax lot 301, Section 3, Township 5 North, Range 10 West, W. M.

A site plan review is required before actual development of the property occurs. However, since the adjoining land is already functioning as a quarry, many of these standards are being met.

Use standards include a setback for surface and subsurface mining operations: 1,000 feet from adjacent residences and residential lands. The nearest residences adjoin Highway 101 and are more than 1,000 feet from this property. The adjoining land is F-80 and QM.

GOAL 5 ISSUES

Goal 5 includes mineral and aggregate resources as resources to be protected.

Economic, Social, Environmental, and Energy Analysis

The Goal 5 rule requires that if conflicting uses to the resource are identified, the economic, social, environmental and energy consequences of the conflicts must be determined.

Economic consequences

The Johnson site has served as a primary source of aggregate resources for the south portion of Clatsop County for over 20 years. Expansion of the site for aggregate and aggregate storage will continue to provide this resource which is an essential material for almost all construction projects, which in turn provides employment which aids the area economy.

The south county market area has an annual need for 250,000 cubic yards of aggregate. There is insufficient land zoned QM to meet the needs for a 20 year period in this market area. The addition of this 8.62 acres will somewhat alleviate that by providing an additional 760,000 cubic yards of material. The main use of the site, however, will be stockpiling.

Social Consequences.

The most significant potential social impacts are visibility and noise from the 'ning operations and truck traffic. The current Johnson site has seven homes within 1000 et of the operation. The eastward expansion will shift the operation further away from the existing residences. This will have the effect of moving both the visibility impacts and the noise impacts further from the residences.

All equipment is maintained to insure proper functioning and minimize noise levels. With proper setbacks and the limitation on hours of operation, noise problems have been mitigated.

No additional truck traffic is expected from the expansion of the operation, although additional roads will be constructed. Expanding the operation will not require a change to the present access point onto Highway 101.

Environmental consequences

Environmental consequences at the site include potential impacts on water quality, forest resources, and wildlife.

Water drains from the quarry site through a series of siltation ponds and then discharges into the Necanicum River, a Class I stream. As the operation moves eastward, drainage flows will continue to be channeled into the present system of siltation ponds. This system is providing adequate settling opportunities for drainage and runoff and protects the aquatic resources of the Necanicum River. Regular consultation with Oregon Department of Fish and Wildlife officials insures that water quality of drainage and runoff discharges from the operation remain at or exceed present levels.

Expansion of mining operations will produce a less aesthetically pleasing appearance on the site adjoining the river. Impacts will be screened, however.
A fringe of alder trees and other riparian vegetation will be maintained along the River and no mining or stockpiling or other aggregate-associated activities will be allowed to occur within 150 feet of the River. Areas not actively mined will be maintained in their present condition. At such time as the operation nears completion, the mine will be reclaimed in accordance with a reclamation plan required and approved through the Department of Geology and Mineral Industries.

The active face of the mine is approximately 1500 feet from the highway. The expansion will move the face even further from the highway, ultimately making it less visible. There is a partially treed screen between the existing site and the highway.

The impact of the loss of timber resource is minimal because only a small amount of timber resource exists in this 8.62 acres.

This area lies within the Peripheral Big Game Range classification of the county's comprehensive plan. The number of elk estimated within a four square mile area surrounding the site is on the order of a couple of hundred animals.

The site contains no significant natural, scenic or scientific areas. No hazard to the stability of adjacent lands has been experienced.

Energy consequences.

The Johnson site is near the center of its market area. Other zoned quarries are some distance from the market area. The Johnson site enjoys an energy benefit in that additional fuel need not be spent to transport aggregate material. The energy costs of operating a quarry are the same no matter what the location might be. The expansion of the Johnson site will not result in negative energy consequences.

Conclusions.

Conflicting resources that exist on this property include:

1. Protection of the Necanicum River, including its fish resource.

Setbacks of a minimum of 150 feet from the river will occur to protect this resource. Riparian vegetation will be protected adjoining the river. Run off is controlled through the use of sediment ponds which are in place on the property.

2. Wildlife (Elk) habitat.

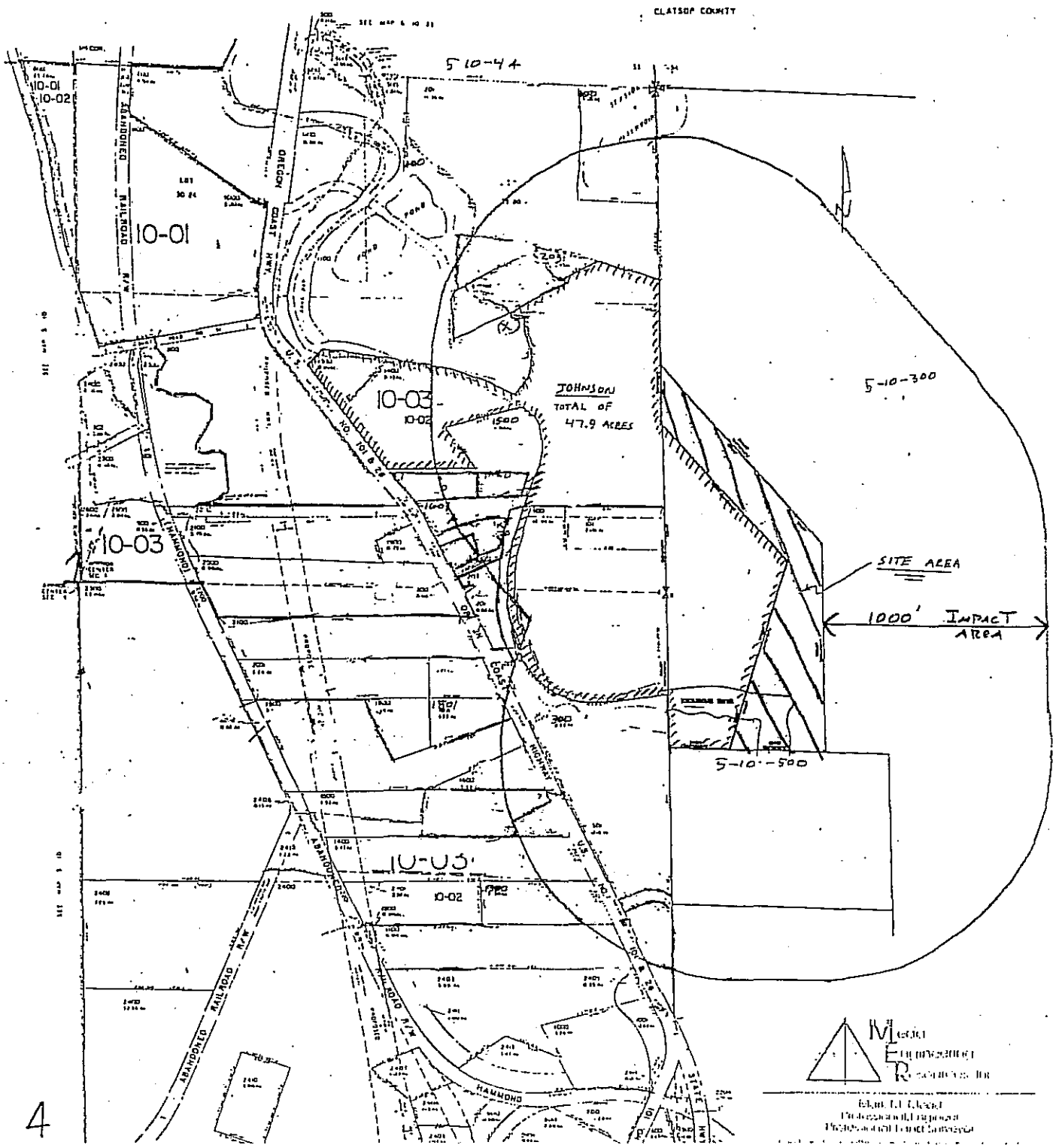
No barriers will be constructed to prevent wildlife migration. Elk will be able to migrate and take advantage of the adjoining forest lands.

3. Noise and visibility.

Extraction operations on the site are limited to the hours of 7:00 AM through 10:00 PM. Setbacks also help to mitigate noise and visibility factors.

The economic, social, environmental, and energy consequences of expanding the site can be mitigated and are far less significant than having to locate at another site and in moving the operation.

NE1/4 SEC. 4 T.5N. R.10W. W.M.
CLATSOP COUNTY



4

To: Clatsop County Planning Commission

From: David Carpenter, Senior Planner

Re: H E Johnson & Sons QMO Request.

Location: T5-R10-Sec3-TL301

Date: April 9, 1993

I Listed below are the applicable Plan and Ordinance requirements and standards that will be used to review this application.

A. Clatsop County Comprehensive Plan (County-Wide Element)

1. Goal 1 (Citizen Involvement)
2. Goal 2 (Land Use Planning)
3. Goal 5 (Open Space, Scenic and Historic Areas and Natural Resources)

B. Clatsop County Land and Water Development and Use Ordinance 80-14

1. Article I
   Section 1.040 (Scope and Compliance)
   Section 1.050 (Consistency with Comprehensive Plan)
2. Article II Procedures
   Section 2.140 (Type IV Procedure)
3. Article III Zones
   Section 3.550 (F-80)
4. Article IV Special Districts
   Section 4.400 (Quarry and Mining Overlay District)(QMO)
4. Article V Permit and Issue Determinations
   Section 5.400 (Zone Changes)
   Section 5.410 (Purpose)
   Section 5.412 (Zone Change Criteria)
5. Article VI Public Deliberations and Hearing
   Section 6.010-6.405

II Findings

A. Background and Definitions

Applicant:

Howard E. Johnson & Sons, Inc. proposes to acquire 8.62 acres adjoining the present quarry to the east for the purpose of expanding the quarry. The property is currently owned by Cavenham Forest Industries. The primary purpose for this property is for storage of rock aggregate, although some mining of rock will occur. The Necanicum River flows through the southernmost 300 feet of the property. The existing quarry is located in T5N, R10W, Section 4, Tax Lots 101 and 200. These properties are zoned Quarry and Mining (QM). The quarry consists of 47.9 acres.

The Johnson quarry site is one of five zoned sites in the County. Of the five sites, only two are commercial sites. The others are county or state sites. The proposal is to apply the Quarry and Mining Overlay Zone to the 8.62 acres being acquired.

A site plan review is required before actual development of the property occurs. However, since the adjoining land is already functioning as a quarry, many of these standards are being met.

Use standards include a setback for surface and subsurface mining operation: 1,000 feet from adjacent residences and residential lands. The nearest residences adjoin Highway 101 and are more than 1,000 feet from this property. The adjoining land is F-80 and QM.

Staff:

H E Johnson and Sons has applied for a Quarry and Mining Overlay (QMO) District for a portion of land east of their current quarry operation. The subject parcel is currently zoned F-80 and would remain so zoned except that a QMO District would also exist.

Definitions:

CONFLICTING USE -- A use authorized in the underlying zone, which, if allowed, could adversely affect operations at a significant mineral and aggregate resource site, or could be adversely affected by mining or processing activities at a significant site. For purposes of this chapter, another Goal 5 resource located on or adjacent to a significant site may be considered a conflicting use if that resource could be adversely affected by mining or processing at the site.

ESEE ANALYSIS -- The analysis of economic, social, environmental and energy consequences of (a) allowing mining on a significant site, and (b) allowing conflicting uses to displace mining on a significant site. Based on the results of the ESEE analysis, the

County may determine a level of protection for the resource, and implement a program to achieve the designated level of protection.

EXTRACTION AREA -- The area within which mineral and aggregate extraction, processing and storage may take place under the provisions of this Chapter (see Appendix A).

IMPACT AREA -- An area determined on a case-by-case basis through the ESEE analysis, within which sensitive uses are limited or regulated (see Appendix A).

SENSITIVE USE -- A conflicting use or structure considered sensitive to dust, odor, vibration and/or noise, such as a residence, school, park or hospital. Industrial, agricultural and forestry activities are not sensitive uses unless the activity includes an accessory residential use.

Application of Overlay Zone:

The Quarry and Mining Overlay Zone consists of two distinct areas; the Extraction area and the Impact area.

(A) EXTRACTION AREA. The mineral and aggregate extraction area shall be applied to any site where mining will be permitted and which has been identified as a significant resource area in the Comprehensive Plan Inventory or through the QMO Overlay Zone designation procedure, outlined in Section 5.700. The area may consist of one or more tax lots or portion(s) of single tax lots, and may be applied to contiguous properties under different ownership. The size of the Extraction Area shall be determined by the Goal 5 process, but between any existing Sensitive Use and the extraction area boundary a general distance of 1,000 feet shall be applied. The exact distance may be varied through the planning process.

(B) IMPACT AREA. The mineral and aggregate Impact Area shall be applied to properties or portions of properties adjacent to and immediately surrounding an Extraction Area. The width of the Impact Area shall be determined through the ESEE analysis prior to application of the QMO Overlay Zone, based on the type of mineral or aggregate resource to be extracted as well as physical features of the area which may cause a larger or smaller area to be affected. The minimum width of the impact area shall be 1,000 feet from the Extraction Area boundary unless a reduced distance is justified, based on the ESEE analysis (see example in Appendix A).

B. Zoning and Special Districts

Clatsop County Land And Water Development and Use Ordinance.

Section 3.550 Forest-80 (F-80)
Section 4.400 (Quarry and Mining Overlay District)(QMO)

Staff:
See the discussion below regarding the purpose of the QMO District. An exception is not required in order to place the QMO over the F-80 zone.

C. Clatsop County Comprehensive Plan (County-Wide Elements)

Staff:
See the discussion below regarding Goal 5.

D. Clatsop County Land and Water Development and Use Ordinance.

Section 5.412(1) and (2) list criteria that must be met before a zone change can occur.

Section 5.412(1) The amendment shall be consistent with the Comprehensive Plan.

Staff:
The county has an acknowledged comprehensive plan that is composed of the county-wide elements and the community plans.

Goal 1 Citizen Involvement

Staff:
All applicable Comprehensive Plan and Land and Water Development and Use Ordinance goals and standards were developed with citizen involvement. This hearing addresses the goal requirements for this application.

Goal 5 Open Space, Scenic and Historic Areas and Natural Resources

1) Plan and Ordinance Criteria

Staff:
Placement of the QMO overlay requires an ESEE analysis. The analysis evaluates the impact of the proposed use in terms of the Economic, Social, Environmental and Energy consequences. Ordinance 88-1 established current operation, and includes an ESEE analysis of the existing use. Ordinance 88-1 is included as part of this staff report.

The proposed use and associated activities will be a

continuation of what currently occurs at the existing site. The current site is designated as a Quarry and Mining (QM) zone. The proposed site will remain in the F-80 zone but have the Quarry and Mining Overlay (QMO) designation.

The QMO overlay provides the following purpose statement:

The purpose and intent of the Quarry and Mining Overlay District (/QMO) is:

(A) To allow the development and use of mineral and aggregate resources;
(B) To provide uniform standards for extraction and processing of mineral and aggregate resources;
(C) To balance conflicts between mining operations and new and existing surrounding conflicting uses;
(D) To ensure the rehabilitation and restoration of mining sites; and
(E) To protect mineral and aggregate resources for future use consistent with Comprehensive Plan goals and policies and Statewide Planning Goal 5.

The Comprehensive Plan provides the following goal and policies:

Goal:

To protect and ensure appropriate use of mineral and aggregate resources of the county, while minimizing any adverse effects of mining and processing upon surrounding land uses.

Policies:

15)

When analyzing the ESEE consequences of potential conflicts between a significant mineral or aggregate resource and another significant Goal 5 resource, the county shall consider the protection program adopted for the conflicting resource. Conflicts with other natural resources shall not be the basis for mining restrictions unless the county has included the conflicting resource on the inventory of significant Goal 5 resources, and adopted a resource protection program.

16)

The county may consider the effects of surface mining operations on public roads and traffic. Consideration may include review of proposed routes, site distances at access points, roadway width and alignment, and level of service. The county may impose conditions or restrictions directly related to the impact created by surface mining; however, any conditions or restrictions shall not be approval criteria, and

shall be applied uniformly to all road users in a manner consistent with the county's transportation plan.

17)

In order to approve surface mining at a site zoned for exclusive farm or forestry use, the county shall find, as part of the ESEE analysis, that the proposed activity will not: 1) force a significant change in, or significantly increase the cost of, accepted farming or forestry practices on surrounding lands, and 2) will not significantly increase fore hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel.

19)

The county shall require increased setbacks, insulation, screening, or similar measures as conditions of approval for any new conflicting use within an impact area surrounding a mineral or aggregate resource site when such measures are deemed necessary to resolve conflicts identified in a site-specific Goal 5 analysis.

20)

The county may establish and impose conditions on operation of a surface mine when deemed necessary as a result of a site-specific Goal 5 analysis. Where such conditions conflict with criteria and standards in the Mineral and Aggregate Resources Overlay, the condition developed through the Goal 5 analysis shall control.

2) ESEE Analysis

The designation of a QMO district requires an ESEE analysis be performed. Following is the ESSE submitted by the applicant:

Applicant:

Economic consequences:

The Johnson site has served as a primary source of aggregate resources for the south portion of Clatsop County for over 20 years. Expansion of the site for aggregate and aggregate storage will continue to provide this resource which is an essential material for almost all construction projects, which in turn provides employment which aids the area economy.

The south county market area has an annual need for 250,000 cubic yards of aggregate. There is insufficient land zoned QM to meet the needs for a 20 year period in this market area. The addition of this 8.62 acres will somewhat alleviate that by providing an additional 760,000 cubic yards of material.

The main use of the site, however, will be stockpiling.

Social Consequences:

The most significant potential social impacts are visibility and noise from the mining operations and truck traffic. The current Johnson site has seven homes within 1,000 feet of the operation. The eastward expansion will shift the operation further away from the existing residences. This will have the effect of moving both the visibility impacts and the noise impacts further from the residences.

All equipment is maintained to insure proper functioning and minimize noise levels. With proper setbacks and the limitation on hours of operation, noise problems have been mitigated.

No additional truck traffic is expected from the expansion of the operation, although additional roads will be constructed. Expanding the operation will not require a change to the present access point onto Highway 101.

Environmental consequences:

Environmental consequences at the site include potential impacts on water quality, forest resources, and wildlife.

Water drains from the quarry site through a series of siltation ponds and then discharges into the Necanicum River, a Class I stream. As the operation moves eastward, drainage flows will continue to be channeled into the present system of siltation ponds. This system is providing adequate settling opportunities for drainage and runoff and protects the aquatic resources of the Necanicum River. Regular consultation with Oregon Department of Fish and Wildlife officials insures that water quality of drainage and runoff discharges from the operation remain at or exceed present levels.

Expansion of mining operations will produce a less aesthetically pleasing appearance on the site adjoining the river. Impacts will be screened, however. A fringe of alder trees and other riparian vegetation will be maintained along the River and no mining or stockpiling or other aggregate-associated activities will be allowed to occur within 150 feet of the River. Areas not actively mined will be maintained in their present condition. At such time as the operation nears completion, the mine will be reclaimed in accordance with a reclamation plan required and approved through the Department of Geology and Mineral Industries.

The active face of the mine is approximately 1500 feet from the highway. The expansion will move the face even further from the highway, ultimately making it less visible. There is a partially treed screen between the existing site and the highway.

The impact of the loss of timber resources is minimal because only a small amount of timber resource exists in this 8.62 acres.

This area lies within the Peripheral Big Game Range classification of the county's comprehensive plan. The number of elk estimated within a four square mile area surrounding the site is on the order of a couple of hundred animals.

The site contains no significant natural, scenic or scientific areas. No hazard to the stability of adjacent lands has been experienced.

Energy consequences:

The Johnson site is near the center of its market area. Other zoned quarries are some distance from the market area. The Johnson site enjoys an energy benefit in that additional fuel need not be spent to transport aggregate material. The energy costs of operating a quarry are the same no matter what the location might be. The expansion of the Johnson site will not result in negative energy consequences.

Conflicting resources that exist on this property include:

1. Protection of the Necanicum River, including its fish resource.

   Setbacks of a minimum of 150 feet from the river will occur to protect this resource. Riparian vegetation will be protected adjoining the river. Run off is controlled through the use of sediment ponds which are in place on the property.

2. Wildlife (Elk) habitat.

   No barriers will be constructed to prevent wildlife migration. Elk will be able to migrate and take advantage of the adjoining forest lands.

3. Noise and visibility.

   Extraction operations on the site are limited to the hours of 7:00 a.m. through 10:00 p.m. Setbacks also help

to mitigate noise and visibility factors.

The economic, social, environmental, and energy consequences of expanding the site can be mitigated and are far less significant than having to locate at another site and in moving the operation

Staff:

The proposed use is a continuation of the use existing at the site. The expansion is eastward and away from conflicting uses (dwellings, etc.) located primarily along Hwy 101 south, west and north of the existing site. We did not receive any comments from neighboring property owners, Department of Fish and Wildlife, Department of Transportation, Department of Forestry or the Soil Conservation Service.

Section 5.412(2) The property in the affected area is presently provided with adequate public facilities, services and transportation networks to support the use, or the governing body by condition, requires their provision by condition attached to any approval of the use.

Staff:

The use will use the existing access onto Hwy 101. Should the Commission have other concerns of this nature, Dick Pearson will be available to respond.

III Options

Following is an outline that reflects potential actions the Planning Commission can undertake. The outline is not intended to address every issue but rather to serve as a guide upon which the commission can act.

1. Deny the request.

2. Approve the request.

3. Approve the request with conditions.

4. Continue the hearing.

RECORDED
FEB 24 1995
BCC DOC # 95020012
REEL #

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

ORDINANCE NO. 95-1

(AN ORDINANCE AMENDING THE
(CLATSOP COUNTY COMPREHENSIVE
(PLAN/ZONING MAP AND TEXT AS ADOPTED
(BY THE BOARD OF COMMISSIONERS
(ADOPTING CERTAIN FINDINGS WITH
(CONDITIONS AND RESCINDING
(INCONSISTENT PROVISIONS

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the Riekkola QMO Comprehensive Plan and Zoning Map and Text Amendment.

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to revise and amend the Clatsop County Comprehensive Plan and Zoning Map and Text. In the interest of the health, safety and welfare of the citizens of Clatsop County and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the said Clatsop County Comprehensive Plan/Zoning Map and Land and Water Development and Use Ordinance 80-14 as amended.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Planning Commission has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Planning Commission

held a public hearing on October 18, 1994. The Board received and considered the Planning Commission's recommendations on this request and held a public hearing on this ordinance pursuant to law on February 8, 1995.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supersede, control and repeal any inconsistent provision of the Clatsop County Land and Water Development and Use Ordinance, as amended, or any other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force and effective 30 days following adoption of this Ordinance.

SECTION 7. ADOPTION CLAUSE.

The Board of Commissioners hereby adopts the Riekkola QMO Comprehensive Plan and Zoning Map and Text Amendment with conditions, set forth in Exhibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ADOPTED this 22 day of February, 1995.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

By Geoffrey Stone
Geoffrey Stone, Vice Chairman

By [illegible]
Recording Secretary

Effective Date:_____

APPROVED AS TO FORM:_____
Clatsop County Counsel

EXHIBIT "A"

To: Clatsop County Planning Commission

From: David Carpenter, Senior Planner DC

Applicant: Don Lampi and Riekkola Quarry Inc.

Owner: Riekkola Quarry Inc.

Location: Olney

Legal Description: T7N-R9W-Sec13-TL102
T7N-R8W-Sec18-TL2800

Comp Plan Designation: Conservation Forest Lands

Zoning: Agricultural/Forest-20 (AF-20)

Request: Place a Quarry and Mining Overlay Designation Over the two parcels.

Date: September 27, 1994

I Listed below are the applicable Plan and Ordinance requirements and standards that will be used to review this application.

A. Clatsop County Comprehensive Plan (County-Wide Element)

1. Goal 1
2. Goal 2
3. Goal 3
4. Goal 4
5. Goal 5

B. Lewis and Clark Community Plan

1. Fish and Wildlife Policies

C. Clatsop County Land and Water Development and Use Ordinance 80-14

1. Article I
   Section 1.010-1.050
2. Article II Procedures
   Section 2.140 (Type IV Procedure)
3. Article III Zones
   Section 3.510
4. Article IV Special Districts
   Section 4.400
4. Article V Permit and Issue Determinations
   Section 5.300-5.302

Section 5.700-5.735
5. Article VI Public Deliberations and Hearing
Section 6.118
6. Article X General Provisions
Section 10.110-10.150

D. Standards Document

1. Sections 1-3
2. S4.400-S4.404
3. S4-500-S4.504

E. Statewide Planning Goals and OAR's

1. Goal 1
2. Goal 2
3. Goal 3
4. Goal 4
5. Goal 5
6. Goal 6
8. Goal 12
9. Goal 13
10. OAR 660-05

II Findings

A. Background and Location

Applicant (Background):

The Riekkola Quarry is located on a 45 acre parcel to the south of Highway 202 about 1 mile east of Olney. The quarry is located on Clatsop County Tax Lots 7-9-13 #102 and 7-8-18 #2800. The active quarry area covers about 20 to 30 acres of the overall ownership.

Clatsop County granted conditional use approval for this commercial quarry site in June of 1992. Riekkola holds an active DOGAMI permit for the quarry.

Applicant (Location):

The location of this quarry in the northwest corner of the county immediately adjoining Highway 202 makes it an ideal site for supplying rock to the Astoria/Warrenton area.

Applicant (Purpose):
The purpose of this process is to place the Riekkola Rock Quarry in the recently established Clatsop County Quarry and

Mining Overlay Zoning district. This overlay will provide land use protection for this valuable commercial rock resource.

Applicant (Proposed Mining Activities):

The site is being actively mined under the provisions of State Department of Geology and Mineral Industries permit at this time. The quarry contains a large reserve of excellent quality rock.

Staff:

Archie riekkola has applied for a Quarry and Mining Overlay (QMO) District for his quarry located in Olney. These parcels are on the south side of the north fork of the Klaskanine river which is south of, and parallels, Highway 202. The site is approximately 1 mile east of Olney. The subject parcel is currently zoned Agriculture/Forest-20 (AF-20). This zoning designation would remain. The QMO District would be added to the parcels.

The QMO overlay provides the following purpose statement:

> The purpose and intent of the Quarry and Mining Overlay District (/QMO) is:
>
> (A) To allow the development and use of mineral and aggregate resources;
> (B) To provide uniform standards for extraction and processing of mineral and aggregate resources;
> (C) To balance conflicts between mining operations and new and existing surrounding conflicting uses;
> (D) To ensure the rehabilitation and restoration of mining sites; and
> (E) To protect mineral and aggregate resources for future use consistent with Comprehensive Plan goals and policies and Statewide Planning Goal 5.

The Planning Commission has to determine if the site merits protection as a Goal 5 resource. If the site is found to be "Significant", the site must be protected unless there are enough conflicting uses in proximity to the site such that the site could not be used as a quarry. Also, if there are other Goal 5 sites in the vicinity, the site must be analyzed for its impacts on the other Goal 5 site. Other than Big Game issues, there are no other Goal 5 resources associated with the site.

The site received conditional use approval in 1992. The CUP defined the entire property as being part of the approval. As the entire site is approved for quarry activities, the applicant can only be held to the QMO standards if the

Planning Commission imposes them as conditions of approval.

B. Definitions

CONFLICTING USE -- A use authorized in the underlying zone, which, if allowed, could adversely affect operations at a significant mineral and aggregate resource site, or could be adversely affected by mining or processing activities at a significant site. For purposes of this chapter, another Goal 5 resource located on or adjacent to a significant site may be considered a conflicting use if that resource could be adversely affected by mining or processing at the site.

ESEE ANALYSIS -- The analysis of economic, social, environmental and energy consequences of (a) allowing mining on a significant site, and (b) allowing conflicting uses to displace mining on a significant site. Based on the results of the ESEE analysis, the County may determine a level of protection for the resource, and implement a program to achieve the designated level of protection.

EXTRACTION AREA -- The area within which mineral and aggregate extraction, processing and storage may take place under the provisions of this Chapter (see Appendix A).

IMPACT AREA -- An area determined on a case-by-case basis through the ESEE analysis, within which sensitive uses are limited or regulated (see Appendix A).

SENSITIVE USE -- A conflicting use or structure considered sensitive to dust, odor, vibration and/or noise, such as a residence, school, park or hospital. Industrial, agricultural and forestry activities are not sensitive uses unless the activity includes an accessory residential use.

C. Clatsop County Land and Water Development and Use Ordinance.

Staff:

Following are applicable sections from the QMO zone text followed by applicant and/or staff response.

<u>Section 4.406. Application of Overlay Zone:</u> Any conflicts between the provisions of this Chapter and the provisions of other chapters of this Ordinance, Comprehensive Plan Goals and Policies and the Statewide Planning Goals shall be resolved through the ESEE analysis.

The Quarry and Mining Overlay Zone consists of two distinct areas; the Extraction area and the Impact area.

(A) EXTRACTION AREA. The mineral and aggregate extraction area shall be applied to any site where mining will be permitted and which has been identified as a significant resource area in the Comprehensive Plan Inventory or through the QMO Overlay Zone designation procedure, outlined in Section 5.700. The area may consist of one or more tax lots or portion(s) of single tax lots, and may be applied to contiguous properties under different ownership. The size of the Extraction Area shall be determined by the Goal 5 process, but between any existing Sensitive Use and the extraction area boundary a general distance of 1,000 feet shall be applied. The exact distance may be varied through the planning process.

(B) IMPACT AREA. The mineral and aggregate Impact Area shall be applied to properties or portions of properties adjacent to and immediately surrounding an Extraction Area. The width of the Impact Area shall be determined through the ESEE analysis prior to application of the QMO Overlay Zone, based on the type of mineral or aggregate resource to be extracted as well as physical features of the area which may cause a larger or smaller area to be affected. The minimum width of the impact area shall be 1,000 feet from the Extraction Area boundary unless a reduced distance is justified, based on the ESEE analysis (see example in Appendix A).

Staff:

Following is the applicants ESEE analysis, discussion of conflicting uses, discussion of the impact area and a conclusion by the applicant.

Applicant (ESEE):

The Goal 5 rule (OAR 660-16-005(2)) requires that if conflicting uses to the resource are identified, the economic, social, environmental and energy (ESEE) consequences of the conflicts must be determined. "Both the impacts on the resource site and on the conflicting use must be considered in analyzing the ESEE consequences. The applicability and requirements of other Statewide Planning Goals must also be considered, where appropriate, at this stage of the process."

Past County conditional use approval conditions have required a buffer of 100 feet between the quarry operation and the

North Fork of the Klaskanine River. The buffer along with DEQ water discharge requirements should provide adequate protection for this resource.

There is narrow east-to-west flowing seasonal drainage that passes through the property. There is also a small wetland area in the northeast corner of the site. Clatsop County has not identified either of these areas as significant Goal 5 wetlands or placed any of the site within the Lake and Wetland Overlay zoning district.

The Riekkola quarry site contains a valuable aggregate resource that merits Goal 5 protection. All other Goal 5 resources have been examined and protected by a program of avoidance and use controls.

No Goal 5 conflicts have been identified for this site.

Applicant (Impact Area):

The Goal 5 rule (OAR 660-16-0002) requires identification of an impact area itself. The impact area is an area in which identified conflicting uses may adversely may adversely affect the resource. Although impact area is not defined in either the goals or in the Goal 5 rule, the impact area for a mineral and aggregate resource site must be the area which includes uses which could adversely affect the resource, but also the area including those uses which could be affected by the presence of a significant resource. The attached impact area map shows the boundaries of the Riekkola quarry operations and an impact area that extends 1000 feet beyond the perimeter of this quarry.

Noise, dust, odor and blasting effects typically have the potential to adversely effect surrounding properties in the immediate proximity to a quarrying operation.

The quarry operation utilizes an existing road approach onto a County Road that connects to Highway 202 about 100 feet to the north. This approach provides safe highway access for existing and proposed traffic volumes.

Applicant (Potential Conflicting Uses):

The North Fork of the Klaskanine River adjoins the quarry site to the north and there is one private ownership between the river and Highway 202; there are no structures on this ownership. Existing county operating conditions require buffer protection of 100 feet between the active quarry operations and the river. Existing dwellings on the north side of Highway

202 are located about 1000 feet from the active quarry area. The quarry is partially screened from Highway 202 traffic by a stand of trees along the south bank of the North fork of the Klaskanine River.

Clatsop County owns the property to the adjoining east; this property is utilized as a passive park that provides public fishing access to the North Fork of the Klaskanine River. No conflicts have been identified between these two uses.

The Nevan and Sarri homesites adjoin to the south on designated forest lands. These dwellings are effectively screened by topography and existing vegetation. Existing county operating conditions require a setback of at least 500 feet from these residences. The operations plan calls for the continued southward expansion of the existing quarry face; this excavation plan will allow the rock deposit to act as a noise and visual buffer between these residences and the quarry extraction and processing activities.

An inactive ODOT quarry is located on lands to the adjoining west.

Applicant: (Conclusion)

The closest dwellings to the north are about 1000 feet from the active quarry. This distance reduces potential noise and dust impacts.

No conflicts have been identified with County park recreational uses to the east.

The closest dwellings (Saari/Nevan) to the south are located about 1000 feet from the current active quarry area and 500 feet to the south of the Riekkola south property line. These dwellings are effectively screened from the quarry.

No significant impacts have been identified that would merit additional use restrictions upon quarrying activities on the Riekkola site.

Staff:

The applicant has identified four dwellings in the proposed impact area. The houses to the north are separated from the extraction area by Hwy 202 and buffer associated with the klaskanine. With the setback along the south side of the river, the closest activities that can occur to the Browning and Lonquist dwellings are approximately 200 and 450 feet respectively. These activities are primarily associated with

the access road into the site. The extraction face is a greater distance from these dwellings. The Nevan and Saari dwellings are 800 and 580 feet from the southern Riekkola property line respectively. The current CUP requires that activities not occur closer than 500 feet from dwellings or residentially zoned areas. The QMO requires an analysis of the site on uses within 1000 feet.

There is the potential of 8 more dwellings on land within the Impact Area. All property within the impact area is zoned for resource use. Dwellings in the resource zone require compliance with certain standards before they area permitted. As part of the approval process they would also have to be analyzed for their impact on the quarry.

DOGAMI requires the operator to have a Department of Environmental Quality (DEQ) stormwater runoff permit as part of the operational requirements. The applicants have this approval. This addresses concerns associated with the river and drainage that runs through the site. Oregon Department of Fish and Wildlife (ODFW) and DEQ have been given notice of this request.

County records indicate that there are no water rights located in the Extraction or Impact Areas.

An ODOT quarry is located immediately to the west. The Riekkola access road runs through this property. This quarry is inactive and not identified as a Goal 5 quarry site. The Browning quarry is to the north of the site. Except for the access road, the Browning Quarry is not in the impact area of the Riekkola site.

The site currently accesses through ODOT property onto a county road. Highway 202 is approximately 100 feet north of this access point. ODOT has been given notice.

<u>Section 4.424 Determination of Significance</u>. Only sites deemed significant shall be designated with a QMO. The following criteria shall be used in determining significance:

(A) Significant Aggregate Resources. An aggregate resource shall have at least 250,000 cubic yards of reserve and meet at least two of the following minimum requirements:

(1) Abrasion: Loss of not more than 35% by weight;

(2) Oregon Air Degradation: Loss of not more than 35% by weight;

(3) Sodium Sulphate Soundness: Not more than 17% by weight.

(B) Other mineral resources. Significance of non-aggregate resources shall be determined on a case-by-case basis after consultation with DOGAMI.

Applicant (Quality):

A geologist's report describes the Riekkola rock deposit as a large basaltic dike formation with rock suitable for a variety of construction purposes including aggregate for State Highway projects. The source has been tested and approved for Corps of Engineers riprap use and State Highway Department use. Rock test results are attached.

Applicant (Quantity):

The quantity of the rock source is estimated to be two to three million cubic yards.

Applicant (Conclusion):

This large rock reserve at a strategic location is a unique resource that is of significant economic value to Clatsop County.

The Riekkola quarry is a significant resource by virtue of its location, quality, quantity and established development that should be protected on the inventory of significant Goal 5 resources in the Clatsop County Comprehensive Plan.

Staff:

The applicant states that the site contains 2 to 3 million cubic yard. This amount far exceeds the QMO minimum requirement. The minimum number of cubic yards required is 250,000.

The Laboratory data submitted by the applicant appears to indicate that the material meets the three quality specifications listed in the above standard.

Following is a list of Quarry sites separated into one of three classifications. Currently the site is identified as a site requiring CUP approval. The applicant is requesting that the site be identified as a Significant/Primary site.

Classification of County Mineral and Aggregate Sites*

Primary Sites Requiring QMO Protection

1)	Clatsop County - Clifton	T8N R7W S17	rock
2)	Clatsop County - Big Creek	T8N R7W S29 SW	gravel
3)	Howard Johnson - US 101	T5N R10W S4	rock
4)	Bayview Transit Mix - US 101	T5N R10W NW9 SW4	basalt

Primary Sites Requiring Conditional Use Approval

1)	George Ordway	T5N R10W S14	basalt
2)	Teevin Bros. Logging	T8N R6W S27 NW	rock
3)	Daren Berg, Humbug Rock	T5N R8W S22	rock
4)	M. Nygaard Logging	T7N R9W S31 NE	rock
5)	A. Riekkola	T7N R8W S18	basalt
6)	Tagg	T7N R10W S3	sand
7)	Horecny	T5N R9W S23	rock

Other Sites

1)	Clatsop County (Anderson Rd - Brownsmead)	T8N R7W S2 SW	clay
2)	Howard Johnson	T5N R10W S4 NW	rock
3)	Oregon State Forestry Dept.	T4N R9W S14,23 NW	rock
4)	Oregon State Hwy. Division	T5N R9W S16,17	basalt
5)	Oregon State Hwy. Division	T5N R8W S25 NW	basalt
6)	McClean Logging	T7N R8W S28	basalt

Section 4.414. Development Standards - Extraction Area. A development plan shall be submitted to the County Planning Department for any activity allowed in Section 4.412. The development plan shall provide the necessary documents, permits, and maps to demonstrate compliance with the standards and requirements listed below.

Staff:

As per sections 4.414, 4.416 and 4.418, the applicant for a QMO designation does not need to show compliance with the following standards at this time. As discussed in the Background portion of this report, compliance with these standards is not required of the applicant. However, The QMO policies allow the county to impose conditions as determined necessary. The following operational standards are provided for your information.

(A) Screening and Buffering:

(1) An earthen berm and buffer of existing or planted trees or vegetation shall be maintained to fully screen the view of any mineral and aggregate activity and all related equipment from any public road, public park, or residence within 1,000 feet. Where screening is shown through the ESEE analysis to be unnecessary because of topography or other features of the site, the screening requirements may be waived by the Planning Director.

(2) Sight obscuring fencing or approved barrier type shrubs shall be required to eliminate any safety hazards that use of the site may create. Fencing, if required, shall be sight obscuring and a minimum of 6 feet high.

(B) Access:

(1) All private access roads from mineral and aggregate sites to public roads shall be paved or graveled. If graveled, the access road shall be graded and maintained as needed to minimize dust.

(2) Improvements of fees in lieu of improvements of public roads, County roads and State highways may be required when the Planning Director or hearings body, in consultation with the appropriate road authority, determines that the increased traffic on the roads resulting from the surface mining activity will damage the road sufficiently to warrant off-site improvement. If the fee in lieu of improvements is required, the amount of the fee shall reflect the applicant's pro-rated share of the actual total cost of the capital expenditure of the road construction or reconstruction project necessitated by and benefiting the surface mining operation. Discounts for taxes and fees already paid for such improvements, such as road taxes for vehicles and for property already dedicated or improved, shall be applied.

(3) Any internal road at a mineral and aggregate site within 250 feet of a Sensitive Use shall be paved or graveled, and shall be maintained at all times to reduce noise and dust in accordance with County or DEQ standards specified in the ESEE analysis.

(4) An effective vehicular barrier or gate shall be required at all access points to the site.

(C) Hours of Operation:

(1) Blasting shall be restricted to the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday. No blasting shall occur on Saturdays, Sundays, or any recognized legal holiday.

(2) Mineral and aggregate extraction, drilling, processing

and equipment operation located within 1,000 feet or as established by the ESEE analysis of any Sensitive Use is restricted to the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, and 8:00 a.m. to 5:00 p.m. Saturday. All other sites are limited to operating hours of 7:00 a.m. to 10:00 p.m. Monday through Saturday. No operation shall occur on Sundays or recognized legal holidays.

(3) An increase in operating time limits shall be granted for all activities except blasting if:

(a) Three are no Sensitive Uses within 1,000 feet of the mining site; or if

(b) There are Sensitive Uses within 1,000 feet, the increased activity will not exceed noise standards established by the County or DEQ; and

(c) The operator shall notify the owners and occupants of all Sensitive Uses within 1,000 feet or the distance established by the ESEE analysis by first class mail which is mailed at least 96 hours prior to the date and approximate time of the activity for which the operator receives an exception.

(4) The operating time limits may be waived in the case of an emergency as determined by the County governing body.

(D) Environmental Standards:

(1) DEQ Standards. Mineral and aggregate extraction, processing and other operations shall conform to all applicable environmental standards of the County and State. Any crusher, asphalt, concrete, ready-mix or other machinery shall submit an approved DEQ permit(s) at the time of development plan application.

(2) DOGAMI Standards. Mineral and aggregate extraction, processing, other operations and site reclamation shall conform to the requirements of the Department of Geology and Mineral Industries (DOGAMI).

(3) Permits Required. Mining shall not commence until all applicable State and Federal permits, if any, are provided to the County.

(E) Equipment Removal:

All surface mining equipment, machinery, vehicles, buildings, man-made debris and other material related to the mineral and aggregate activity shall be removed from the site within 30 days of completion of all mining, processing and reclamation, except for structures which are permitted uses in the underlying zone.

(F) Performance Agreement:

(1) The operator of a mineral and aggregate site shall provide the County with annual notification of DOGAMI permits.

(2) Mineral and aggregate operations shall be insured for $500,000.00 against liability and tort arising from production activities or operations incidental thereto conducted or carried on by virtue of any law, ordinance or condition, and such insurance shall be kept in full force and effect during the period of such operations. A prepaid policy of such insurance which is effective for a period of one year shall be deposited with the County prior to commencing any mineral and aggregate operations. The owner of operator shall annually provide the County with evidence that the policy has been renewed.

(G) Significant Resource Area Protection:

Conflicts between inventoried mineral and aggregate resource sites and significant fish and wildlife habitat, riparian areas and wetlands, and ecologically and scientifically significant natural areas and scenic areas protected by the Clatsop Plains Community Plan or other provision of the County Comprehensive Plan, shall be balanced as determined by the site-specific ESEE analysis.

(H) Site Reclamation:

A reclamation plan shall be submitted concurrently with the development plan required in Section 4.418. The reclamation plan shall include a schedule showing the planned order and sequence of reclamation, shall assure that the site will be restored or rehabilitated for the land uses specified in the underlying zone consistent with the site specific Goal 5 program, and shall meet DOGAMI requirements.

(I) Water Management:

(1) Surface water shall be managed in a manner which meets all applicable DEQ, DOGAMI, and ODFW water quality standards. Approval may be conditioned upon meeting such standards by a specified date. Discharge across public roads shall be prohibited. Existing natural drainages on the site shall not be changed in a manner which substantially interferes with drainage patterns on adjoining property, or which drains waste materials or waste water onto adjoining property or perennial streams. Where the mineral and aggregate operation abuts a lake, river, or perennial stream, all existing vegetation within 100 feet of the mean high water mark shall be retained unless otherwise authorized in accordance with

the ESEE analysis and the development plan.

(2) All water required for the mineral and aggregate operation, including dust control, landscaping and processing of material, shall be legally available and appropriated for such use. The applicant shall provide written documentation of water rights from the State Department of Water Resources and/or local water district prior to any site operation.

(J) Floodplain:

Any QMO Extraction Area located wholly or in part in a Special Flood Hazard Area as shown on the Federal Insurance Rate Map (FIRM) shall receive approval in accordance with Section 4.000 of this Ordinance prior to any site operation.

Section 4.416. Application Process. Final development plan approval is required prior to the beginning of any mineral and aggregate activity listed in Section 4.412, and before any expansion of a pre-existing or non-conforming site. The applicant shall provide the following at the time of application:

(A) A development plan demonstrating that the development standards required in Section 4.414 can be met, including:

(1) Screening and fencing;
(2) Access;
(3) Hours of operation;
(4) Environmental standards;
(5) Equipment removal;
(6) Performance agreement;
(7) Significant resource area protection;
(8) Site reclamation;
(9) Water management; and
(10) Floodplain.

(B) A map or diagram showing the location and setbacks of all proposed mineral and aggregate activities and operations and the location and distance to all Sensitive Uses within the Impact Area.

Applicant:

A. Screening and Buffering

The Saari and Nevan dwellings to the south are effectively screened by topography and existing vegetation. The dwellings to the north side of Highway 202 are about 1000 feet from the quarry and partially screened by existing vegetation; topography limits

additional screening measures to the north.

B. Access

The existing road approach from the County road Riekkola quarry is gavelled and maintained in good condition. The sole access point is controlled by a locked gate that is closed during periods of inactivity.

C. Hours of Operation

The quarry can be operated within the restrictions established by the ordinance's provisions for hours of operation and these provisions would be an acceptable condition of approval for this site.

D. Environmental Standards

As stated above, the existing quarry use has been established in conformance with required State of Oregon DEQ and DOGAMI permitting requirements. Additional state and federal permits will be obtained as required for future quarrying activities.

E. Equipment Removal

Quarrying equipment and accessory structures will be removed at the time commercial quarry activities are completed at the site.

F. Performance Agreement

Proof of bonding and insurance will be provided to the County as required.

G. Significant Resource Protection

ESEE conflicts have been detailed and addressed above.

H. Site Reclamation

The reclamation plan that has been previously filed with DOGAMI will be followed when this quarry site is closed.

I. Water Management

The existing quarry is operating under the provisions of a DEQ wastewater runoff treatment plan. This plan will be modified in the future as required by the DEQ or as appropriate for any change in operations.

J. Floodplain

The proposed QMO extraction area is entirely outside the County's mapped flood hazard zone.

Staff:

As discussed above, the applicant does not need to comply with these standards unless the county creates conditions of approval that warrant compliance.

Section 4.418. Site Plan Review.

(A) Site plan review is required prior to commencement of mining. Application shall be in the form required by the County, and shall demonstrate compliance with the standards of Section 4.414 and any requirements adopted as part of the Goal 5 process.

(B) Applications for site plan approval of surface mining operations and activities authorized by Section 4.408 in accordance with ORS 215.425 and ORS 1917.195.

(C) The County shall approve, conditionally approve, or deny a site plan based on the ability of the site plan to conform to the standards of Section 4.414 and other requirements adopted as part of the Goal 5 process.

(D) If the County determines that the site plan is substantially different from the proposal approved in the Goal 5 process, the application shall be denied or conditioned to comply with the decision adopted as part of the Goal 5 process, or the applicant may choose to apply for a Comprehensive Plan amendment whereby the original decision reached through the Goal 5 process will be reexamined based on the revised site plan.

Staff:

The applicant has submitted a plan showing the extraction area and the impact area.

C. Clatsop County Comprehensive Plan (County-Wide Elements)

Applicant:

The Land Conservation and Development Commission acknowledged the County's Comprehensive Plan on May 31, 1984. However this plan did not contain provisions to identify and protect valuable Goal 5 aggregate resources. This analysis is part of the County's current efforts to inventory and protect its known aggregate resources. The County finds that this site would not be affected by conflicting uses, including nearby residences or forest lands. This designation is consistent with a determination to preserve the resource in accordance with the Goal 5 administrative rule (OAR 660-16-005(1)). In the event that the County receives a request to rezone properties in the vicinity to a zone that would permit conflicting uses, this overlay designation would protect the site from encroachment. No such rezoning or development has been proposed at this time.

Staff:

Following are applicable Comprehensive Plan Goals and the Policies from these Goals.

Goal 1 Citizen Involvement

Staff:

All applicable Comprehensive Plan and Land and Water Development and Use Ordinance goals and standards were developed with citizen involvement. This hearing addresses the goal requirements for this application.

Goal 2 - Land Use Planning

Conservation Forest Lands:

Forest lands are those lands that are to be retained for the production of wood fiber and other forest uses.*

In land use changes involving a change from Conservation Forest Lands or Rural Agricultural Lands to Rural Lands or Development designations an Exception to the Agricultural Lands or Forest Lands Goals must be taken.*

Staff:

The site is zoned Agriculture/Forest-20 (AF-20). The site has a Comprehensive Plan designation of Conservation Forest Lands. The request does not involve a change in this designation.

Goal 3 - Agricultural Lands

Goal:

To preserve and maintain agricultural lands.

Policies

1. The County shall provide areas for the continued practice of agriculture and permit the establishment of only those new uses which are compatible with agriculture activities.

Staff:

The site currently exists as a quarry site. Approval will allow greater protection of this resource site. The base zone will still permit agriculture as a permitted use.

6. Agricultural land which also meets the criteria for forest land and which is primarily utilized for livestock grazing or forestry in sufficient parcel size, shall be conserved for forest uses.

Staff:

The site is zoned for forest and farm uses. These uses will still be permitted uses

Goal 4 - Forest Lands

Goal:

To conserve forest lands for forest uses.

Policies:

1. Forest lands shall be conserved for forest uses, including the production of trees and the processing of forest products, open space, buffers from noise, visual separation from conflicting uses, watershed protection, wildlife and fisheries habitat, soils protection from wind and water, maintenance of clean air and water, outdoor recreational activities compatible with these uses, and grazing land for livestock.

Staff:

The uses allowed in the AF-20 zone will still be permitted uses after the QMO is placed. Forestry is not considered to be a "Sensitive Use" as defined by the QMO zone text.

14. Roads in forest areas shall be limited to the minimum width necessary for traffic management and safety.

Staff:

The existing road network provides access within the site. New roads should not be required.

17. Expansion of existing non-forest developments and uses in forest zones may be permitted under a Type II procedure only when such expansion is substantially confined to the existing site.

Staff:

Expansion would be processed as a type II procedure.

Goal 5 - Open Space, Scenic and Historic Areas and Natural Resources

Goal: To conserve open space and protect natural and scenic resources.

Staff:
Goal 5 provides the following Goal and Policies intended to address mineral and aggregate resources.

Mineral and Aggregate Resources Goal:

To protect and ensure appropriate use of mineral and aggregate resources of the county, while minimizing any adverse effects of mining and processing upon surrounding land uses.

Policies:

1. The County shall protect significant mineral and aggregate resources consistent with Statewide Planning Goal 5 and the process for complying with the Goal specified in Oregon Administrative Rules Chapter 660, Division 16.

Staff:
The information submitted by the applicant is intended to address the applicable requirements. If the site meets the QMO Quality and Quantity standards, then the site is considered Significant. The QMO provides protection as required by Statewide Goal 5.

2. In making a decision whether to protect a significant mineral or aggregate site from conflicting uses, the County shall recognize that Goal 5 requires the protection of natural resources for future generations, and that the requirements of other applicable Statewide Planning Goals must be considered in any analysis of conflicting uses.

Staff:
An analysis of other applicable statewide goals is found at the end of this report. The conflicting uses found within the Impact Area are identified earlier in the report. At this time, the Planning Commission must analyze the existing conflicting uses against the quarry site and configure the extraction area boundary and impact area boundary accordingly.

3. The County shall maintain an inventory of mineral and

aggregate resources sites. The Comprehensive Plan inventory shall consist of three parts:

a. An inventory of "significant sites" identified through the Goal 5 process as important resources that will be protected from conflicting uses;

b. An inventory of "potential sites" for which sufficient information concerning the location, quality, and quantity of a resource site is not adequate so as to allow the County to make a determination of significance;

c. An inventory of "other sites" for which available information demonstrates that the site is not a significant resource to be protected.

Staff:
This list is included in the staff report. The applicant is requesting the site be listed as a Significant Site.

4. The location of a mineral or aggregate resource shall be identified as the site of a recoverable source of material. A resource site may consist of all or portions of a parcel, and may comprise contiguous parcels in different ownerships. Identification of a resource site need not include mineral and aggregate reserves that are irrevocable committed to other land uses which are incompatible with surface mining.

Staff:
The proposed Extraction Area spans two parcels that are owned by the applicant. A map is included that identifies the two parcels as the extraction area. If approved, the Extraction Area would be considered the location of the protected resource. However, the existing rock face occurs on taxlot 2800. Continued extraction should continue southward.

5. For an aggregate site to be determined significant, the resource must meet Oregon Department of Transportation specifications for concrete aggregate rock. It is the County's policy to protect the highest quality rock for future use.

Staff:
The applicant has submitted laboratory test results of the material at the site. This information submitted indicates that the material meets the QMO quality standards. These

standards are the same as the ODOT specifications.

6. For an aggregate site to be determined significant, the site must possess a minimum of 250K cubic yards of minable reserves. It is the policy of the County to protect a variety of large reserves in order to serve the regional market.

Staff:
This site has a large reserve. The applicant has indicated that 2-3 million cubic yards of material exist at the site. This exceeds the 250,000 minimum requirement.

7. The significance of non-aggregate mineral resources shall be judged on a case-by-case basis, taking into account information concerning the commercial or industrial use of the resource, as well as the relative quality and relative abundance of the resource within at least the County.

Staff:
This site is not a source of "non-aggregate mineral". This policy does not apply.

8. Because material source sites owned or controlled by municipal, County or state government agencies have been acquired for the purpose of maintaining the public road system, and collectively form a network of great importance, the County shall deem such sites presumptively significant. Such sites shall be analyzed along with other significant sites to establish the appropriate level of protection from conflicting uses.

Staff:
This site is privately owned. This policy does not apply to privately owned sites.

9. The County shall recognize existing surface mining operations as significant resources pursuant to Goal 5, and shall allow existing operations to continue for two (2) years without conforming to the performance standards in the zoning ordinance. Expansion beyond the limits of an existing site shall be in accordance with County zoning regulations.

Staff:

This is an "existing surface mining operation". Expansion requires conformance with the QMO performance standards. See the next policy for discussion of "existing operation".

10. The scope of an existing or "grandfathered" aggregate operations shall be established by:

    a. Authorization by a County land use approval; or
    b. The extent of the area disturbed by mining on the effective date of this ordinance; or
    c. The continuous pursuit of a specific mining plan by an operator for not less than five years.

Staff:

As discussed in the Background portion of this report, the site has a 1992 county CUP approval for the quarry. Policy 10 (a) applies for the Riekkola site. Both taxlots are considered to be part of the 1992 CUP approval.

11. In order to maintain the right to continue an existing surface mining operation and bring the County's inventory of mineral and aggregate resources into compliance with Goal 5, an analysis of economic, social, environmental and energy (ESEE) consequences performed for an existing site shall only consider the consequences of potential conflicting uses upon current or future operations, and the consequences of mine expansion on existing or potential conflicting uses.

Staff:

An ESEE analysis is provided that evaluates uses with a 1000' Impact Area surrounding the proposed Extraction Area. This analysis is found earlier in this report.

12. Sites on the "other sites" inventory shall not be protected pursuant to Goal 5.

Staff:

This site is not on the "Other Sites" list.

13. For sites on the "potential sites" inventory, the County shall review available information about mineral and aggregate resources, and if the information is sufficient, determine the site to be significant when one of the following conditions exists:

a. As part of the next scheduled periodic review;
b. When a landowner or operator submits information concerning the potential significance of a resource site and requests a Comprehensive Plan amendment;
c. When resolution of the status of a potential resource is necessary to advance another planning objective.

Staff:
This site is on the "potential sites" list. The owner of the site is seeking QMO designation pursuant to policy 13.b. by submitting laboratory data and addressing the appropriate standards.

14. For each site determined to be significant, the County shall complete the remainder of the Goal 5 process of identifying conflicting uses, analyzing the ESEE consequences of the conflicting use(s), and designating a level of protection from conflicting uses. If the final decision concerning the site is to fully preserve or partially protect the resource from conflicting uses, the site shall be zoned with the Mineral and Aggregate Resources Overlay.

Staff:
The ESEE analysis and the data on the quality of the rock is intended to justify protecting this site and designating it with a QMO. The laboratory data indicates that material qualifies for QMO protection.

15. When analyzing the ESEE consequences of potential conflicts between a significant mineral or aggregate resource and another significant Goal 5 resource, the County shall consider the protection program adopted for the conflicting resource. Conflicts with other natural resources shall not be the basis for mining restrictions unless the County has included the conflicting resource on the inventory of significant Goal 5 resources, and adopted a resource protection program.

Staff:
The only other Goal 5 resource is the "Peripheral Big Game Range" designation on the site. The county has Goal 5 policies for this designation. These policies are addressed later in this report.

16. The County may consider the effects of surface mining operations on public roads and traffic. Consideration

may include review of proposed routes, site distances at access points, roadway width and alignment, and level of service. The County may impose conditions or restrictions directly related to the impact created by surface mining; however, any conditions or restrictions shall not be approval criteria, and shall be applied uniformly to all road users in a manner consistent with the County's transportation plan.

Staff:

Highway 202 is within the Impact Area and serves as the main transportation corridor for all trucks to and from the site. ODOT has been sent notice regarding this request. The Olney Cut-Off road is also within the Impact area. Traffic associated with the site would be a continuation of the existing quarry related traffic.

17. In order to approve surface mining at a site zoned for exclusive farm or forestry use, the County shall find, as part of the ESEE analysis, that the proposed activity will not: (1) force a significant change in, or significantly increase the cost of, accepted farming or forestry practices on surrounding lands, and (2) will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel.

Staff:

The site is zoned Agriculture/Forest-20 (AF-20). The area proposed for the QMO is currently utilized as a Quarry. Land to the east is zoned OPR and is used as a passive park. Immediately to the north is a parcel situated between the Klaskanine and Highway 202. This parcel is 11.6 acres and zoned for forestry. To the north of Hwy 202 is a quarry and other property in a mixture of forestry and pasture. Parcels to the west and south are zoned F-80 and AF-20 respectively. These parcels are characterized as a mixture of farm and forest land. As of the date of this report, this office has received no comments form adjoining property owners related to the existing quarry and impacts to farm or forest practices on there own parcels.

18. The County shall not independently apply the Mineral and Aggregate Resources Overlay to land within another County, or within a city or its urban growth boundary. The County shall seek to ensure protection of significant sites where the impact area surrounding the resource extends across jurisdictional boundaries through cooperative agreements with another County or a city.

Staff:

This site is entirely within the jurisdiction of Clatsop County.

19. The County shall require increased setbacks, insulation, screening, or similar measures as conditions of approval for any new conflicting use within an impact area surrounding a mineral or aggregate resource site when such measures are deemed necessary to resolve conflicts identified in a site-specific Goal 5 analysis.

Staff:

This is not a request for a conflicting use. This policy is not applicable.

20. The County may establish and impose conditions on operation of a surface mine when deemed necessary as a result of a site-specific Goal 5 analysis. Where such conditions conflict with criteria and standards in the Mineral and Aggregate Resources Overlay, the conditions developed through the Goal 5 analysis shall control.

Staff:

As part of this process, if the Planning Commission feels that specific concerns can only be addressed through the adoption of conditions, such conditions can be imposed.

21. As part of the ESEE analysis and decision on the level of protection to be afforded significant mineral and aggregate resource sites, the County shall determine the appropriate post-mining use of the site.

Staff:

The applicant has not proposes a post-mining use. The County must make this determination as part of the approval. This can include that the site only be used for uses permitted in the underlying zone (AF-20).

22. The County recognizes the jurisdiction of the Department of Geology and Mineral Industries (DOGAMI) for the purpose of the mined land reclamation pursuant to ORS 517.750 to 517.900 and the rules adopted thereunder.

Staff:

The applicant has complied with all applicable DOGAMI

standards for the existing operation.

23. Unless specifically determined on a case-by-case basis, it shall be the policy of the County, pursuant to ORS 517.830(3), that DOGAMI delay its final decision on approval of a reclamation plan and issuance of an operating permit, as those terms are defined by statute and administrative rule, until all issues concerning local land use approval have been adjudicated by the County.

Staff:
This request can be made of DOGAMI. The county has no authority to require DOGAMI to comply.

24. No surface mining or processing activity, as defined by the zoning ordinance, shall commence without land use approval from the County, and approval of a reclamation plan and issuance of an operating permit by DOGAMI.

Staff:
Approval can include a condition that a reclamation plan be developed for the site.

25. Land shall not be rezoned to remove the Mineral and Aggregate Resources Overlay until the mineral or aggregate resource is depleted, and the site has been reclaimed.

Staff:
This is not a request to remove the QMO zone.

Fish and Wildlife Areas and Habitats Policies.

2. To ensure that future development does not unduly conflict with Peripheral Big Game Range, the County shall:

   a. require that review and conditional uses in the AF-20 zone be allowed only if they are found to be consistent with the maintenance of big game range;
   b. require that review of conditional uses in the AF-20 zone be subject to clustering and siting criteria;
   c. submit proposed review and conditional use applications to the Oregon Department of Fish and Wildlife for their comments on consistency with Peripheral Big Game Range

and recommendations on appropriate siting criteria to minimize any conflict; and

d. submit all proposed plan and zone changes of land zoned AF-20 to the Oregon Department of Fish and Wildlife (ODFW) for a determination of possible conflicts with big game habitat requirements. If the Department identifies conflicts, the County will consider recommendations for resolving these conflicts.

Staff:

Policy 2d applies. Notice has been sent to ODFW. As of the date of this report we have not received comment.

4. To protect riparian vegetation along streams and lakes not covered by the Forest Practices Act, the County shall require a setback for non-water dependent uses.

Staff:

All potential structures are required by the Land and Water Development and Use Ordinance to be a minimum of 50 feet from the edge of riparian vegetation. Additionally, one of the QMO policies requires that existing vegetation within 100 of the edge of a perennial stream be protected.

7. The County shall rely on the Division of State Lands' permit process, under the Fill and Removal Law, to insure that proposed stream alterations such as bridges, channelization, or filling do not adversely affect the stream's integrity or its value as fish habitat.

Staff:

The site currently complies with all applicable state requirements.

8. New developments shall not restrict existing public access to rivers, streams, or lakes. New developments are encouraged to provide additional public access to rivers, streams and lakes where such access is consistent with the area's environmental characteristics.

Staff:

The site does not currently provide public access to the a river or stream.

D. Compliance with the Lewis and Clark Community Plan

Fish and Wildlife Policies

1. Clatsop County will cooperate with governmental agencies to conserve and protect identified fish and wildlife habitat.

Staff:

The Peripheral Big Game Range Policies apply on this site. These policies were addressed earlier in the report. The United States Fish and Wildlife Department and Oregon Department of Fish and Wildlife have been notified of this request. We have not received comments from these agencies.

2. Public and private land ownership preserves many habitat areas. There is limited regulatory power to assure that more living communities and animal species do not become rare and endangered in the future. Therefore new development should be designed and constructed so as to:

   a. maintain wherever possible a natural, vegetative buffer strip along wetlands and streams,
   b. minimize the alteration of land and vegetation, and
   c. preserve open space, including agricultural and forest lands.

Staff:

The current CUP requires that a 100' buffer be maintained along the south side of the Klaskanine river. This can be made a condition of approval. A reclamation plan can address the post mining use of the site.

E. Compliance with Statewide Goals

Goal 3:

Staff:

The site is currently zoned AF-20, a mixed farm and forest zone. The site will maintain the AF-20 zoning designation before, during and after mining activities occur.

Goal 4:

Applicant:

Aggregate extraction and processing operations on this site are not expected to conflict with the protection of adjoining

forest lands or forest practices, or other activities necessary and appropriate for management of soil, air, water and fish resources, the provision for recreational opportunities, and agricultural uses. Mining and processing of aggregate and mineral resources are permissible uses of forest lands as specified by Goal 4 administrative rule. No aspects of the quarry's development would force a significant change in, or significantly increase the cost of accepted forest or farming practices on surrounding lands dedicated for resource use. Similarly, no aspects of the proposed operations are expected to significantly increase the fire hazard, the cost of fire suppression, or risks to fire suppression personnel.

Staff:

This site is currently zoned for farm and forest use. The site already has an existing access eliminating the need to reduce the amount of forested land. Mining activities are allowed on forest land pursuant to Goal 4. The activities allowed by the QMO are similar to those that could occur under Goal 4.

Goal 5

Applicant:

The Statewide Planning Goal Number 5, requires in part that "where conflicting uses have been identified the economic, social, environmental and energy consequences of the conflicting uses shall be determined and programs developed to achieve the goal". The goal guideline suggests that "in conjunction with the inventory of mineral and aggregate resources, sites for removal and processing of such resources should be identified and protected".

The Goal 5 rule specifies the requirements and procedures local government must follow to comply with Goal 5. Goal compliance involves six basic steps:

1. Identify a resource's location, quality and quantity;
2. Determine the resource's significance;
3. Identify conflicting uses;
4. Analyze the economic, social, environmental and energy consequences of conflicts;
5. Determine the level of protection for the resource; and,
6. Implement a program to protect significant resources.

The purpose of this process is to complete the Goal 5 analysis and protect the Riekkola quarry and processing site for future

continued use.

Summary of ESEE Analysis

The ESEE analysis demonstrates that the Riekkola quarry site is a significant aggregate resource for Clatsop County that merits protection through the County land use planning process.

Program to Achieve Goal

The Goal 5 rule (OAR 660-16-010) provides: "Based upon the determination of the economic, social, environmental and energy consequences, a jurisdiction must develop a program to achieve the gaol".

The County has adopted policies in the Comprehensive Plan and a zoning overlay zone to protect significant quarry sites. The purpose of this analysis is to demonstrate that the Riekkola quarry site is significant. The attached map illustrates the active quarry site and a 1000 foot impact area surrounding the entire existing and proposed quarry activity area. The underlying zone will continue to be AF-20; the QMO overlay will be added until such time as the subject rock resource is depleted and the site is reclaimed. The quarry will continue to operate under the provisions of approval conditions that were adopted for the site in 1992.

Staff:

Goal 5 is designed to identify, and protect where appropriate, a variety of resources. Rock and mineral resources are a Goal 5 category resource. The request is to recognize this site as a Significant Goal 5 site and provide it with the QMO district protection. The submittals from the applicant and this staff report address compliance with the applicable requirements.

Goal 6:

Applicant:

The environmental effects of the quarry operation have been discussed above. The existing quarry has an active DOGAMI mining permit. Runoff waters from the quarry area are collected and channeled through an existing vegetated outfall area. Current DEQ permitting standards require the monitoring and testing of all runoff discharges. DEQ air quality and

water quality permits will also be required for any rock processing operations.

The quarry is currently operating under the controls of required environmental permits without any identified problems.

Staff:

The site will have to comply with all DEQ and Oregon Department of Fish and Wildlife (ODFW) requirements regarding the drainage and impacts on the river.

Goal 12:

Applicant:

Statewide Planning Goal 12 requires local governments "to provide and encourage a safe, convenient and economic transportation system". The Riekkola quarry is a very important source of aggregate materials for a wide range of City, County, State and Federal street and highway construction and repair projects.

Staff:

The information provided by the applicant indicates that the material will meet QMO quality standards. This is an active site that provides material for a variety of uses including road construction.

Goal 13:

Applicant:

The Riekkola quarry by virtue of its strategic location promotes energy conservation. It is far most efficient to utilize rock from this centrally located source than to import rock form outlying locations within Clatsop County or from areas outside of our County.

Staff:

This is a functioning quarry that currently has a market. The site is located in proximity to the Astoria/Warrenton area and a variety of county roads.

III Options

Following is an outline that reflects potential actions the Planning Commission can undertake. The outline is not intended to address every issue but rather to serve as a guide upon which the commission can act.

1. Deny the request.

2. Approve the request.

3. Approve the request with conditions.

4. Continue the hearing.

Planning Commission Recommendation:

By unanimous motion on 10/18/94, the Clatsop County Planning Commission recommended approval of the Quarry and Mining Overlay zoning designation for the Riekkola quarry site and the designation of this site as a Significant Goal 5 rock resource site based upon staff report findings and the following conditions of approval:

1. The applicant shall contact DEQ to determine whether a storm water runoff permit is required; if such a permit is required, the applicant shall file for this permit by January 1, 1995.

2. The Extraction and Impact Areas shall be configured as they are represented in the staff report.

3. A buffer of 100 feet of existing vegetation shall be maintained from the south bank of the Klaskanine river. Other than access, quarry operations shall not encroach upon this buffer.

4. The post mining use of the site shall be a use that is permitted in the underlying zone.

CLATSOP COUNTY
ASSESSORS OFFICE

PROPERTY

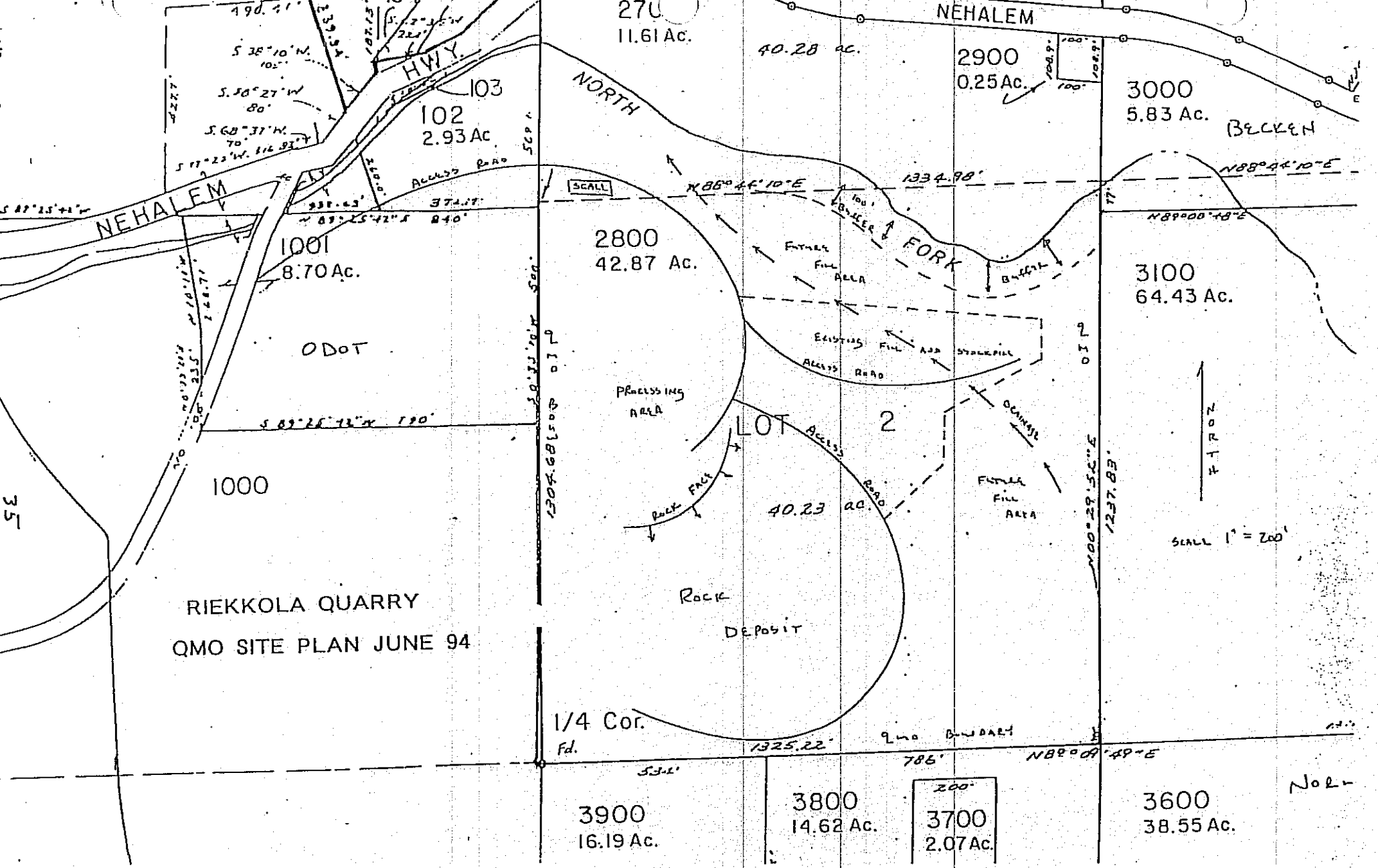
F-38
AF-20
AF-20
F-38
EFU
OPR
F-80
AF-20
11-01

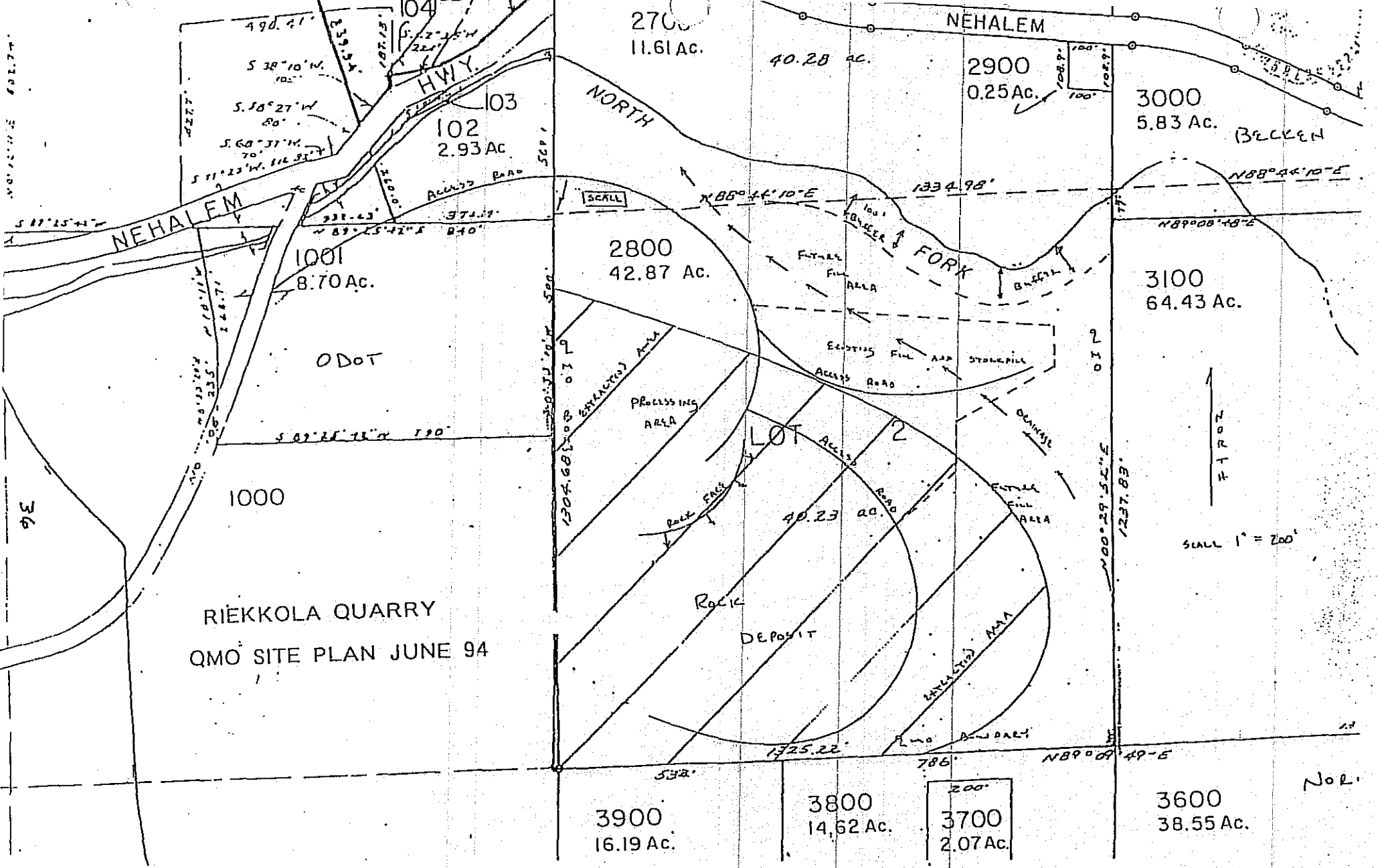
PARCEL 1
PARTITION PLAT 1992-027
PARCEL 2

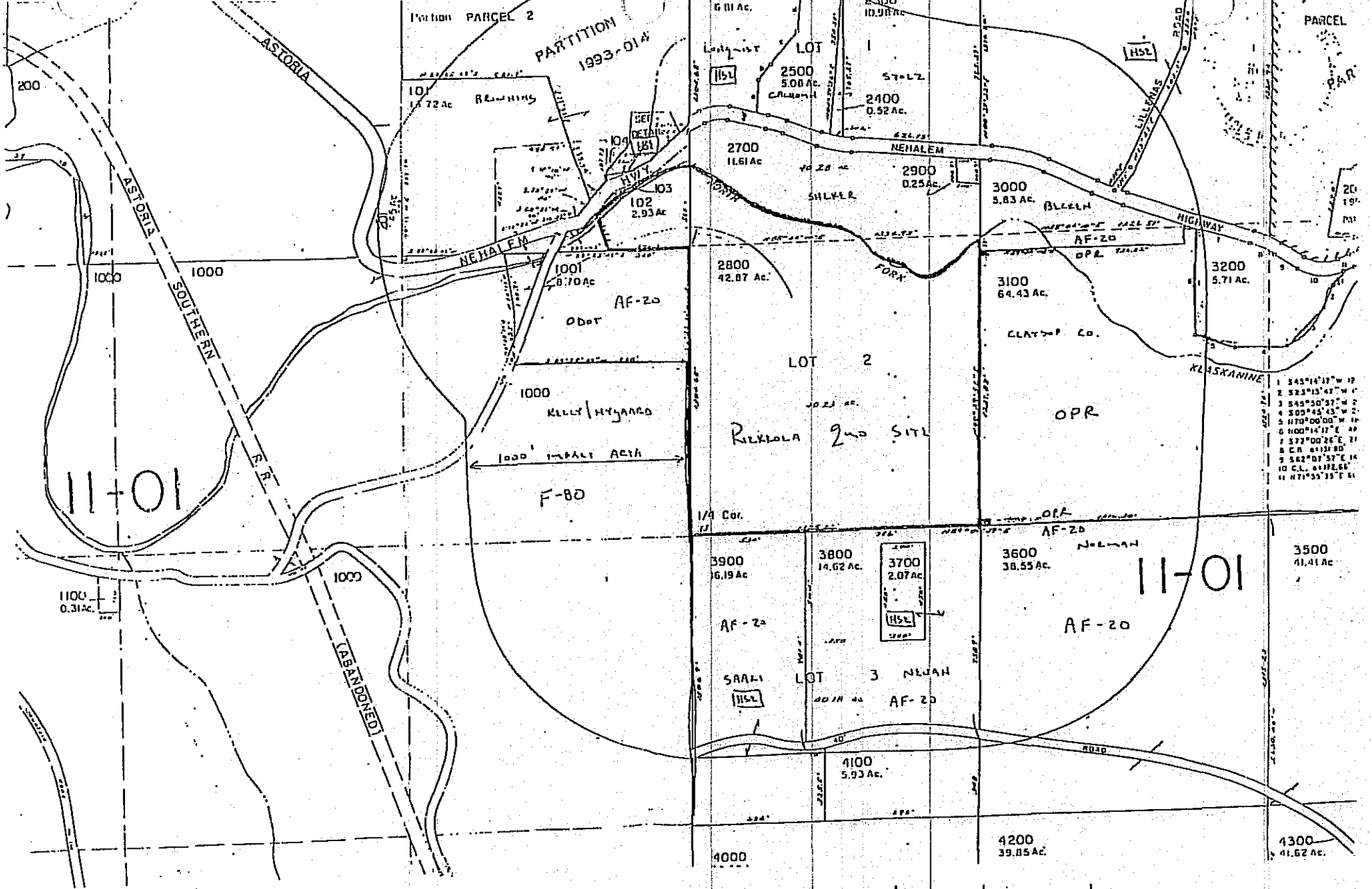
NEHALEM HIGHWAY
NORTH
LILLEMAS ROAD
KLASKANINE RIVER
SOUTHERN P.R.
ABANDONED

LOT 1
LOT 2
LOT 3

202 8.26 Ac
100 31.60
101 13.72 Ac
201 1.42 Ac
1001 8.70 Ac
2600 6.01 Ac.
2500 5.00 Ac
2300 10.98 Ac
2400 0.52 Ac.
2100 33.54 Ac
2700 11.61 Ac.
2900 0.25 Ac
3000 5.83 Ac.
2800 4.87 Ac
3100 64.43 Ac.
3200 5.71 Ac
2001 36.06 Ac
2002 1.99 Ac
3900 16.19 Ac
3800 14.62 Ac
3700 2.07 Ac
3600 38.55 Ac.
3500 41.41 Ac
4100 5.93 Ac
4000 39.58 Ac.
4200 39.85 Ac
4300 41.62 Ac


NEHALEM
HWY.
103
102
2.93 Ac
NORTH
FORK
NEHALEM
1001
8.70 Ac.
ODOT
1000
2800
42.87 Ac.
PROCESSING AREA
LOT 2
40.23 ac.
ROCK DEPOSIT
ACCESS ROAD
EXISTING FILL AREA
STOCKPILE
DRAINAGE
BUFFER
SCALE
N88°44'10"E
1334.98'
N88°00'48"E
3100
64.43 Ac.
3000
5.83 Ac.
BECKEN
2900
0.25 Ac.
40.28 ac.
11.61 Ac.
RIEKKOLA QUARRY
QMO SITE PLAN JUNE 94
1/4 Cor.
Fd.
1325.22'
786'
N88°44'49"E
3900
16.19 Ac.
3800
14.62 Ac.
3700
2.07 Ac.
3600
38.55 Ac.
SCALE 1" = 200'
NORTH


NEHALEM
HWY.
NORTH
FORK
NEHALEM
BECKEN
104
103
102
2.93 Ac
2700
11.61 Ac.
40.28 ac.
2900
0.25 Ac.
3000
5.83 Ac.
1001
8.70 Ac.
ODOT
2800
42.87 Ac.
3100
64.43 Ac.
1000
LOT 2
40.23 ac.
Rock
DEPOSIT
RIEKKOLA QUARRY
QMO SITE PLAN JUNE 94
SCALE 1" = 200'
3900
16.19 Ac.
3800
14.62 Ac.
3700
2.07 Ac.
3600
38.55 Ac.


PARCEL 2
PARTITION 1993-014
ASTORIA
ASTORIA SOUTHERN R.R.
ABANDONED
NEHALEM
HIGHWAY
NEHALEM
SILVER FORK
BLEELN
KLASKANINE
CLATSOP CO.
ODOT
KELLY HYGARD
AF-20
F-80
OPR
LOT 1
LOT 2
LOT 3
NELMAN
SAALI
1/4 Cor.
11-01
HSE = House

June 24, 1994 HAND DELIVERED

Dave Carpenter
Department of Planning Development
Clatsop County
Post Office Box 179
Astoria, Oregon 97103

JUN 1994
RECEIVED
Dept. of Planning
& Development

Re: QMO Submittals

Dear Dave:

As you requested, I have revised the "Impact Area Maps" and "QMO Site Plans" for the Nygaard-Olney, Riekkola and Nygaard-Lewis & Clark QMO sites to include (1) existing zoning, (2) "extraction areas" and (3) approximate locations of dwellings within the 1000 foot impact area. The revised maps are attached. You may wish to attach copies of your counter zoning maps to improve the presentation clarity of the zoning district boundaries at these sites.

As we discussed, these three quarry sites should also be added to the County's list of "Significant Sites" as part of your scheduled Quarry and Overlay Zoning amendment process. All three sites have rock deposits which satisfy the quantity and quality standards of Section 4.424.

Please advise when you establish public hearing dates for the QMO review process. I would appreciate if you would place my name on the mailing list for these public notices and also forward copies of notices to the owners of these individual quarry sites.

Please advise if you have further questions.

Sincerely,

Don Lampi

Don Lampi
Land Use Consultant
1441 South Main Street
Warrenton, OR 97146
(503) 861-2420

July 18, 1994

JUL 1994
RECEIVED
Dept. of Planning
& Development

Dave Carpenter
Department of Planning and Development
Clatsop County
Post Office Box 179
Astoria, Oregon 97146

Re: Quarry & Mining Overlay Public Hearings

This letter is intended to be a follow-up upon our counter discussion of this morning. It is my understanding that your tentative Planning Commission public hearing schedule includes QMO public hearings on September 6, 1994 for the Nygaard-Olney quarry and the Riekkola-Olney quarry. I also understand that the Nygaard-Lewis & Clark quarry QMO public hearing will be scheduled for the next available Planning Commission date after 9/6/94.

All three of these rock quarry sites meet the minimum ordinance quantity and quality standards listed in Section 4.424 of the Land and Water Development and Use Ordinance for recognition as "Primary Sites Requiring QMO Protection". Please reference in your public notices for these upcoming Planning Commission and Board of Commissioners public hearings that the ongoing QMO review process will provide for each of these three rock quarry sites to be added to Clatsop County's Goal 5 list of "Primary Sites Requiring QMO Protection".

Please insert the following supplemental information upon rock quality testing into the file for the Nygaard-Lewis & Clark quarry:

> May 24, 1994 rock test results from the laboratories of Braun Intertec Northwest, Inc. document that the rock samples from the Nygaard-Lewis & Clark quarry satisfy the zoning ordinance QMO zone Section 4.424 quality standards. Section 4.424 requires that an aggregate resource meet at least two of the three listed quality test standards (Abrasion, Oregon Air Degradation and Sodium Sulphate Soundness). Test results show an abrasion loss of 19.8% compared to the maximum ordinance standard of 35% (L.A. Abrasion test; AASHTO T-96). Test results show a sodium soundness loss result of 15.4% compared to the maximum ordinance standard of 17% (Sodium Soundness; AASHTO T-104). Test results show an air degradation loss of 36% compared to a maximum ordinance standard of 35% (Oregon Air Degradation; OSHD-208). This 1% difference is

attributed to "iron scaling" that typically occurs on surface rock that has been exposed to the atmosphere for a prolonged period of time; Braun Intertec lab personnel suggested that this test result would likely improve as deeper, subsurface rock was removed.

Thank you for your assistance in the Goal 5 QMO site protection process. Please contact me if you would like to discuss these three quarry sites in further detail or if you would like to schedule a staff site visit at the time you are preparing your staff reports for the upcoming QMO hearings.

Sincerely,

Don Lampi

Don Lampi
Land Use Consultant
1441 South Main Street
Warrenton, OR 97146
(503) 861-2420

SAMPLE DATA and LABORATORY TEST REPORT

(Quarry) ☒ AGGREGATE ☐ BITUMINOUS MIXTURE

LABORATORY REPORT NO. 92-03788
DATA SHEET NO. AB 45464

PROJECT: WARRENTON - ASTORIA
HWY: CLAT. COAS. & NAR. COL. COUNTY: CLATSOP
CONTRACTOR: KIEWIT PACIFIC
PROJECT MANAGER: A.T. FALLS AGY.-ORG UNIT C2-9034
SUBMITTED BY: ROD HANLEY AGY.-ORG. UNIT C2-8034

EXP. ACCT./SUB JOB: C1162
F.A. PROJECT NO.: NH-Z-F(15) F-1(49)
BID ITEM NO.: 22, 23, 25, 26, 27
DATE RECEIVED: 4-28-92
DATE REPORTED: 05-15-92
LAB CHARGES: $920.00

SAMPLE NO.: 1
NO. OF BOXES:
NO. OF BAGS: 4
QUANTITY REPRESENTED (YARDS, TONS, ETC.): ALL
☐ MIX DESIGN ☐ RECORD ☒ QUALITY ☐ CHECK

AGGREGATE SIZE: —
BRAND & GRADE ASPHALT: —
TYPE MIX: —
MIX DESIGN NO.: —

INTENDED USE: BASE, SHLD, & A.C
SOURCE NO.: 4-030-2 ~~ACCEPTA~~
☒ QUARRY ☐ GRAVEL

SOURCE NAME OR LOCATION: RIEKKOLA QUARRY
HWY 101 M.P. 11.0 ±
SEC. 18, T. 7N., R. 8 W.W.M.
SAMPLED AT: QUARRY
DATE SAMPLED: 4/27/92

REMARKS, INSTRUCTIONS:
ALL REQUIRED TESTS FOR AGG.
BASE, SHOULDER, & A.G. QUALIFYING

☐ TM 204 (FIELD CONTROL TEST NO.) ☐ TM 205

		SIEVE SIZE	PERCENT PASSING
10/¼	%		
40/10	%		
200/10	%		
FRACTURE	%		
PI			
LL			
S.E.			
MOISTURE	%		
RETENTION	%		
EXTRACTED A/C	%		
TOTAL A/C	%		

CHECK "BOX" FOR TEST REQUIRED. USE SEPARATE DATA SHEET FOR EACH SAMPLE. LIST ADDITIONAL PROJECTS SEPARATELY.

☐ TM 204 DRY SIEVE
☐ TM 205 WET SIEVE
☐ TM 309 EXTRAC.

SIEVE SIZE	PERCENT PASSING	PERCENT PASSING
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	

TM 205 P200 ____
10/¼ ____ % 200/10 ____ %
10 ____ %
FINENESS FACTOR ____
¼, ¾, ⅜, 4, 8, 16, 30, 50, 100
MOISTURE ____ %
EXTRACTED A/C ____ %
RETENTION ____ %
TOTAL ASPHALT ____ %
S
A

☒ TM 101A MFG S.E. 65
☒ TM 102 L.L. NP
☒ TM 103 P.I. NP
☐ TM 201 UNIT WEIGHT
LOOSE ____ COMPACT ____
COMBINE ____ % THIS LAB NO. WITH ____ %
OF LAB NO. ____ COMBINED ____

☒ TM 202 FINE BULK GRAVITY
BULK 2.71 SSD 2.77
APP. 2.90 ABS. 2.46

☒ TM 203 COARSE BULK GRAVITY
BULK 2.83 SSD 2.85
APP. 2.89 ABS. 0.78

7 ☒ TM 206 SODIUM SULFATE LOSS
2½-1½ ____ % 1½-¾ ____ %
RIP RAP AVERAGE ____ %
C.A. 1.0 — 1½-¾ 0.3 % ¾-⅜ 0.3 %
⅜-4 2.3 %
F.A. 1.6 — 4-8 0.9 % 8-16 0.9 %
16-30 0.9 % 30-50 3.8 %

☒ TM 208A COARSE DEGRADE
HT. 0.3 IN P20 10.3 %
REF HT. ____ IN P20 ____ %

☒ TM 208B FINE DEGRADE
HT. 0.3 IN P20 10.3 %

☐ TM 209 ASPHALT STRIPPING
BRAND & GRADE ____
COATED ____ %

☒ TM 211 ABRASION
GRADING A WEAR 14.3 %
☐ TM 212 ORGANIC PLATE NO. ____
☐ TM 213 FRACTURE ____ %
4 ☒ TM 221 FRIABLE PARTICLES
WEIGHTED AVG. — ____ %
1½-¾ 0.2 % ¾-⅜ 0.3 %
⅜-4 0.2 % 4-16 0.3 %
2 ☒ TM 222 LIGHTWEIGHT PIECES
C.A. 0.0 % F.A. 0.0 %
☐ TM 225 WOODWASTE ____ %
☐ TM 227 CLEANNESS CV ____
☐ TM 228 DMSO
C.A. ____ % — 1½-¾ ____ % ¾-⅜ ____ %
⅜-4 ____ %
F.A. ____ % — 4-8 ____ % 4-16 ____ %
16-30 ____ % 30-50 ____ %
☐ TM 229 ELONGATED PIECES ____ %
☒ TM 233 ✓

MATERIAL REPRESENTED BY THIS SAMPLE ☐ DOES ☐ DOES NOT COMPLY WITH SPECIFICATIONS.
LAB COMMENTS
Source Quality Approved

CONSTRUCTION ENG.
ENG.
MANAGER — RAS 2
DIST ENG.
ON GEOLOGIST — TOM FALLS
CONTRACTOR — KIEWIT PACIFIC

ENGINEER OF MATERIALS

INSTRUCTION: FORWARD WHITE ORIGINAL TO MATERIALS LABORATORY SALEM, CANARY TO PROJECT MANAGER, ORIGINATOR RETAIN PINK

D (5-86)

DEPARTMENT OF THE ARMY
NORTH PACIFIC DIVISION MATERIALS LABORATORY
CORPS OF ENGINEERS

1491 N. W. GRAHAM AVE.
TROUTDALE, OREGON 97060-9503

ATTN: NPPCO-PC

8 October 1985

W.O. 85-C-837

Subject: Report of Tests on Quarry Stone

Project: TANSY RAILROAD LOCATION
Intended Use: Riprap
Source of Material: Olney Quarry, NPDL No. 2851
Submitted by: NPPCO-PC
Date Sampled: --- Date Received: 3 Sep 85
Method of Test or Specification: CRD & NPDL
Reference: Your DA Form 2544 Order No. E86850215 dated 4 Sep 85.

1. Following are results to date of quality tests on stone from the above quarry; revised to include Soundness by wetting and drying test results.

Test	Results
Specific Gravity, BSSD	2.86
Absorption, percent	0.8
Unit Weight, lbs/cu ft	178.5
Los Angeles Abrasion	
% loss @ 100 rev	2.2
% loss @ 500 rev	8.4
Accelerated Freeze-Thaw	
% loss @ 100 cycles, by weight	0.4
Accelerated Expansion by Immersion in Ethylene Glycol	
Visual Inspection - 15 day	No Action
% loss by weight	0.0
Soundness by Wetting & Drying	
% loss by weight @ 100 cycles	0.2
Soundness Loss (5 cycles $MgSO_4$)	
% loss by weight	0.5

2. This completes all work requested.

JAMES PAXTON,
Director

PAXTON

HINDS

CF: NPDEN-GS&M
W.O.85-C-837
Concrete Branch
Reading File

INFORMATION RECEIVED

NOT ADDRESSED IN THE STAFF REPORT

AUG 1994
RECEIVED
Dept. of Pla
& Developm...

August 18, 1994

To: Parties of Interest

From: Dave Carpenter, Senior Planner.
Clatsop County Department of Planning and Development

Re: Nygaard and Riekkola QMO requests

The above requests are now scheduled for a hearing before the Clatsop County Planning Commission for Tuesday, September 6, 1994. As the Planning Commission has continued two items from its August 16, 1994 hearing to the September 6, 1994 hearing, there will not be time to address all of the scheduled hearing items on September , 1994. As such, this department is asking the Planning Commission to continue the QMO items to a future hearing date.

Please be advised that the County Planning Commission will consider the continuance request on September 6, 1994. Should they decide to continue the items, no public hearing will be held on September 6, 1994. I cannot advise you as to how the Planning Commission will vote on the request. If continued, the Planning Commission will schedule a new date for these hearings. They will address this request at 11:00 a.m. on September 6, 1994

If you have any further questions, please feel free to contact this office, 325-8611.

Please note —
Why this and another letter was sent me. Neither states the purpose. Absolutely not in laymens language! Nygaard and Riekkola were ones I'd been familiar with. Their possessions do not concern me.

Mrs Olson.

RECORDED
FEB 24 1995
DOC # 9500001320
FEE #

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

ORDINANCE NO. 95-2

(AN ORDINANCE AMENDING THE
(CLATSOP COUNTY COMPREHENSIVE
(PLAN/ZONING MAP AND TEXT AS ADOPTED
(BY THE BOARD OF COMMISSIONERS
(ADOPTING CERTAIN FINDINGS WITH
(CONDITIONS AND RESCINDING
(INCONSISTENT PROVISIONS

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the Clifton Rock Pit QMO Comprehensive Plan and Zoning Map and Text Amendment.

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to revise and amend the Clatsop County Comprehensive Plan and Zoning Map and Text. In the interest of the health, safety and welfare of the citizens of Clatsop County and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the said Clatsop County Comprehensive Plan/Zoning Map and Text.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Planning Commission has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Planning Commission

held a public hearing on May 3, 1994. The Board received and considered the Planning Commission's recommendations on this request and held a public hearing on this ordinance pursuant to law on February 8, 1995.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supersede, control and repeal any inconsistent provision of the Clatsop County Land and Water Development and Use Ordinance, as amended, or any other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force and effective 30 days following adoption of this Ordinance.

SECTION 7. ADOPTION CLAUSE.

The Board of Commissioners hereby adopts the Clifton QMO Comprehensive Plan and Zoning Map and Text Amendment with conditions, set forth in Exhibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ADOPTED this 22 day of February, 1995.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

By Geoffrey L Stone
Geoffrey Stone, Vice Chair

By Judith Cuthbertson
Recording Secretary

Effective Date:_____

APPROVED AS TO FORM:_____
Clatsop County Counsel

EXHIBIT "A"

Clatsop County Clifton Rock Pit
Goal 5 Analysis

BACKGROUND

The Clifton rock pit is located in the northeast corner of Clatsop County on Clifton Road, approximately one-half mile north of U.S. Highway 30. The purpose of the pit is to provide base rock for County roads and dikes in the Northeast area of the county. The property which the County owns consists of approximately 20 acres of land on the west side of Clifton Road. The active pit itself occupies approximately one acre of land. The County has operated this pit since the 1950s as a non-commercial quarry. The pit has provided rock for most of the County roads in the northeast quarter of the County, including the Knappa-Svensen, Brownsmead, and Westport areas. It is estimated that the quarry has produced approximately 20,000 cubic yards of material since being in County ownership. However, it has not been actively mined in the last ten years.

PURPOSE:

The County maintains a number of quarries in order to supply rock for the construction and maintenance of its road system. While virtually all of the 40,000 cubic yards of gravel used by the County is supplied by commercial quarries, the material in the County-owned quarries is used primarily for base rock, fill and other purposes. The County does not maintain its own gravel processing facilities or asphalt plant for surfacing materials. Rather, it relies on private contractors, who are located in the Seaside area. From time to time the County may contract with an operator who will crush the material for future use by the County or its contractors. County-owned aggregate sites provide a source of material which lowers the cost of transportation and saves tax revenues.

CLATSOP COUNTY COMPREHENSIVE PLAN:

The Land Conservation and Development Commission acknowledged the County's Comprehensive Plan on May 31, 1984. However, no mention of the Clifton rock pit was included to be included in the Goal 5 portion of the Plan. This analysis is intended to be included in the Comprehensive Plan, and to establish the Clifton pit as a priority site. The County finds that the site would not be affected by conflicting uses, including a nearby non-forest residence (over 1,000 ft. from proposed extaction area) on forest lands. This designation is consistent with a determination to preserve the resource in accordance with the Goal 5 administrative rule (OAR 660-16-005(1)). In the event that the County receives a request to rezone properties in the vicinity to a zone that would permit conflicting uses, this overlay designation would protect the site from encroachment. No such rezoning or development is proposed.

ESCRIPTION OF PROPOSED MINING ACTIVITIES

Clatsop County Road Department will develop the site over an extended period of time. No commercial activities are proposed. The use of the site (see maps 1 and 2) will be intermittent, and will be dependent on the County's demand for rock. It is estimated that 300,000 cubic yards of rock are readily available on the site which would be extracted over a twenty to thirty year period. Full use of the site for extraction could take several decades. The use of the site for stockpiling materials from other locations, such as gravel and sand, is also planned.

The extraction method proposed for the site is benching. Because of the nature of the rock, Columbia River Basalt, controlled blasting will be performed on occasion. The County will require that all trees and other vegetation remain undisturbed in locations not necessary for mining operations. The County will ensure that the site is reclaimed in accordance with state regulations administered by DOGAMI.

COMPLIANCE WITH STATEWIDE PLANNING GOAL 5

The Statewide Planning Goal Number 5, requires in part that "where conflicting uses have been identified the economic, social, environmental and energy consequences of the conflicting uses shall be determined and programs developed to achieve the goal."

he goal guideline suggests that "in conjunction with the inventory of mineral and aggregate resources, sites for removal and processing of such resources should be identified and protected."

The Goal 5 rule specifies the requirements and procedures local government must follow to comply with Goal 5. Goal compliance involves six basic steps:

1. Identify a resource's location, quality and quantity;
2. Determine the resource's significance;
3. Identify conflicting uses;
4. Analyze the economic, social, environmental and energy consequences of conflicts;
5. Determine the level of protection for the resource;
6. Implement a program to protect significant resources.

The purpose of this process (and this report) is to complete the Goal 5 process and protect the Clifton site for future use by the Clatsop County Department of Public Works. It is recognized that future development in the vicinity of the Clifton pit may be in conflict with future development in the vicinity of the site.

REQUIREMENT OF THE GOAL 5 ADMINISTRATIVE RULE

Location

As described above, the Clatsop County property consists of 20 acres located on Clifton Road, approximately one half mile north of U.S. Highway 30 at T8N R6W Section 17 Tax Lot 1700. All but the northern 1,000 feet plus of the property (about 15 acres) would be eligible for mining. The impact area includes Tax Lots 702 and 703. Tax Lot 1800, outside of the impact area, is owned by a private party, Charles Collins, and consists of 9.37 acres. The other two parcels are owned by Hanson Resources, a timber company, and totals about 1,860 acres. The zoning designation for the area if Forest 80 (F-80). Protection of the site will include the approximately 15 acres within the extraction area of the Clatsop County parcel, although it is unlikely that the entire site will be mined.

Quality

A Mohr's hardness test was performed on Clifton pit samples. It was observed that the majority of the sample is a partiallly metamorphosed dirty sandstone with a hardness greater than 5.5 and less than 6.0. This rock is black in color, medium to fine grained, and penetrated deeply by iron weathering. It has been used to good effect on many County roads in the northeast area of the County in the last thirty or forty years. If the material were to be used for asphalt or concrete, tests would be performed specifically for that purpose.

Quantity

The estimated 300,000 cubic yards in this pit qualifies it as a medium size quarry in Clatsop County. This estimated is based on visual examination of the site and aerial photos by County staff, but no geologic investigation has been carried out.

Conclusion

The large amount of basalt in this location makes the Clifton pit a unique resource. It is the only significant, publicly owned pit in the northeastern corner of the County, and is immediately adjacent to U.S. Highway 30 and several County roads. Its lack of surrounding development means minimal conflicts in the future.

The Clifton quarry is a significant resource by virtue of its location, quality and quantity, and should be retained on the inventory of significant Goal 5 resources in the Clatsop County Comprehensive Plan.

Conflicting Uses

Identifying conflicting uses to a significant resource site requires two principal steps: 1) designating and justifying an impact area surrounding the resource, and 2) determining conflicting uses allowed by

the Zoning Ordinance, and identifying conflicts with other significant Goal 5 resources.

Impact Area

The Goal 5 rule (OAR 660-16-0002) requires identification of an impact area surrounding the resource site if different from the resource site itself. The impact area is the area in which identified conflicting uses may adversely affect the resource. Although impact area is not defined in either the goals or in the Goal 5 rule, the impact area for a mineral and aggregate resource site must be the area which includes uses which could adversely affect the resource, but also the area including those uses which could be affected by the presence of a significant resource.

Noise, dust, odor and blasting effects may adversely affect surrounding land uses. Conversely, the complaints expressed by surrounding property owners about these effects, as well as complaints about traffic and the effects to visual quality influence whether, or how, a resource may be mined. At the present time there no conflicting use in the 1,000 ft. impact area of the quarry. However, the purpose of the designation of the overlay zone is to anticipate future rezoning or other incompatible use of the property. There are twenty-one uses permitted in the F-80 zone, including forest and non-forest related dwellings, and it is impossible to determine with certainty whether a parcel will be used for a particular use.

The Clifton quarry is not visible from U.S. Highway 30 or Bradley State Park Wayside. It is visible from Clifton Road. The quarry is not visible from the single residence or other non-forest use. Traffic is not a problem because of the proximity of U.S. Highway 30 and the infrequent use of the quarry. Clifton Road is a collector road, and services a small number of residences on the Columbia River, in addition to a future industrial site at Bradwood, a prime deepwater port site on the Columbia River. More frequent use of the site, even on a daily basis, is not anticipated to impact any other users of the road.

Potential Conflicting Uses

All of the property surrounding the Clifton quarry is zoned F-80, the County's prime forest production zone. It is intended "to provide for large-scale commercial forest management where parcel size and ownership patterns are adequate to support such activities." In addition to forestry uses, this zone also permits forest related residences and offices, grazing, aquaculture, watershed management, and home occupations.

The 9.37 acre Clatsop Resources, Inc. property, also known as the Collins property (Taxlot 1800), is a small, pre-existing residential use which has the potential of being in conflict with extensive use of the County property. However, this property is at the extreme north end of the quarry or storage operation, and is over 1,000 ft. from the

extraction area and therefore outside the 1,000 ft. impact area. It is probable that the traffic along Highway 30 would create more noise and dust than the County property. Because of the linear nature of the County quarry, there is an opportunity to retain existing vegetation as a plant buffer on the north side of the County property to protect the Clatsop Resources property from a possible view of the quarrying operation. The Clatsop Resources property is excluded from the impact area in order to allow full and unrestricted use of the property within the constraints of the zone.

The Hunt Creek drainage flows north south along the east side of Clifton Road, and empties into the Columbia River. This is a year round Class I stream which possibly contains an anadramous fish run. The Oregon Department of Fish and Wildlife (ODFW) has never complained or sanctioned the County (to the knowledge of the County Public Works Director) for sediment related problems associated with the quarry. This is in part due to the fact that the quarry has not been actively mined for over ten years. If active quarrying were to be carried out, a sediment retention basin would have to be built in coordination with ODFW. Because of the occasional and non-commercial use of the quarry, it is not anticipated that the quarry would conflict with the natural values of the stream, particularly since there is a major County road between the quarry and Hunt Creek.

Conclusion

Within the impact area surrounding the Clifton quarry, few conflicting uses are found, and few land uses which may have conflicts with a rock quarry are anticipated. Nonetheless it is in the interest of Clatsop County and its citizens to protect this resource for the future.

In order to protect the conflicting uses in the vicinity of the Clifton quarry, the County will carry out two remediation actions: 1) the Clatsop Resources, Inc. property is excluded from the impact zone as shown on Maps 1 and 2. While there is an existing topographic barrier between the residence and the active quarry site to the north, the County will enhance this buffer by leaving the existing vegetation within the designated impact area. 2) In order to protect the Hunt Creek resource, the County will construct sediment basins and other sediment prevention measures prior to any extraction of rock at the quarry if required by and under the supervision of the Oregon Department of Fish and Wildlife and DOGAMI. This action, in addition to the separation of the creek from the existing County road, will protect the Goal 5 resource and eliminate conflicting uses.

ESEE ANALYSIS

The Goal 5 rule (OAR 660-16-005(2)) requires that if conflicting uses to the resource are identified, the economic, social, environmental and energy (ESEE) consequences of the conflicts must be determined. "Both the impacts on the resource site and on the conflicting use must be considered in analyzing the ESEE consequences. The applicability and

requirements of other Statewide Planning Goals must also be considered, here appropriate, at this stage of the process."

Economic

The economic consequences of allowing conflicting uses to be established near Clifton quarry are significant. While large scale urban development is not likely, even one or two dwellings could affect the operation of the quarry through neighbor complaints, particularly when the quarry is owned by a local government. The economic consequences of allowing the conflicting uses in monetary terms is difficulty. On the assumption that there are 300,000 usable cubic yards of material in the quarry, and the average price of pit run rock is $5.00 per yard, the current value of the quarry is $1.5 million at the quarry site. Transportation is a significant factor in the cost of aggregate materials. The Clifton quarry is strategically located for the northeastern portion of the County. Not having access to the Clifton quarry would mean the County would have to haul rock from the Big Creek quarry, or possibly the other quarries. Additional costs include resolving conflicts after they have surfaced. Political entities such as the County are especially vulnerable to conflicts. Delays during the construction season can create severe problems for project budgets.

Since the surrounding property is undeveloped at this time, economic consequences for these parcels are speculative. Uses may be proposed for these parcels which can be compatible with the quarry operation.

ocial

The consequences of allowing conflicting uses adjacent to quarry operations are not directly applicable to protection of the rock resource itself. However, the social consequences of development upon surrounding land use may cause significant modification of quarry operations. Even one single family dwelling could bring pressure to bear on the County to restrict or terminate operations. If conflicting uses are allowed near the site, it is possible that the resource could not be developed because of the inability to meet environmental regulations designed to protect the livability of surrounding property. Requiring measures to protect conflicting land uses from the impacts typically generated by quarry operations could result in curtailed productivity and a reduction in livability for other County residents which rely on a high standard of roads and dikes. The effect on conflicting uses if the development is allowed includes the typical and unavoidable effects of quarry operations, including noise, dust and truck traffic. The site is not a permanent, year-round commercial quarry operation, and it is difficult to predict the effects totally. The County will work with DEQ and ODFW to develop the site in the most appropriate manner. The recently adopted Quarry and Mining Overlay Zone (QMO) contains standards to regulate the operation of the quarry, but they may not be sufficient to satisfy neighbors.

nvironmental

No adverse environmental consequences are anticipated from fully llowing the conflicting use. However, allowing a sensitive use in the icinity, such as a residence, may cause the County to curtail or abandon the operation. Environmental effect such as dust, noise and vibration, as well as visual or aesthetic impacts, can have a real impact on the quality of life for residents in the area, or for schools. As described above, the County will work with DEQ and ODFW to control adverse impacts during operation, and will reclaim the site in accordance with DOGAMI requirements upon closure.

Energy

Since the distance traveled between an aggregate resource site and job site is the most critical part in assessing energy consumption, eliminating the Clifton quarry from the choice of sites would increase overall County energy usage. Material would have to be trucked in for use on County and State Highway projects from out of the County, barged in from up the Columbia River, or trucked from quarries such as Big Creek, or the Highway 202 area. Energy impacts on conflicting uses would be negligible. Any potential conflicting use would likely be a rural residence. Not locating in this area could have positive energy impacts, particularly if the occupant located closer to employment.

REQUIREMENTS OF OTHER APPLICABLE STATEWIDE PLANNING GOALS

Goal 4 - Forest Lands

oal 4 - Forest Lands

The Clifton quarry is located in the F-80 zone, which is intended to protect the forest resource. Aggregate operations on this site are not expected to conflict with the protection of forest land, forest practices, or other activities necessary and appropriate for management of soil, air, water, fish and wildlife resources, the provision for recreational opportunities, and agricultural uses. Use of the quarry is a transient or temporary land use which should not preclude forest activities on surrounding lands.

Mining and processing of aggregate and mineral resources are permissible uses of forest lands as specified by the Goal 4 administrative rule. No aspects of the quarry's development, as envisioned by the County, would force a significant change in, or significantly increase the cost of accepted forest or farming practices on surrounding lands dedicated for resource use. Similarly, no aspects of proposed operations are expected to significantly increase the fire hazard, the cost of fire suppression, or the risks to fire suppression personnel.

Goal 6 - Air, Water and Land Resources Quality

The environmental effects of quarry operation is discussed above. As mentioned, the County will comply with all DEQ, ODFW, and DOGAMI equirements during operation and during closure of the site. Any

crushing equipment used on the site will require permits from DEQ; contractors are required to obtain and comply with all permits. The County has not yet been required to prepare a reclamation plan for DOGAMI because of the limited amount of activity on the site. However, a plan will be prepared when the threshold level of activity is reached.

Goal 12 - Transportation

Statewide planning goal 12 requires local governments "to provide and encourage a safe, convenient and economic transportation system." The purpose of the Clifton site is to provide a low cost source of rock for County, and possibly State, roads and highways. With the proximity of the site to the Brownsmead and Knappa areas, and to U.S. Highway 30, the cost of the public road system can be reduced by the protection of this quarry.

Goal 13 - Energy Conservation

As described above, the location of the quarry will save energy by virtue of its strategic location, and the fact that rock would have to be imported from other places such as the Willamette Valley.

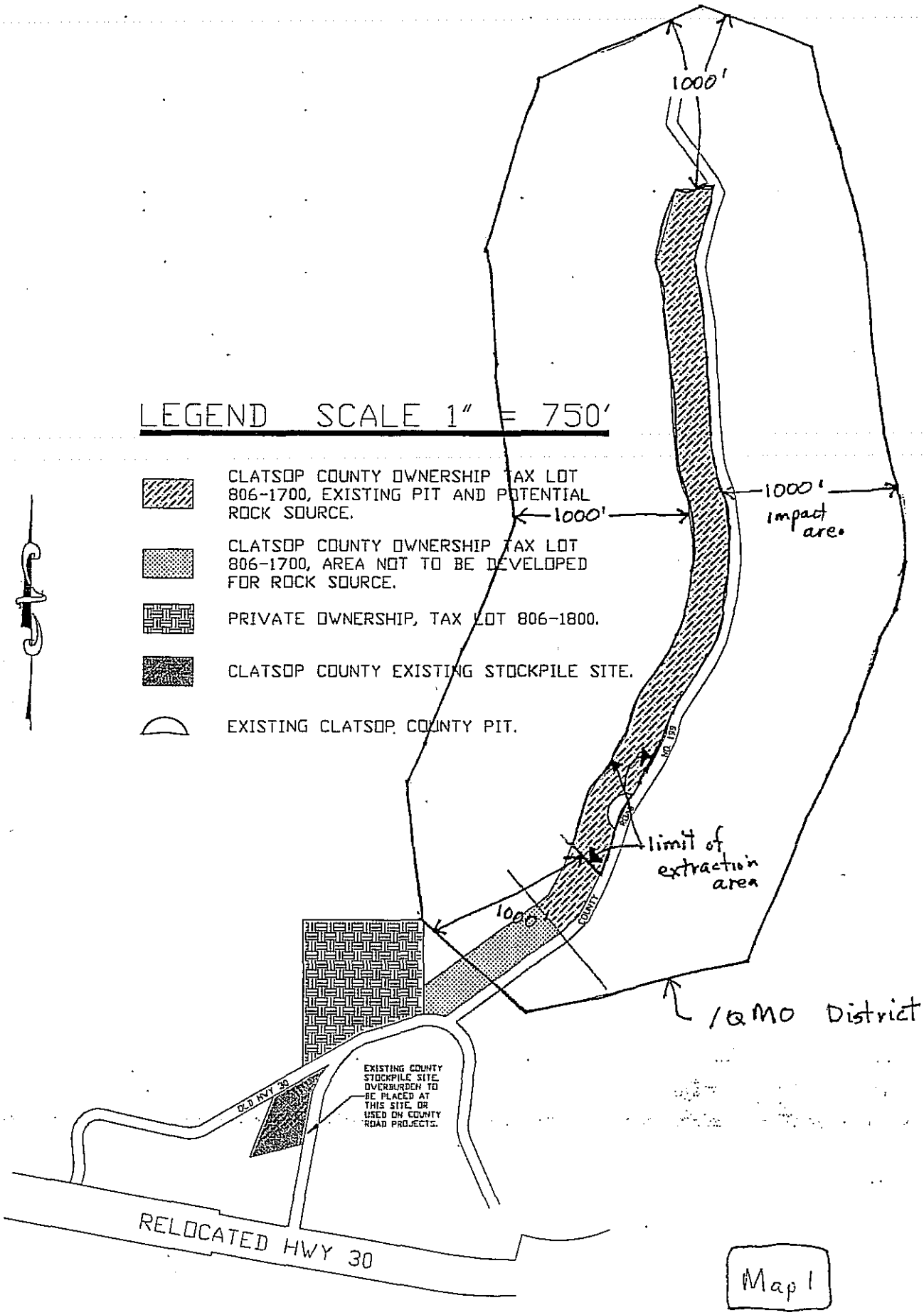
DETERMINATION AND PROGRAM TO ACHIEVE THE GOAL

Summary of the ESEE Analysis

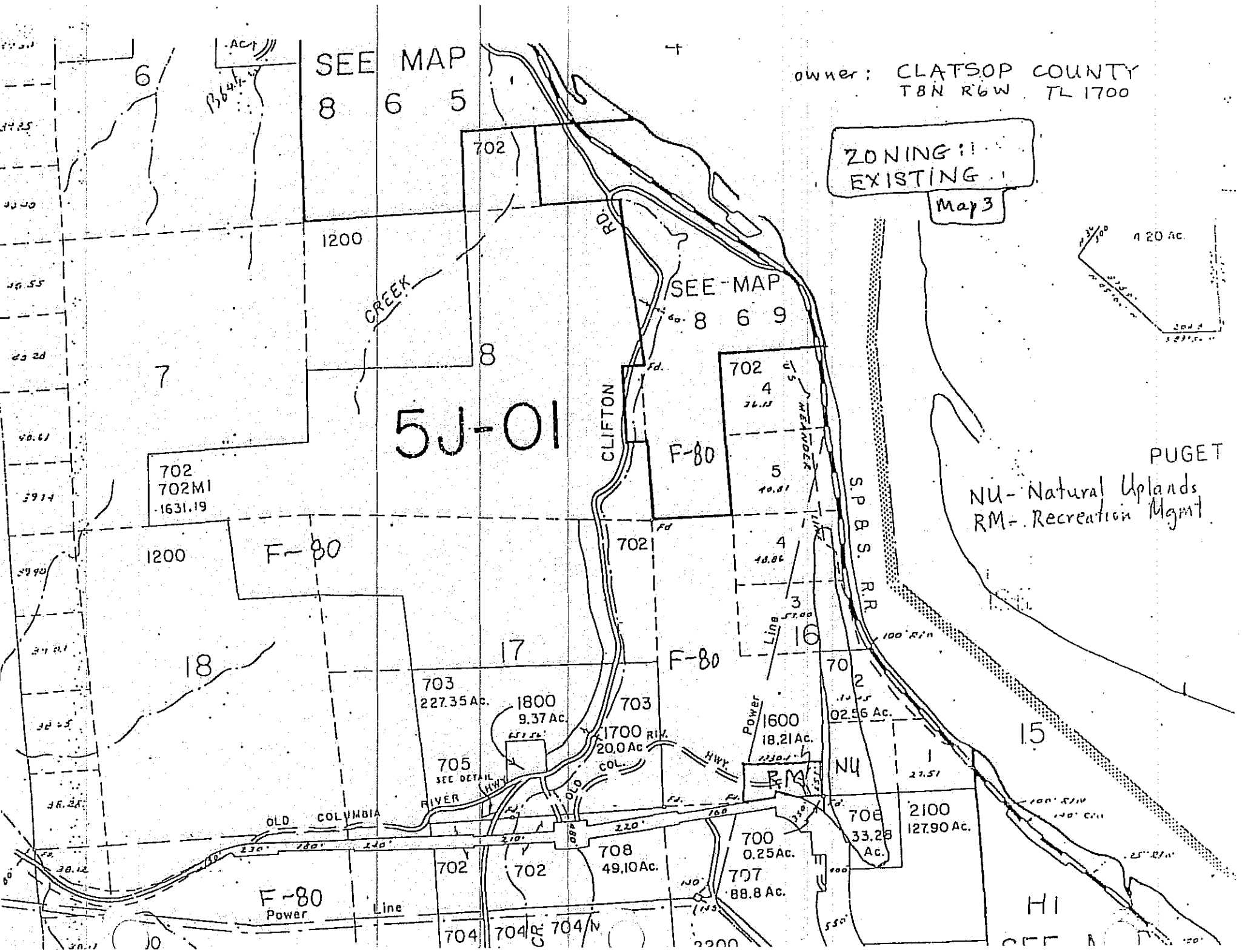
The ESEE analysis demonstrates that the Clifton site is a significant aggregate resource for Clatsop County, and should be protected through the County planning process.

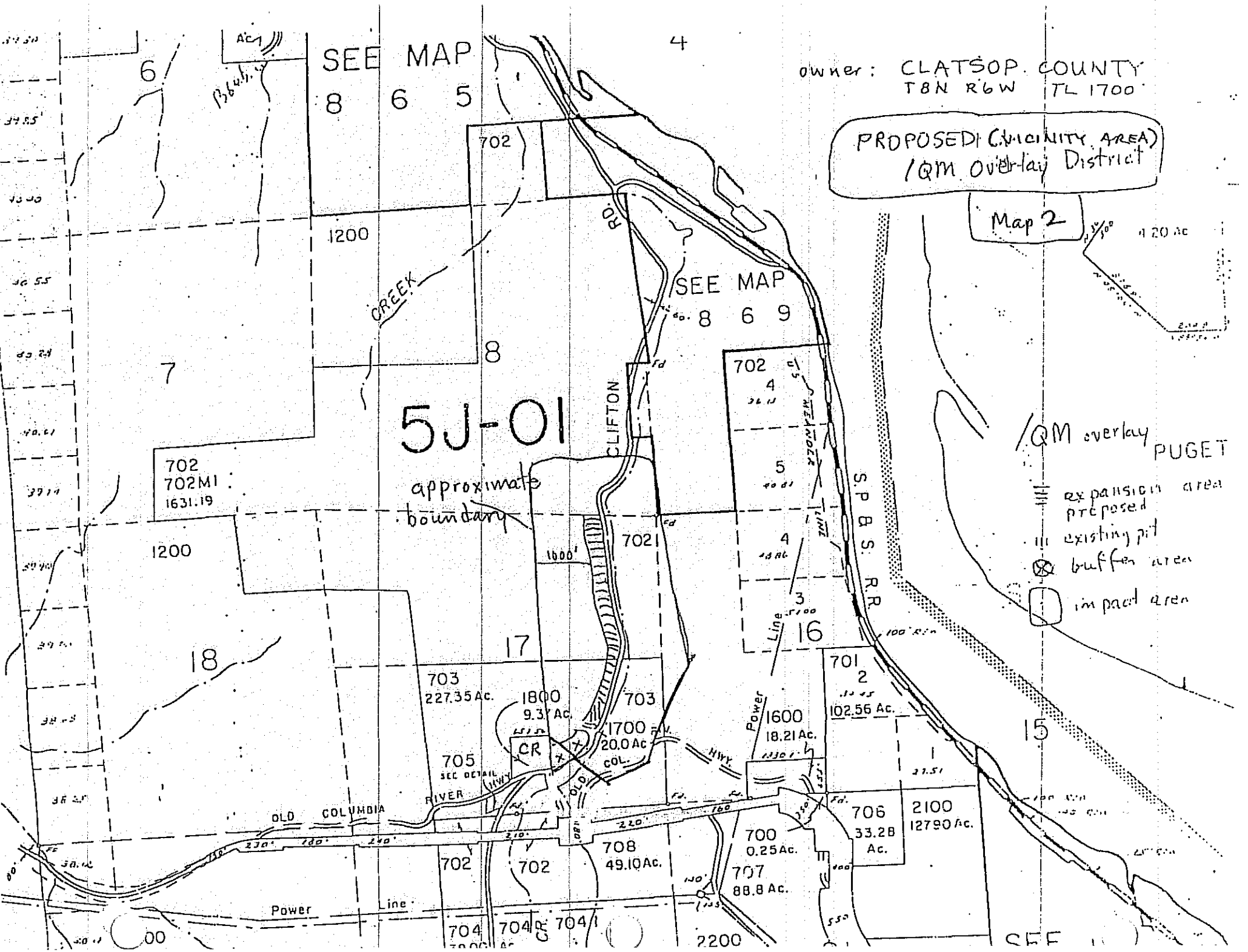
Program to Achieve the Goal

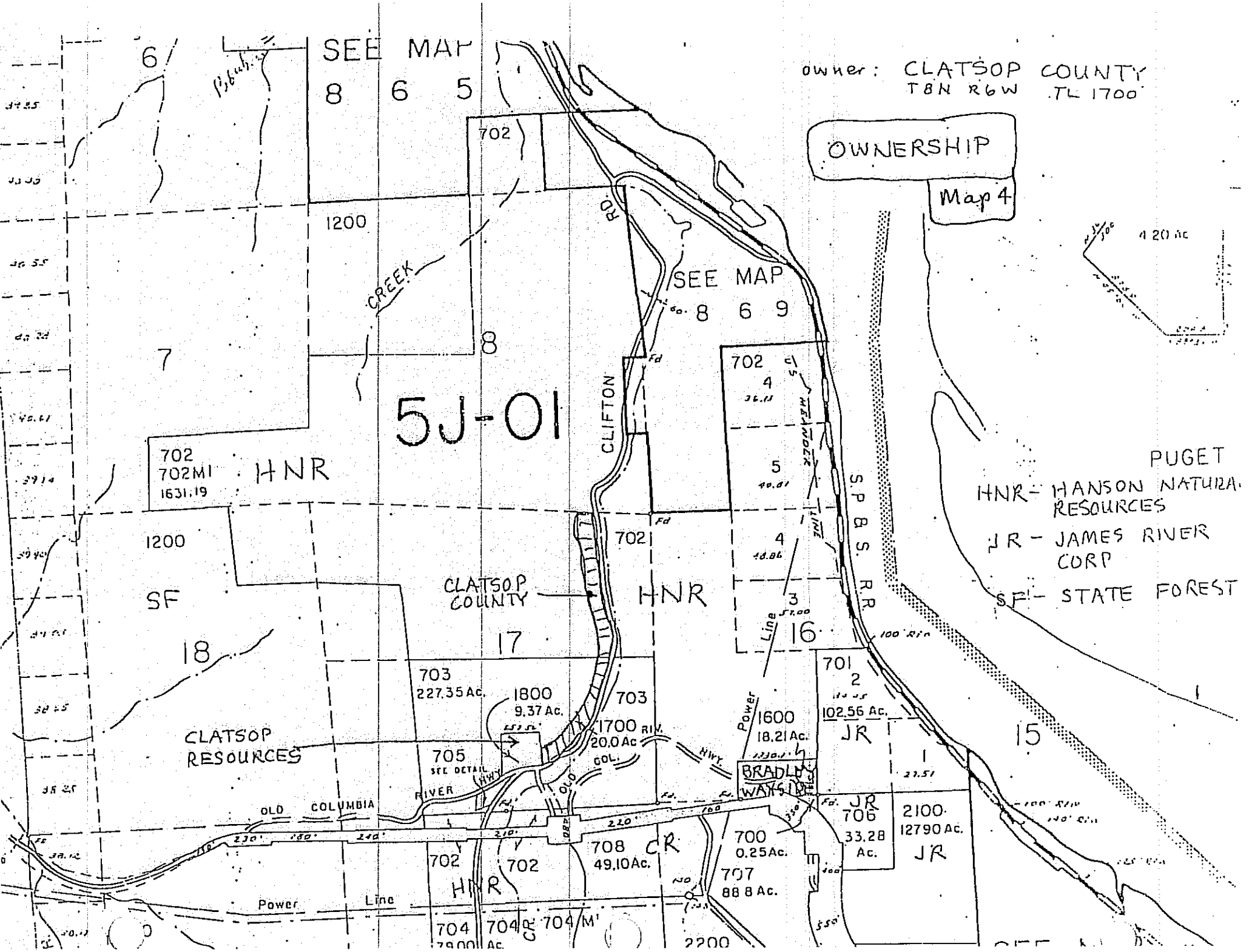
The County has adopted policies in the Comprehensive Plan and a zoning overlay zone to protect significant quarry sites. The purpose of this analysis is to demonstrate that the Clifton quarry is significant. The attached map (Map 1) illustrates the active quarry site, the expansion area and a 1,000' impact area surrounding the expansion area. The underlying zone will continue to be F-80 and the QMO overlay will be on the expansion area until the site is no longer useful for mineral or aggregate extraction or processing. At the end of the site's usefulness the QMO zone will be removed and the site will be reclaimed.

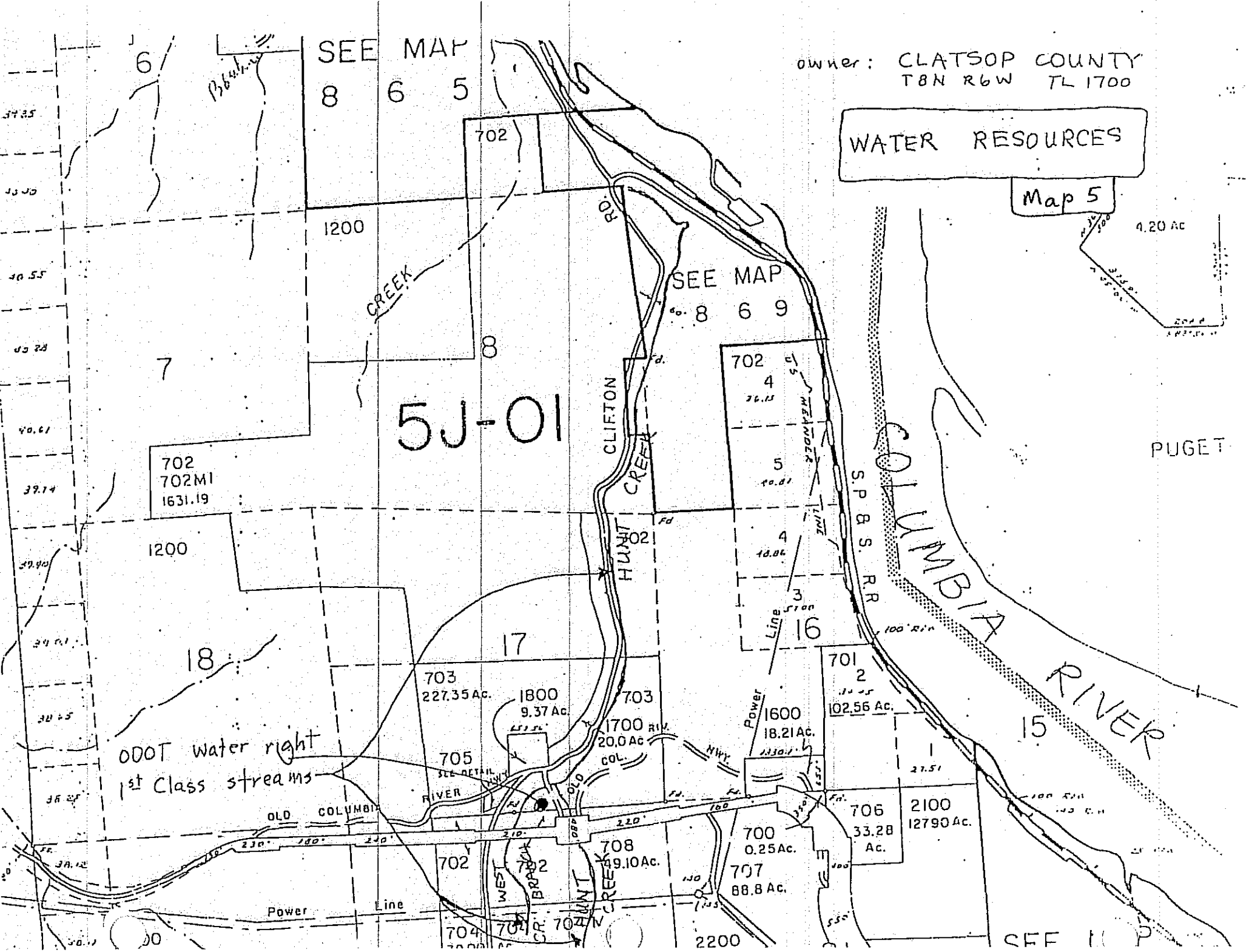

LEGEND SCALE 1" = 750'
CLATSOP COUNTY OWNERSHIP TAX LOT 806-1700, EXISTING PIT AND POTENTIAL ROCK SOURCE.
CLATSOP COUNTY OWNERSHIP TAX LOT 806-1700, AREA NOT TO BE DEVELOPED FOR ROCK SOURCE.
PRIVATE OWNERSHIP, TAX LOT 806-1800.
CLATSOP COUNTY EXISTING STOCKPILE SITE.
EXISTING CLATSOP COUNTY PIT.
1000'
1000'
1000' impact area
limit of extraction area
1000'
/QMO District
EXISTING COUNTY STOCKPILE SITE. OVERBURDEN TO BE PLACED AT THIS SITE, OR USED ON COUNTY ROAD PROJECTS.
OLD HWY 30
RELOCATED HWY 30

Map 1


owner: CLATSOP COUNTY
T8N R6W TL 1700
ZONING: EXISTING
Map 3
SEE MAP 8 6 5
SEE MAP 8 6 9
5J-01
CREEK
CLIFTON
RD.
702
1200
7
8
702
702M1
1631.19
F-80
702
4
5
4
3
16
17
18
15
703
227.35 Ac.
1800
9.37 Ac.
1700
20.0 Ac
705
SEE DETAIL
RIVER
OLD COLUMBIA
HWY
COL.
RIV.
Power
1600
18.21 Ac.
NU
RM
702
02.56 Ac.
706
33.28 Ac.
2100
127.90 Ac.
708
49.10 Ac.
700
0.25 Ac.
707
88.8 Ac.
704
704
704N
Power Line
PUGET
NU- Natural Uplands
RM- Recreation Mgmt
S.P.&S. R.R.
HI
0.20 Ac.


owner: CLATSOP COUNTY
T8N R6W TL 1700
PROPOSED (VICINITY AREA) /QM Overlay District
Map 2
SEE MAP 8 6 5
SEE MAP 8 6 9
5J-01
approximate boundary
CREEK
CLIFTON
RD.
S.P.&S. R.R.
/QM overlay
PUGET
expansion area proposed
existing pit
buffer area
impact area
702
702M1
1631.19
1200
703
227.35 Ac.
1800
9.37 Ac.
1700
20.0 Ac
705
SEE DETAIL
OLD COLUMBIA RIVER HWY
Power Line
1600
18.21 Ac.
701
102.56 Ac.
706
33.28 Ac.
2100
12790 Ac.
700
0.25 Ac.
707
88.8 Ac.
708
49.10 Ac.
704
2200


owner: CLATSOP COUNTY
T8N R6W TL 1700
OWNERSHIP
Map 4
SEE MAP 8 6 5
SEE MAP 8 6 9
5J-01
CREEK
CLIFTON
RD.
702
1200
702
702M1
1631.19
HNR
SF
CLATSOP COUNTY
HNR
703
227.35 Ac.
1800
9.37 Ac.
1700
20.0 Ac
RIV.
COL.
705
SEE DETAIL
CLATSOP RESOURCES
OLD COLUMBIA RIVER
HWY.
BRADLEY WAYS
1600
18.21 Ac.
701
102.56 Ac.
JR
706
33.28 Ac.
2100
12790 Ac.
JR
700
0.25 Ac.
707
88.8 Ac.
708
49.10 Ac.
CR
704
704
704 M1
Power Line
S.P.&S. RR
PUGET
HNR - HANSON NATURAL RESOURCES
JR - JAMES RIVER CORP
SF - STATE FOREST
15
16
17
18


owner: CLATSOP COUNTY
T8N R6W TL 1700
WATER RESOURCES
Map 5
SEE MAP 8 6 5
SEE MAP 8 6 9
5J-01
CLIFTON CREEK
HUNT CREEK
COLUMBIA RIVER
S.P & S. R.R
PUGET
ODOT water right
1st Class streams
OLD COLUMBIA RIVER
WEST BRANCH
Power Line
702
702M1
1631.19
1200
703
227.35 Ac.
1800
9.37 Ac.
1700
20.0 Ac
705
1600
18.21 Ac.
701
102.56 Ac.
706
33.28 Ac.
2100
12790 Ac.
700
0.25 Ac.
707
88.8 Ac.
708
49.10 Ac.
704
2200
4.20 Ac

BACKGROUND INFORMATION

Miocene volcanic rock (Tmv) CLIFTON PIT AREA

Volcanic rock of Miocene age forms extensive exposures along the Columbia River in the Cathlamet and Svensen quadrangles and composes the bulk of Saddle Mountain and Humbug Mountain in the Saddle Mountain quadrangle to the south. The exposures were treated as part of the Columbia River lava by Warren and others (1945) and as Miocene intrusive rock and middle Miocene basalt by Wells and Peck (1961).

The exposures along the Columbia River consist of up to 1,400 feet of dense, tholeiitic, flow-on-flow basalt of subaerial origin in the vicinity of Bradley State Park and at Nicolai Mountain. Only the basal portions of some of the lowermost flows are pillowed or otherwise show signs of subaqueous conditions in these areas. Northwestward in the lower reaches of Big Creek and westward along the crest of Wickiup Mountain, breccias and pillow lavas are the dominate lithology (Figure 18). Intercalations of marine sedimentary rock are also common locally. A northeast-trending middle Miocene strandline is tentatively postulated in the Big Creek area.

Petrochemically the flow-on-flow basalts exhibit both late Yakima (Kienle, 1971; Snavely and MacLeod, 1973) and Yakima (Snavely and Macleod, 1973) affinities. Flow directions of the upper flows at Bradley State Park (late Yakima) are to the west according to Kienle (1971).

The exposures at Humbug and Saddle Mountains consist of a maximum of 1,300 feet of massive, submarine, basaltic breccia and palagonitic basaltic breccia cut by innumerable thin vertical dikes which display remarkable columnar jointing in places. The breccias are the dominant lithology and consist of glassy, fine-grained basaltic fragments of Yakima petrology (MacLeod, oral communication, 1972) set in a matrix of finer volcanic debris and glass.

The breccias at Saddle Mountain and Humbug Mountain have been variously interpreted as more or less local accumulations (Layfield, 1936b) and as localized remnants of a once far more extensive basaltic breccia blanket (Baldwin, 1952). The numerous dikes throughout the interior of Clatsop County are consistent with the view that the breccias and flows were originally of far greater extent than they are at present. The clustering of dikes at hill 1794 two miles south of Humbug Mountain suggests at least that a third local accumulation of Miocene basaltic breccia was originally present in that area.

The Yakima petrology (N. S. MacLeod, oral communication, 1972), of the Miocene basaltic breccias and their position above fossiliferous strata of middle Miocene age suggest that the unit is middle Miocene in age and has an absolute age of approximately 14 to 16 million years.

SOURCE: ENVIRONMENTAL GEOLOGY OF INLAND TILLAMOOK & CLATSOP COUNTIES, OREGON, BULLETIN 79
DOGAMI 1973 5

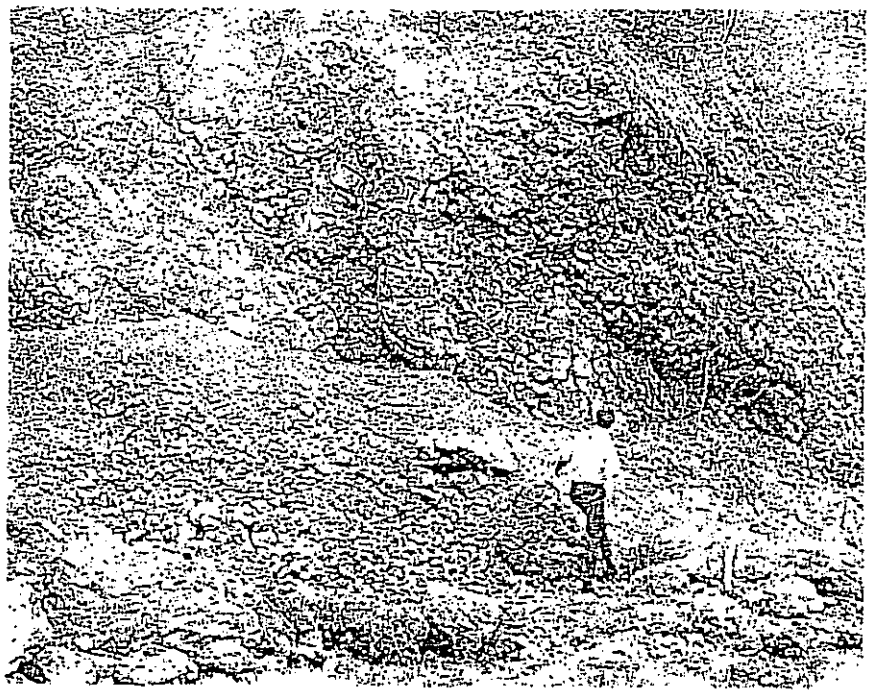


Figure 18. Pillow structures developed in the Miocene volcanic rock (Tmv) in the lower reaches of Big Creek (sec. 29, T. 8 N., R. 7 W.). An underwater environment of cooling is inferred for the lavas. The resulting quarry rock is poor in quality.

Upper Miocene sandstone (Tmus) WEST OF CLIFTON PIT

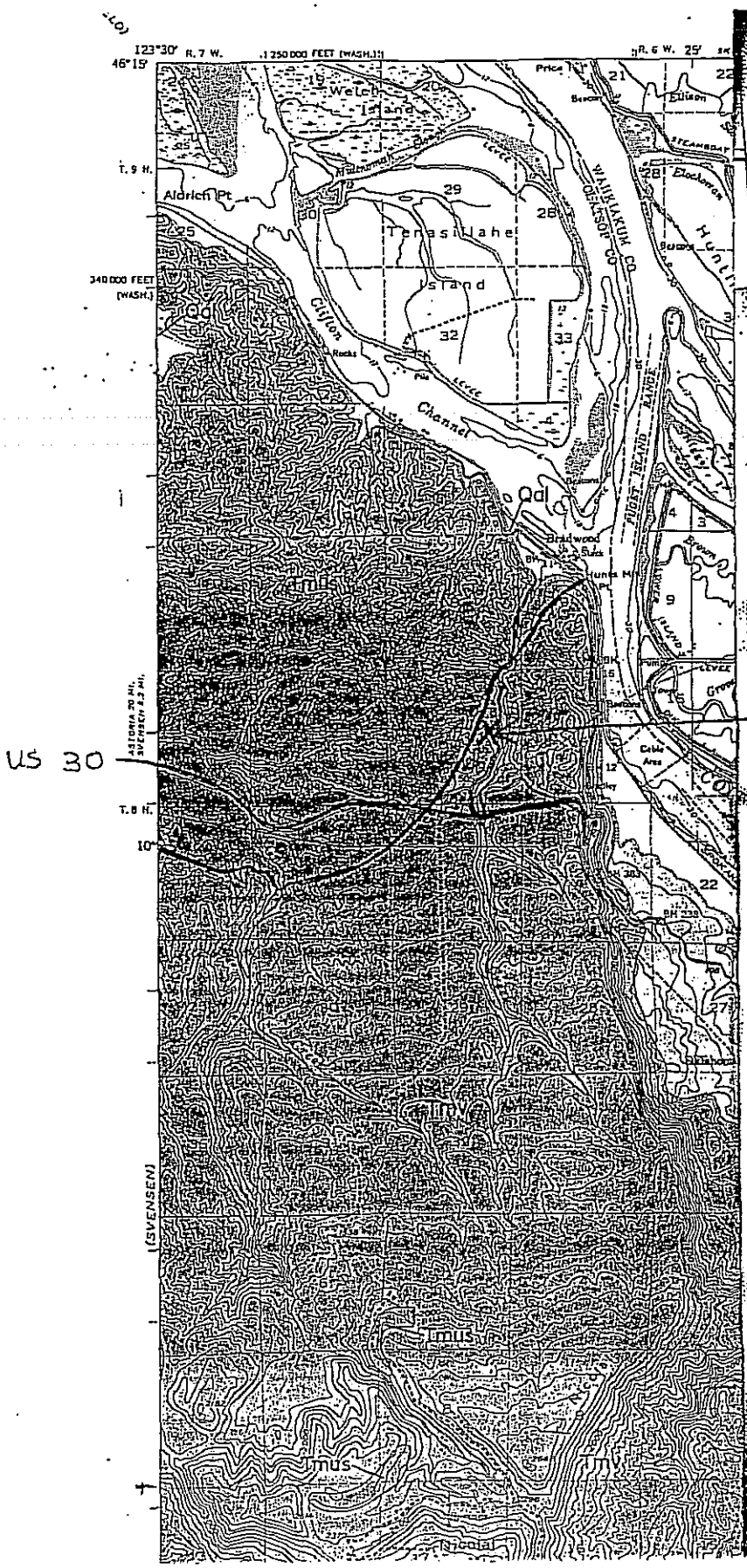
The upper Miocene sandstone (Tmus) consists of 500 to 1,000 feet of consolidated sandstone and minor siltstone and overlies the Miocene volcanic rock (Tmv) in the northern Svensen (Figure 19) and Cathlamet quadrangles. The lower parts of the unit are interbedded with the upper parts of the Miocene volcanic rock at Bradley State Park, along the lower reaches of Hunt Creek, and on the upper slopes of Nicolai Ridge and Nicolai Mountain (Figure 20).

The upper Miocene sandstone is equivalent to part of the Astoria Series of Arnold and Hannibal (1913), part of the Miocene Series of Washburne (1914), the Pliocene (?) sandstone of Warren and others (1945), and the Pliocene marine sedimentary rocks of Wells and Peck (1961). It is equivalent to the upper Astoria Sandstone of Lowry and Baldwin (1952), and the Pliocene (?) sandstone of Dodds (1963, 1970). Strata mapped as part of the upper Miocene sandstone by Schlicker and others (1972) high on the west slopes of Wickiup Mountain are here considered to be part of the middle Miocene sandstone (Tmms) on the basis of stratigraphic position.

The lower parts of the upper Miocene sandstone consist primarily of friable, coarse- to medium-grained, massive, arkosic sandstone. Subaqueous slump breccias composed of randomly oriented mudstone slabs floating in a sandstone matrix are present at Clifton, Bradley State Park, and at the Gnat Creek Forest Park (Figures 21 and 22). The unit as a whole appears to be transgressive and passes upsection into clay-rich, finer grained, thinner bedded sandstones and siltstones in the vicinity of Aldrich Point. A greater tendency for mass movement in this area is attributed in part to the change in lithology.

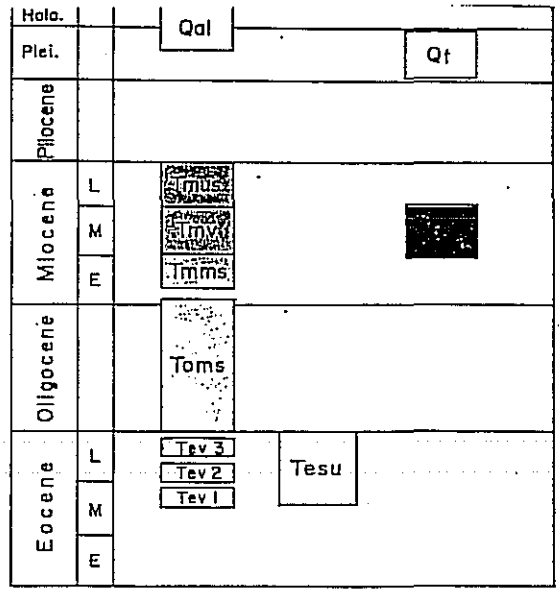
6

GEOLOGIC MAP
of the
CATHLAMET QUADRANGLE
OREGON



CLIFTON PIT SITE
Tmv

7



EXPLANATION

Unconsolidated Surficial Units

Qal — Quaternary Alluvium
Low-lying flood plains of the Columbia River consisting of sand and silt; also includes gravelly flood plains lining the lower reaches of Big Creek and Gnat Creek.

Qt — Quaternary Terrace Deposits
Dissected alluvium consisting primarily of poorly sorted silt, sand, and gravel.

Stratigraphic Units

Tmus — Upper Miocene Sandstone
Approximately 1,000 feet of massive, coarse- to fine-grained, arkosic sandstone passing upsection into sandy siltstone. Thick sandstone interbeds are present in the Miocene Volcanic Rock near Bradley State Park and on Nicolai Mountain. Subaqueous slump breccias are present locally.

Tmv — Miocene Volcanic Rock
Up to 1,500 feet of subaerial flow-on-flow basalt and subaqueous, palagonitic breccias of basaltic composition. Subaerial flow rock dominates in the south and east and breccias dominate in the lower Big Creek area. The basalts are petrochemically similar to the Yakima Basalt of Waters (1961).

Tmms — Middle Miocene Sandstone
Several hundred feet of massive, micaceous, arkosic sandstone and subordinate interbedded sandy siltstone immediately underlying the Miocene Volcanic Rock. Age equivalence with the Astoria Formation is inferred in the Big Creek drainage; age of small exposures in the Cathlamet quadrangle is less certain.

Toms — Oligocene to Miocene Sedimentary Rock
Greater than 5,000 feet of massive- to thin-bedded, medium- to dark-gray, tuffaceous siltstone and subordinate interbedded blocky sandstone. Probably includes Astoria-age siltstones in the middle reaches of Big Creek.

Intrusive Rock
Basaltic dikes and sill of middle Miocene age.

Geologic Symbols

Faults
Solid where definite; long dashes where approximately located or indefinite; short dashes where inferred; and dotted where concealed. U, upthrown side; D, downthrown side.

Contacts
Solid where definite; long dashes where approximate; short dashes where inferred; and dotted where concealed.

⊕ Horizontal Beds

⊥ Strike and dip of beds or flows

⚒ Rock quarries

8

RECORDED
FEB 24 1995
CC DOC # 95021014 0
REEL #

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

ORDINANCE NO. 95-3

(AN ORDINANCE AMENDING THE
(CLATSOP COUNTY COMPREHENSIVE
(PLAN/ZONING MAP AND TEXT AS ADOPTED
(BY THE BOARD OF COMMISSIONERS
(ADOPTING CERTAIN FINDINGS WITH
(CONDITIONS AND RESCINDING
(INCONSISTENT PROVISIONS

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the Nygaard Lewis & Clark QMO Comprehensive Plan and Zoning Map and Text Amendment.

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to revise and amend the Clatsop County Comprehensive Plan and Zoning Map and Text. In the interest of the health, safety and welfare of the citizens of Clatsop County and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the said Clatsop County Comprehensive Plan/Zoning Map and Text.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Planning Commission has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Planning Commission

held a public hearing on October 18, 1994. The Board received and considered the Planning Commission's recommendations on this request and held a public hearing on this ordinance pursuant to law on February 8, 1995.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supersede, control and repeal any inconsistent provision of the Clatsop County Land and Water Development and Use Ordinance, as amended, or any other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force and effective 30 days following adoption of this Ordinance.

SECTION 7. ADOPTION CLAUSE.

The Board of Commissioners hereby adopts the Nygaard Lewis & Clark QMO Comprehensive Plan and Zoning Map and Text Amendment with conditions, set forth in Exhibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ADOPTED this 22 day of January, 1995.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

By Geoffrey Stone
Geoffrey Stone, Vice Chair

By Helen Lewis
Recording Secretary

Effective Date:_____

APPROVED AS TO FORM:_____
Clatsop County Counsel

EXHIBIT "A"

To: Clatsop County Planning Commission

From: David Carpenter, Senior Planner DC

Applicant: Don Lampi and Martin Nygaard

Owner: Martin Nygaard

Location: Lewis and Clark Road.

Legal Description: T7N-R9W-Sec31-TL400

Comp Plan Designation: Agricultural Lands

Zoning: Exclusive Farm Use (EFU)
Flood Hazard Overlay (FHO)

Request: Place a Quarry and Mining Overlay Designation Over a portion of the Site.

Date: September 22, 1994

I Listed below are the applicable Plan and Ordinance requirements and standards that will be used to review this application.

A. Clatsop County Comprehensive Plan (County-Wide Element)

1. Goal 1
2. Goal 2
3. Goal 3
4. Goal 4
5. Goal 5
6. Goal 7

B. Lewis and Clark Community Plan

1. Fish and Wildlife Policies

C. Clatsop County Land and Water Development and Use Ordinance 80-14

1. Article I
   Section 1.010-1.050
2. Article II Procedures
   Section 2.140 (Type IV Procedure)
3. Article III Zones
   Section 3.560
4. Article IV Special Districts
   Section 4.000
   Section 4.400

4. Article V Permit and Issue Determinations
   Section 5.300-5.302
   Section 5.700-5.735
5. Article VI Public Deliberations and Hearing
   Section 6.118
6. Article X General Provisions
   Section 10.110-10.150

D. Standards Document

1. Sections 1-3
2. S4.400-S4.404
3. S4-500-S4.504

E. Statewide Planning Goals and OAR's

1. Goal 1
2. Goal 2
3. Goal 3
4. Goal 4
5. Goal 5
6. Goal 6
7. Goal 7
8. Goal 12
9. Goal 13
10. OAR 660-05

II Findings

A. Background

Applicant:

The Nygaard Lewis & Clark (hereafter referenced as "Lewis & Clark") Quarry is located on a 62 acre parcel to the adjoining the side of the Lewis & Clark County Road about five miles north of Seaside. The quarry is located on Clatsop County Tax Lot 7-9-31 #400. The pioneered and cleared quarry area covers about 5 to 10 acres of the overall ownership.

This quarry has been used in the past as a rock source for logging road construction. The site does not have an active Clatsop County conditional use approval.

Staff:

Martin Nygaard has applied for a Quarry and Mining Overlay (QMO) District for a portion of land Described as T7N-R9W-Sec31-TL400. This parcel is on the east side of the Lewis and Clark River approximately 5 miles northeast of Seaside. The subject parcel is currently zoned Exclusive Farm Use (EFU) with a portion also designated with a Flood Hazard Overlay

(FHO). These zoning designations would remain. The QMO District would be added to a portion of the parcel.

The QMO overlay provides the following purpose statement:

> The purpose and intent of the Quarry and Mining Overlay District (/QMO) is:
>
> (A) To allow the development and use of mineral and aggregate resources;
> (B) To provide uniform standards for extraction and processing of mineral and aggregate resources;
> (C) To balance conflicts between mining operations and new and existing surrounding conflicting uses;
> (D) To ensure the rehabilitation and restoration of mining sites; and
> (E) To protect mineral and aggregate resources for future use consistent with Comprehensive Plan goals and policies and Statewide Planning Goal 5.

The Planning Commission has to determine if the site merits protection as a Goal 5 resource. If the site is found to be "Significant", the site must be protected unless there are enough conflicting uses in proximity to the site such that the site could not be used as a quarry. The site must also be analyzed for any other Goal 5 sites that could impact the quarry. Operational approval is a second application that is submitted to the Planning Department at the time an owner wishes to begin mining activities. Again, the Planning Commission is not reviewing a specific operating plan but rather is deciding whether or not the site should be protected.

B. Definitions

CONFLICTING USE -- A use authorized in the underlying zone, which, if allowed, could adversely affect operations at a significant mineral and aggregate resource site, or could be adversely affected by mining or processing activities at a significant site. For purposes of this chapter, another Goal 5 resource located on or adjacent to a significant site may be considered a conflicting use if that resource could be adversely affected by mining or processing at the site.

ESEE ANALYSIS -- The analysis of economic, social, environmental and energy consequences of (a) allowing mining on a significant site, and (b) allowing conflicting uses to displace mining on a significant site. Based on the results of the ESEE analysis, the County may determine a level of protection for the resource, and implement a program to achieve the designated level of protection.

EXTRACTION AREA -- The area within which mineral and aggregate extraction, processing and storage may take place under the provisions of this Chapter (see Appendix A).

IMPACT AREA -- An area determined on a case-by-case basis through the ESEE analysis, within which sensitive uses are limited or regulated (see Appendix A).

SENSITIVE USE -- A conflicting use or structure considered sensitive to dust, odor, vibration and/or noise, such as a residence, school, park or hospital. Industrial, agricultural and forestry activities are not sensitive uses unless the activity includes an accessory residential use.

C. Clatsop County Land and Water Development and Use Ordinance.

Staff:

Following are applicable sections from the QMO zone text followed by applicant and/or staff response.

Section 4.406. Application of Overlay Zone. Any conflicts between the provisions of this Chapter and the provisions of other chapters of this Ordinance, Comprehensive Plan Goals and Policies and the Statewide Planning Goals shall be resolved through the ESEE analysis.

The Quarry and Mining Overlay Zone consists of two distinct areas; the Extraction area and the Impact area.

(A) EXTRACTION AREA. The mineral and aggregate extraction area shall be applied to any site where mining will be permitted and which has been identified as a significant resource area in the Comprehensive Plan Inventory or through the QMO Overlay Zone designation procedure, outlined in Section 5.700. The area may consist of one or more tax lots or portion(s) of single tax lots, and may be applied to contiguous properties under different ownership. The size of the Extraction Area shall be determined by the Goal 5 process, but between any existing Sensitive Use and the extraction area boundary a general distance of 1,000 feet shall be applied. The exact distance may be varied through the planning process.

(B) IMPACT AREA. The mineral and aggregate Impact Area shall be applied to properties or portions of properties adjacent to and immediately surrounding an Extraction

Area. The width of the Impact Area shall be determined through the ESEE analysis prior to application of the QMO Overlay Zone, based on the type of mineral or aggregate resource to be extracted as well as physical features of the area which may cause a larger or smaller area to be affected. The minimum width of the impact area shall be 1,000 feet from the Extraction Area boundary unless a reduced distance is justified, based on the ESEE analysis (see example in Appendix A).

Staff:

Following is the applicants ESEE analysis, discussion of conflicting uses, discussion of the impact area and a conclusion by the applicant.

Applicant (ESEE):

The Goal 5 rule (OAR 660-16-005(2)) requires that if conflicting uses to the resource are identified, the economic, social, environmental and energy (ESEE) consequences of the conflicts must be determined. "Both the impacts on the resource site and on the conflicting use must be considered in analyzing the ESEE consequences. The applicability and requirements of other Statewide Planning Goals must also be considered, where appropriate, at this stage of the process."

The Lewis & Clark River adjoins the west side of the active quarry area. Two feeder drainages which empty into the Lewis & Clark are found along the north and south sides of the active quarry area. Special protective measures will be required to avoid impacts upon these watercourses. Quarry access roads adjoining the Lewis & Clark River and Klickitat Creek to the north will have to be sloped to contain and divert rainwater runoff waters into the interior of the quarry development area. Rainwater collection and sediment ponds will be required to treat these runoff waters prior to discharge into the Lewis & Clark River. A vegetative buffer of at least 50 feet should be maintained between the south boundary of the active quarry area and the Spegyai Creek drainage.

No other Goal 5 resources have been identified at this quarry site.

The Lewis & Clark quarry site contains a valuable aggregate resource that merits Goal 5 protection. All other Goal 5 resources have been examined and can be protected with a program of avoidance and use controls.

Applicant (Impact Area):

The Goal 5 rule (OAR 660-16-0002) requires identification of an impact area itself. The impact area is an area in which identified conflicting uses may adversely may adversely affect the resource. Although impact area is not defined in either the goals or in the Goal 5 rule, the impact area for a mineral and aggregate resource site must be the area which includes uses which could adversely affect the resource, but also the area including those uses which could be affected by the presence of a significant resource. The attached impact area map shows the boundaries of the Lewis & Clark quarry operations and an impact area that extends 1000 feet beyond the perimeter of this quarry.

Noise, dust, odor and blasting effects typically have the potential to adversely effect surrounding properties in the immediate proximity to a quarrying operation.

Applicant (Conflicting Uses):

There is only one residential dwelling (Schmelzer) located within the 1000 foot impact area surrounding the Lewis & Clark quarry site. This dwelling is located about 500 feet to the south of the active quarry area on Tax Lot 7-9-31 #402. This dwelling is effectively screened by topography and existing vegetation from the quarry area.

Commercial forest lands adjoin the site to the north, east and south.

The Lewis and Clark river adjoins to the west.

Applicant: (Conclusion)

An existing buffer of trees can be maintained between the south boundary of the active quarry and the Schmelzer house to eliminate potential adverse visual impacts and lessen noise impacts.

No significant impacts have been identified that would merit additional use restrictions upon quarrying activities on the Lewis & Clark site.

Staff:

The Lewis and Clark river borders the site to the west. The Klickitat creek borders the extraction area to the north. The Spegyai creek is to the south of the extraction area. At its

closest point, Spegyai Creek is 70 feet south of the extraction area. The QMO standards requires that where existing vegetation exists along rivers and creeks, a buffer zone consisting of this vegetation must be maintained for 100 feet. This buffer is designed to reduce impacts on the waterways.

The only dwelling within the Impact area is sited southwest of the extraction area. As indicated on the map submitted by the applicant, the dwelling will be approximately 300 feet from the Extraction Area. The 300 feet between the dwelling and Extraction Area is currently vegetated. Approximately 100-150 feet of this buffer is located on the applicants property. The dwelling would be visually screened by the vegetation on the applicants property.

The current access road into the site runs to within 60 feet of the dwelling. This access is not screened. Before operational approval is granted, access would be addressed. Currently, access is proposed from the portion of taxlot 400 that is situated on the west side of the river. One of the maps included with this report shows the proposed access point.

County records indicate that Marvin Hartil has a water right located in the vicinity of the confluence of the Lewis and Clark River and Spegyai Creek. This area is located outside of the Extraction Area but inside the Impact Area.

<u>Section 4.424 Determination of Significance</u>. Only sites deemed significant shall be designated with a QMO. The following criteria shall be used in determining significance:

(A) Significant Aggregate Resources. An aggregate resource shall have at least 250,000 cubic yards of reserve and meet at least two of the following minimum requirements:

(1) Abrasion: Loss of not more than 35% by weight;

(2) Oregon Air Degradation: Loss of not more than 35% by weight;

(3) Sodium Sulphate Soundness: Not more than 17% by weight.

(B) Other mineral resources. Significance of non-aggregate resources shall be determined on a case-by-case basis after consultation with DOGAMI.

Applicant:

Preliminary testing indicates the presence of an excellent quality rock deposit. Test results from Braun Intertec Northwest are attached.

The quantity of the rock source is estimated to be 500,000 to 750,000 cubic yards.

Staff:

The applicant estimates the quantity of rock to be approximately 2 to 3 times the minimum amount necessary to qualify as a significant site. The minimum number of cubic yards requires is 250,000.

The material must meet two of the three quality specifications listed in the above standard. The Laboratory data submitted by the applicant indicates that the material meets the abrasion and sodium tests.

Following is a list of Quarry sites separated into one of three classifications. This request includes placing this site on the Goal 5 list of sites requiring QMO protection. The site is currently listed as needing only Conditional Use Approval.

Classification of County Mineral and Aggregate Sites*

Primary Sites Requiring QMO Protection

1)	Clatsop County - Clifton	T8N R7W S17	rock
2)	Clatsop County - Big Creek	T8N R7W S29 SW	gravel
3)	Howard Johnson - US 101	T5N R10W S4	rock
4)	Bayview Transit Mix - US 101	T5N R10W NW9 SW4	basalt

Primary Sites Requiring Conditional Use Approval

1)	George Ordway	T5N R10W S14	basalt
2)	Teevin Bros. Logging	T8N R6W S27 NW	rock
3)	Daren Berg, Humbug Rock	T5N R8W S22	rock
4)	M. Nygaard Logging	T7N R9W S31 NE	rock
5)	A. Riekkola	T7N R8W S18	basalt
6)	Tagg	T7N R10W S3	sand
7)	Horecny	T5N R9W S23	rock

Other Sites

1)	Clatsop County (Anderson Rd - Brownsmead)	T8N R7W S2 SW	clay
2)	Howard Johnson	T5N R10W S4 NW	rock

3)	Oregon State Forestry Dept.	T4N R9W S14,23 NW	rock
4)	Oregon State Hwy. Division	T5N R9W S16,17	basalt
5)	Oregon State Hwy. Division	T5N R8W S25 NW	basalt
6)	McClean Logging	T7N R8W S28	basalt

Staff:

The applicant is requesting that the site be removed from the "Conditional Use" status and listed as a "Primary" or "Significant " site requiring QMO protection.

Section 4.414. Development Standards - Extraction Area. A development plan shall be submitted to the County Planning Department for any activity allowed in Section 4.412. The development plan shall provide the necessary documents, permits, and maps to demonstrate compliance with the standards and requirements listed below.

Staff:

As per sections 4.414, 4.416 and 4.418, the applicant for a QMO designation does not need to show compliance with the following standards at this time. Compliance is required before mining is started. The applicant must respond to these standards and receive planning director approval prior to commencement of operations. The following operational standards are provided, however, for your information.

(A) Screening and Buffering:

(1) An earthen berm and buffer of existing or planted trees or vegetation shall be maintained to fully screen the view of any mineral and aggregate activity and all related equipment from any public road, public park, or residence within 1,000 feet. Where screening is shown through the ESEE analysis to be unnecessary because of topography or other features of the site, the screening requirements may be waived by the Planning Director.

(2) Sight obscuring fencing or approved barrier type shrubs shall be required to eliminate any safety hazards that use of the site may create. Fencing, if required, shall be sight obscuring and a minimum of 6 feet high.

(B) Access:

(1) All private access roads from mineral and aggregate sites to public roads shall be paved or graveled. If graveled,

the access road shall be graded and maintained as needed to minimize dust.

(2) Improvements of fees in lieu of improvements of public roads, County roads and State highways may be required when the Planning Director or hearings body, in consultation with the appropriate road authority, determines that the increased traffic on the roads resulting from the surface mining activity will damage the road sufficiently to warrant off-site improvement. If the fee in lieu of improvements is required, the amount of the fee shall reflect the applicant's pro-rated share of the actual total cost of the capital expenditure of the road construction or reconstruction project necessitated by and benefiting the surface mining operation. Discounts for taxes and fees already paid for such improvements, such as road taxes for vehicles and for property already dedicated or improved, shall be applied.

(3) Any internal road at a mineral and aggregate site within 250 feet of a Sensitive Use shall be paved or graveled, and shall be maintained at all times to reduce noise and dust in accordance with County or DEQ standards specified in the ESEE analysis.

(4) An effective vehicular barrier or gate shall be required at all access points to the site.

(C) Hours of Operation:

(1) Blasting shall be restricted to the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday. No blasting shall occur on Saturdays, Sundays, or any recognized legal holiday.

(2) Mineral and aggregate extraction, drilling, processing and equipment operation located within 1,000 feet or as established by the ESEE analysis of any Sensitive Use is restricted to the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, and 8:00 a.m. to 5:00 p.m. Saturday. All other sites are limited to operating hours of 7:00 a.m. to 10:00 p.m. Monday through Saturday. No operation shall occur on Sundays or recognized legal holidays.

(3) An increase in operating time limits shall be granted for all activities except blasting if:

(a) Three are no Sensitive Uses within 1,000 feet of the mining site; or if

(b) There are Sensitive Uses within 1,000 feet, the increased activity will not exceed noise standards established by the County or DEQ; and

(c) The operator shall notify the owners and occupants of all Sensitive Uses within 1,000 feet or the distance established by the ESEE analysis by first

class mail which is mailed at least 96 hours prior to the date and approximate time of the activity for which the operator receives an exception.

(4) The operating time limits may be waived in the case of an emergency as determined by the County governing body.

(D) Environmental Standards:

(1) DEQ Standards. Mineral and aggregate extraction, processing and other operations shall conform to all applicable environmental standards of the County and State. Any crusher, asphalt, concrete, ready-mix or other machinery shall submit an approved DEQ permit(s) at the time of development plan application.

(2) DOGAMI Standards. Mineral and aggregate extraction, processing, other operations and site reclamation shall conform to the requirements of the Department of Geology and Mineral Industries (DOGAMI).

(3) Permits Required. Mining shall not commence until all applicable State and Federal permits, if any, are provided to the County.

(E) Equipment Removal:

All surface mining equipment, machinery, vehicles, buildings, man-made debris and other material related to the mineral and aggregate activity shall be removed from the site within 30 days of completion of all mining, processing and reclamation, except for structures which are permitted uses in the underlying zone.

(F) Performance Agreement:

(1) The operator of a mineral and aggregate site shall provide the County with annual notification of DOGAMI permits.

(2) Mineral and aggregate operations shall be insured for $500,000.00 against liability and tort arising from production activities or operations incidental thereto conducted or carried on by virtue of any law, ordinance or condition, and such insurance shall be kept in full force and effect during the period of such operations. A prepaid policy of such insurance which is effective for a period of one year shall be deposited with the County prior to commencing any mineral and aggregate operations. The owner of operator shall annually provide the County with evidence that the policy has been renewed.

(G) Significant Resource Area Protection:

Conflicts between inventoried mineral and aggregate resource sites and significant fish and wildlife habitat, riparian areas and wetlands, and ecologically and scientifically significant natural areas and scenic areas protected by the Clatsop Plains Community Plan or other provision of the County Comprehensive Plan, shall be balanced as determined by the site-specific ESEE analysis.

(H) Site Reclamation:

A reclamation plan shall be submitted concurrently with the development plan required in Section 4.418. The reclamation plan shall include a schedule showing the planned order and sequence of reclamation, shall assure that the site will be restored or rehabilitated for the land uses specified in the underlying zone consistent with the site specific Goal 5 program, and shall meet DOGAMI requirements.

(I) Water Management:

(1) Surface water shall be managed in a manner which meets all applicable DEQ, DOGAMI, and ODFW water quality standards. Approval may be conditioned upon meeting such standards by a specified date. Discharge across public roads shall be prohibited. Existing natural drainages on the site shall not be changed in a manner which substantially interferes with drainage patterns on adjoining property, or which drains waste materials or waste water onto adjoining property or perennial streams. Where the mineral and aggregate operation abuts a lake, river, or perennial stream, all existing vegetation within 100 feet of the mean high water mark shall be retained unless otherwise authorized in accordance with the ESEE analysis and the development plan.

(2) All water required for the mineral and aggregate operation, including dust control, landscaping and processing of material, shall be legally available and appropriated for such use. The applicant shall provide written documentation of water rights from the State Department of Water Resources and/or local water district prior to any site operation.

(J) Floodplain:

Any QMO Extraction Area located wholly or in part in a Special Flood Hazard Area as shown on the Federal Insurance Rate Map (FIRM) shall receive approval in accordance with Section 4.000 of this Ordinance prior to any site operation.

Section 4.416. Application Process. Final development plan approval is required prior to the beginning of any mineral and aggregate activity listed in Section 4.412, and before any expansion of a pre-existing or non-conforming site. The applicant shall provide the following at the time of application:

(A) A development plan demonstrating that the development standards required in Section 4.414 can be met, including:

(1) Screening and fencing;
(2) Access;
(3) Hours of operation;
(4) Environmental standards;
(5) Equipment removal;
(6) Performance agreement;
(7) Significant resource area protection;
(8) Site reclamation;
(9) Water management; and
(10) Floodplain.

(B) A map or diagram showing the location and setbacks of all proposed mineral and aggregate activities and operations and the location and distance to all Sensitive Uses within the Impact Area.

Applicant:

A. Screening and Buffering
The Schmelzer dwelling to the south is effectively screened by topography and existing vegetation. A 50 foot vegetated buffer should be maintained between the active quarry area and Spegyai Creek to the south.

B. Access
A new access road and road approach onto Lewis & Clark Road will need to be constructed when the quarry is developed for commercial use. This road approach will need to be approved by the county Roadmaster and constructed to appropriated County standards.
This access will be gated as required by County QMO standards.

C. Hours of Operation
The quarry can be operated within the restrictions established by the ordinance's provisions for hours of operation and these provisions would be an acceptable condition of approval for this site .

D. Environmental Standards
Appropriate state DOGAMI and DEQ permits will be required for this future commercial quarry use.

E. Equipment Removal
Quarrying equipment and accessory structures will be removed at the time commercial quarry activities are completed at the site.

F. Performance Agreement
Proof of bonding and insurance will be provided to the County as required at the time of commercial development.

G. Significant Resource Protection
ESEE conflicts have been detailed and addressed above.

H. Site Reclamation
Site reclamation will be undertaken to conform with DOGAMI requirements.

I. Water Management
A DEQ stormwater containment and discharge plan will be required for this quarry.

J. Floodplain
The proposed QMO extraction area is entirely outside the County's mapped flood hazard zone.

Staff:
As discussed above, the applicant does not need to comply with these standards until they wish to operate the quarry. At that time, they must submit detailed responses to the above standards and receive planning director approval.

Section 4.418. Site Plan Review.

(A) Site plan review is required prior to commencement of mining. Application shall be in the form required by the County, and shall demonstrate compliance with the standards of Section 4.414 and any requirements adopted as part of the Goal 5 process.

(B) Applications for site plan approval of surface mining operations and activities authorized by Section 4.408 in accordance with ORS 215.425 and ORS 1917.195.

(C) The County shall approve, conditionally approve, or deny a site plan based on the ability of the site plan to conform to the standards of Section 4.414 and other requirements adopted as part of the Goal 5 process.

(D) If the County determines that the site plan is substantially different from the proposal approved in the Goal 5 process,

the application shall be denied or conditioned to comply with the decision adopted as part of the Goal 5 process, or the applicant may choose to apply for a Comprehensive Plan amendment whereby the original decision reached through the Goal 5 process will be reexamined based on the revised site plan.

Staff:

The applicant has submitted a plan showing the extraction area and the impact area. A detailed plan will be required before operation approval is given.

C. Clatsop County Comprehensive Plan (County-Wide Elements)

Staff:

Following are applicable Comprehensive Plan Goals and the Policies from these Goals.

Goal 1 Citizen Involvement

Staff:

All applicable Comprehensive Plan and Land and Water Development and Use Ordinance goals and standards were developed with citizen involvement. This hearing addresses the goal requirements for this application.

Goal 2 - Land Use Planning

Rural Agricultural Lands:

Agricultural lands are those lands that are to be preserved and maintained for farm use, consistent with existing and future needs for agricultural products, forest and open space.*

In land use changes involving a change from Conservation Forest Lands or Rural Agricultural Lands to Rural Lands or Development designations an Exception to the Agricultural Lands or Forest Lands Goals must be taken.*

Staff:

The site is zoned Exclusive Farm Use (EFU) with a portion of the site designated with a Flood Hazard Overlay (FHO). The site has a Comprehensive Plan designation Rural Agricultural Lands. The request does not involve a change in this

designation.

Goal 3 - Agricultural Lands

Goal:

To preserve and maintain agricultural lands.

Policies

1. The County shall provide areas for the continued practice of agriculture and permit the establishment of only those new uses which are compatible with agriculture activities.

Staff:

The site currently exists as a quarry site. Approval will allow greater protection of this resource site.

2. Existing farming communities which constitute the mainstay of the agricultural economy in the County shall be preserved by Exclusive Farm Use (EFU) zoning.

Staff:

The request does not involve a loss of land that is currently in farm use.

5. Non-farm uses permitted on EFU land shall be minimized to allow for maximum agricultural productivity.

Staff:

While this use is not considered a farm use, it will be allowed if the QMO district is approved for this site. Goal 5 Policies assure that a review is performed before a QMO district is placed on a site. The site must be protected for quarry use if it is found to be significant and there are no conflicting uses or significant Goal 5 resources that render the site unsuitable for mining.

8. The County recognizes that there is an increasing problem with elk herds on agricultural lands. In order to continue the productivity of the County's agricultural lands, the County will do the following:

a. Wildlife refuges and game management areas shall be limited. New proposals shall require a zone change and an assessment of public need and impacts of establishing additional wildlife refuges or game

management areas adjacent to agricultural activities.

b. The State Wildlife Commission shall be officially requested to resolve the existing adverse impacts on agricultural lands associated with elk, including but not limited to, one or more of the following measures:

1. revision of hunting laws to sustained management levels.
2. reduce the elk population in Clatsop County.
3. indemnify the owners for damage on their property resulting from elk.
4. pay for and install adequate fencing.

Staff:

As the site will likely not be used for farm use, damage to farm activities is unlikely. The site is in the Goal 5 Peripheral Big Game Range. See the Goal 5 and Lewis and Clark Plan policies for protection of fish and wildlife.

Goal 5 - Open Space, Scenic and Historic Areas and Natural Resources

Goal: To conserve open space and protect natural and scenic resources.

Staff:

Goal 5 provides the following Goal and Policies intended to address mineral and aggregate resources.

Mineral and Aggregate Resources Goal:

To protect and ensure appropriate use of mineral and aggregate resources of the county, while minimizing any adverse effects of mining and processing upon surrounding land uses.

Policies:

1. The County shall protect significant mineral and aggregate resources consistent with Statewide Planning Goal 5 and the process for complying with the Goal specified in Oregon Administrative Rules Chapter 660, Division 16.

Staff:

The information submitted by the applicant is intended to address the applicable requirements. If the site meets the QMO quality and quantity standards, then the site is considered Significant. The QMO provides protection as required by Statewide Goal 5

2. In making a decision whether to protect a significant mineral or aggregate site from conflicting uses, the County shall recognize that Goal 5 requires the protection of natural resources for future generations, and that the requirements of other applicable Statewide Planning Goals must be considered in any analysis of conflicting uses.

Staff:

An analysis of other applicable statewide goals is found at the end of this report. There are only a few conflicting uses within the impact area. The QMO provides development standards that must be met before start-up could begin such as hours of operation. At this time, however, the Planning Commission must analyze the existing conflicting uses against the quarry site and configure the extraction area boundary and impact area boundary accordingly.

3. The County shall maintain an inventory of mineral and aggregate resources sites. The Comprehensive Plan inventory shall consist of three parts:

   a. An inventory of "significant sites" identified through the Goal 5 process as important resources that will be protected from conflicting uses;

   b. An inventory of "potential sites" for which sufficient information concerning the location, quality, and quantity of a resource site is not adequate so as to allow the County to make a determination of significance;

   c. An inventory of "other sites" for which available information demonstrates that the site is not a significant resource to be protected.

Staff:

This list is included in the staff report. The applicant is requesting the site be moved from the Potential Sites (conditional use) list and identified as a Significant Site.

4. The location of a mineral or aggregate resource shall be identified as the site of a recoverable source of material. A resource site may consist of all or portions of a parcel, and may comprise contiguous parcels in different ownerships. Identification of a resource site need not include mineral and aggregate reserves that are irrevocable committed to other land uses which are incompatible with surface mining.

Staff:

The applicant has included a map that identifies the area to be excavated. If approved, the Extraction Area would be considered the location of the protected resource.

5. For an aggregate site to be determined significant, the resource must meet Oregon Department of Transportation specifications for concrete aggregate rock. It is the County's policy to protect the highest quality rock for future use.

Staff:

The applicant has submitted laboratory test results of the material at the site. This information submitted indicates that the material meets the QMO quality standards. These standards are the same as the ODOT specifications.

6. For an aggregate site to be determined significant, the site must possess a minimum of 250K cubic yards of minable reserves. It is the policy of the County to protect a variety of large reserves in order to serve the regional market.

Staff:

The applicant has indicated that 500,000-750,000 cubic yards of material exist at the site. This exceeds the 250,000 minimum requirement.

7. The significance of non-aggregate mineral resources shall be judged on a case-by-case basis, taking into account information concerning the commercial or industrial use of the resource, as well as the relative quality and relative abundance of the resource within at least the County.

Staff:

This site is not a source of "non-aggregate mineral". This

policy does not apply.

8. Because material source sites owned or controlled by municipal, County or state government agencies have been acquired for the purpose of maintaining the public road system, and collectively form a network of great importance, the County shall deem such sites presumptively significant. Such sites shall be analyzed along with other significant sites to establish the appropriate level of protection from conflicting uses.

Staff:
This site is privately owned. This policy does not apply to privately owned sites.

9. The County shall recognize existing surface mining operations as significant resources pursuant to Goal 5, and shall allow existing operations to continue for two (2) years without conforming to the performance standards in the zoning ordinance. Expansion beyond the limits of an existing site shall be in accordance with County zoning regulations.

Staff:
The applicant is not requesting approval to continue a quarry operation. The applicant is seeking approval to place a QMO designation on the site. This policy is not applicable.

10. The scope of an existing or "grandfathered" aggregate operations shall be established by:

    a. Authorization by a County land use approval; or
    b. The extent of the area disturbed by mining on the effective date of this ordinance; or
    c. The continuous pursuit of a specific mining plan by an operator for not less than five years.

Staff:
As discussed in the Background portion of this report, the site does not have a current county approval. The site has not been used "continuously". The applicant is seeking approval of a QMO designation. This policy is not applicable to this request.

11. In order to maintain the right to continue an existing surface mining operation and bring the County's inventory

of mineral and aggregate resources into compliance with Goal 5, an analysis of economic, social, environmental and energy (ESEE) consequences performed for an existing site shall only consider the consequences of potential conflicting uses upon current or future operations, and the consequences of mine expansion on existing or potential conflicting uses.

Staff:

This is not a request to "continue an existing surface mining operation". This policy is not applicable.

12. Sites on the "other sites" inventory shall not be protected pursuant to Goal 5.

Staff:
This site is not on the "Other Sites" list.

13. For sites on the "potential sites" inventory, the County shall review available information about mineral and aggregate resources, and if the information is sufficient, determine the site to be significant when one of the following conditions exists:

    a. As part of the next scheduled periodic review;
    b. When a landowner or operator submits information concerning the potential significance of a resource site and requests a Comprehensive Plan amendment;
    c. When resolution of the status of a potential resource is necessary to advance another planning objective.

Staff:
The owner of the site is seeking QMO designation pursuant to policy 13.b. by submitting laboratory data and addressing the appropriate standards.

14. For each site determined to be significant, the County shall complete the remainder of the Goal 5 process of identifying conflicting uses, analyzing the ESEE consequences of the conflicting use(s), and designating a level of protection from conflicting uses. If the final decision concerning the site is to fully preserve or partially protect the resource from conflicting uses, the site shall be zoned with the Mineral and Aggregate Resources Overlay.

Staff:

The ESEE analysis and the data on the quality of the rock is intended to justify protecting this site and designating it with a QMO. The laboratory data indicates that material qualifies for QMO protection.

15. When analyzing the ESEE consequences of potential conflicts between a significant mineral or aggregate resource and another significant Goal 5 resource, the County shall consider the protection program adopted for the conflicting resource. Conflicts with other natural resources shall not be the basis for mining restrictions unless the County has included the conflicting resource on the inventory of significant Goal 5 resources, and adopted a resource protection program.

Staff:

The only identified Goal 5 resource other than the quarry is the Peripheral Big Game Range designation. The next portion of the report addresses the policies associated with Big Game.

The Lewis and Clark River is not a Goal 5 resource. The county does have criteria for the protection of riparian vegetation that would be found adjacent to the river. Specifically, a 50 buffer must be maintained between riparian vegetation and new development and uses. This would apply to the river and the creeks at the north and south of the extraction area.

The QMO development standards require the maintenance of all existing vegetation within 100 feet from the edge of all rivers and streams. This requirement can only be modified if the ESEE addresses a reduction in width. The applicant is not seeking a reduction.

All necessary state permits must be submitted before the planning department could approve a request to operate.

16. The County may consider the effects of surface mining operations on public roads and traffic. Consideration may include review of proposed routes, site distances at access points, roadway width and alignment, and level of service. The County may impose conditions or restrictions directly related to the impact created by surface mining; however, any conditions or restrictions shall not be approval criteria, and shall be applied uniformly to all road users in a manner consistent with the County's transportation plan.

Staff:

The Lewis and Clark road is within the Impact area. Impact of the use on Lewis and Clark road would be reviewed when a request to operate is submitted to the Planning Director. This office would request comment by the County Road Master. If necessary, specific access issues could be addressed as conditions of approval from the Planning Director.

17. In order to approve surface mining at a site zoned for exclusive farm or forestry use, the County shall find, as part of the ESEE analysis, that the proposed activity will not: (1) force a significant change in, or significantly increase the cost of, accepted farming or forestry practices on surrounding lands, and (2) will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel.

Staff:

The site is zoned Exclusive Farm Use (EFU). The area proposed for the QMO is not currently utilized for farming. Given the topography, the site is not suitable for farm uses. Access to the site is existing. This access uses an existing bridge over the Lewis and Clark River. Before the site becomes operational, a new access road and bridge is proposed by the applicant that would not run as close to the existing dwelling as the current access road.

At this time, no new structures are proposed at the site. The site is within the Lewis and Clark Rural Fire District. The site has been used as a quarry in the past. Future mining activities would be similar to those that have occurred in the past.

18. The County shall not independently apply the Mineral and Aggregate Resources Overlay to land within another County, or within a city or its urban growth boundary. The County shall seek to ensure protection of significant sites where the impact area surrounding the resource extends across jurisdictional boundaries through cooperative agreements with another County or a city.

Staff:

This site is entirely within the jurisdiction of Clatsop County.

19. The County shall require increased setbacks, insulation, screening, or similar measures as conditions of approval for any new conflicting use within an impact area surrounding a mineral or aggregate resource site when such measures are deemed necessary to resolve conflicts identified in a site-specific Goal 5 analysis.

Staff:

This is not a request for a conflicting use. This policy is not applicable.

20. The County may establish and impose conditions on operation of a surface mine when deemed necessary as a result of a site-specific Goal 5 analysis. Where such conditions conflict with criteria and standards in the Mineral and Aggregate Resources Overlay, the conditions developed through the Goal 5 analysis shall control.

Staff:

As part of this process, if the Planning Commission feels that specific concerns can only be addressed through the adoption of conditions, such conditions can be imposed.

21. As part of the ESEE analysis and decision on the level of protection to be afforded significant mineral and aggregate resource sites, the County shall determine the appropriate post-mining use of the site.

Staff:

The applicant has not proposes a post-mining use. The County must make this determination as part of the approval. This can include that the site only be used for uses permitted in the underlying zone (EFU).

22. The County recognizes the jurisdiction of the Department of Geology and Mineral Industries (DOGAMI) for the purpose of the mined land reclamation pursuant to ORS 517.750 to 517.900 and the rules adopted thereunder.

Staff:

The applicant will have to comply with all applicable DOGAMI standards when they seek approval to begin operations.

23. Unless specifically determined on a case-by-case basis, it shall be the policy of the County, pursuant to ORS

517.830(3), that DOGAMI delay its final decision on approval of a reclamation plan and issuance of an operating permit, as those terms are defined by statute and administrative rule, until all issues concerning local land use approval have been adjudicated by the County.

Staff:

This request can be made of DOGAMI. The county has no authority to require DOGAMI to comply.

24. No surface mining or processing activity, as defined by the zoning ordinance, shall commence without land use approval from the County, and approval of a reclamation plan and issuance of an operating permit by DOGAMI.

Staff:

This requires that the applicant receive approval for operation of the site. The request would be made to the Planning Department. Approval would include the requirement of a reclamation plan.

25. Land shall not be rezoned to remove the Mineral and Aggregate Resources Overlay until the mineral or aggregate resource is depleted, and the site has been reclaimed.

Staff:

This is not a request to remove the QMO zone.

Fish and Wildlife Areas and Habitats Policies.

4. To protect riparian vegetation along streams and lakes not covered by the Forest Practices Act, the County shall require a setback for non-water dependent uses.

Staff:

All potential structures are required by the Land and Water Development and Use Ordinance to be a minimum of 50 feet from the edge of riparian vegetation. One of the QMO policies requires that existing vegetation within 100 of the edge of a river or perennial stream be protected. Unless the Planning Commission reduces this distance, the 100 foot requirement is mandatory.

7. The County shall rely on the Division of State Lands' permit process, under the Fill and Removal Law, to insure that proposed stream alterations such as bridges, channelization, or filling do not adversely affect the stream's integrity or its value as fish habitat.

Staff:

When a new access is proposed, this policy would apply. This would be reviewed when a request to begin operation is submitted to the department.

8. New developments shall not restrict existing public access to rivers, streams, or lakes. New developments are encouraged to provide additional public access to rivers, streams and lakes where such access is consistent with the area's environmental characteristics.

Staff:

The site does not currently provide public access to the river.

Goal 7 - Natural Hazards

Goal:

To protect life and property from natural disasters and hazards.

Flood Hazard Policies

6. All future river or stream crossings shall be designed to provide adequate waterway openings and bridge clearance above flood flows. Existing roads and bridges that are subject to being undermined or washed out will be identified on maps for reference during emergency situations.

Staff:

The site is accessible via an existing road that includes a bridge across the Lewis and Clark river. A new bridge and access road will be proposed before operational approval is given. The bridge may need to be improved to handle heavy truck loads. New bridge construction would be required to meet applicable county and state requirements for flow, protection of fish habitat and other concerns.

7. Agriculture, forestry, open space and recreation shall be preferred uses of flood prone areas.

Staff:

Quarry and mining is not one of the listed preferred uses. Only a small portion of the site, however, is within the floodplain. The floodplain extends to a maximum of no more than 80 feet from the edge of the Lewis and Clark. The QMO zone requires that 100 feet of exiting vegetation be maintained from the edge of the river.

D. Compliance with the Lewis and Clark Community Plan

Fish and Wildlife Policies

1. Clatsop County will cooperate with governmental agencies to conserve and protect identified fish and wildlife habitat.

Staff:

The county has identified certain species as requiring Goal 5 protection. The site is within the Peripheral Big Game Range designation. The policies associated with this designation were addressed earlier in this report. The United States Fish and Wildlife Department and Oregon Department of Fish and Wildlife have been notified of this request. We have not received comments from these agencies.

2. Public and private land ownership preserves many habitat areas. There is limited regulatory power to assure that more living communities and animal species do not become rare and endangered in the future. Therefore new development should be designed and constructed so as to:

   a. maintain wherever possible a natural, vegetative buffer strip along wetlands and streams,
   b. minimize the alteration of land and vegetation, and
   c. preserve open space, including agricultural and forest lands.

Staff:

The QMO provides for protection of vegetation along rivers and streams. This buffer applies to this site. The land would be altered if mined. However, A reclamation plan is required with operational approval. This will assure the site is not left "open and unsafe".

E. Compliance with Statewide Goals

Goal 3:

Staff:

The site is currently zoned EFU. The site will maintain the EFU zoning designation before, during and after mining activities occur. Approximately half of the Extraction Area is classified as productive farm soils. Given the topography, it is unlikely this area would be used for farm use. The remainder of the site is composed of soils that are not considered productive.

Goal 4:

Applicant:

Aggregate extraction and processing operations on this site are not expected to conflict with the protection of adjoining forest lands or forest practices, or other activities necessary and appropriate for management of soil, air, water and fish resources, the provision for recreational opportunities, and agricultural uses. Mining and processing of aggregate and mineral resources are permissible uses of forest lands as specified by Goal 4 administrative rule. No aspects of the quarry's development would force a significant change in, or significantly increase the cost of accepted forest or farming practices on surrounding lands dedicated for resource use. Similarly, no aspects of the proposed operations are expected to significantly increase the fire hazard, the cost of fire suppression, or risks to fire suppression personnel.

Staff:

This site is currently zoned for farm use. While forestry is permitted in the EFU zone, this site is not a site that is used for forestry related activities. Only about 20% of the Extraction Area is composed of soils that are considered productive for forestry. The site already has an existing access. Thus the loss of forest land to a new access road should not occur. Mining activities are allowed on forest land pursuant to Goal 4. The activities allowed by the QMO are similar to those that could occur under Goal 4.

The site is isolated to a certain extent by the Lewis and Clark river and with farm uses occurring to the north and south. The site is within the Lewis and Clark Fire Protection District.

Goal 5

Applicant:

The Statewide Planning Goal Number 5, requires in part that "where conflicting uses have been identified the economic, social, environmental and energy consequences of the conflicting uses shall be determined and programs developed to achieve the goal". The goal guideline suggests that "in conjunction with the inventory of mineral and aggregate resources, sites for removal and processing of such resources should be identified and protected".

The Goal 5 rule specifies the requirements and procedures local government must follow to comply with Goal 5. Goal compliance involves six basic steps:

1. Identify a resource's location, quality and quantity;
2. Determine the resource's significance;
3. Identify conflicting uses;
4. Analyze the economic, social, environmental and energy consequences of conflicts;
5. Determine the level of protection for the resource; and,
6. Implement a program to protect significant resources.

The purpose of this process is to complete the Goal 5 analysis and protect the Lewis & Clark quarry and processing site for future continued use.

Staff:

Goal 5 is designed to identify and then protect where appropriate a variety of resources. Rock and mineral resources are a Goal 5 category resource. The request is to recognize this site as a significant Goal 5 site and provide it with the QMO district protection. If the site is found to be significant and there are no other significant resources, the site must be protected unless there are enough conflicting uses that render the site unsuitable for the proposed use. The submittals from the applicant and this staff report address compliance with the applicable requirements.

Goal 6:

Applicant:

The environmental effects of the quarry operation have been discussed above. Use controls will be required to protect adjoining watercourses. DEQ stormwater permits should be required. DEQ air quality and water quality permits will also be required for any rock processing operations.

Staff:

The site will have to comply with all DEQ and Oregon Department of Fish and Wildlife (ODFW) requirements regarding the drainage and impacts on the river. Operational standards are provided by the QMO text. These standards must be addressed by the applicant before the quarry operations can begin.

Goal 7

Staff:

The hazard associated with the site is the flood plain. This hazard is associated with the river. The buffer required by the QMO standards exceeds the hazard area. Other than a new access road, activities will occur outside of the flood plain.

Goal 12:

Applicant:

Statewide Planning Goal 12 requires local governments "to provide and encourage a safe, convenient and economic transportation system". The Lewis & Clark quarry is a potential source of aggregate materials for a wide range of City, County, State and Federal street and highway construction and repair projects.

Staff:

The information provided by the applicant indicates that the material will meet QMO quality standards. This material could be used for the development of future roads including a Seaside to Warrenton/Astoria Bypass.

Goal 13:

Applicant:

The Lewis & Clark quarry by virtue of its strategic location promotes energy conservation. It is far most efficient to utilize rock from this centrally located source than to import rock form outlying locations within Clatsop County or from areas outside of our County.

Staff:

This site will be the only QMO site in this vicinity. As such, it could provide material for projects in the vicinity

rather than having to truck rock in from greater distances which results in higher energy consumption and costs.

III Options

Following is an outline that reflects potential actions the Planning Commission can undertake. The outline is not intended to address every issue but rather to serve as a guide upon which the commission can act.

1. Deny the request.

2. Approve the request.

3. Approve the request with conditions.

4. Continue the hearing.

Planning Commission Recommendation:

By unanimous motion on 10/18/94, the Clatsop County Planning Commission recommended approval of the Quarry and Mining Overlay zoning designation for the Nygaard-Lewis & Clark quarry site and the designation of this site as a Significant Goal 5 rock resource site based upon staff report findings and the following conditions of approval:

1. The applicant shall receive all necessary county, state and federal approvals prior to commencement of quarry related activities.

2. The extraction and impact areas shall be configured as they are represented in the staff report.

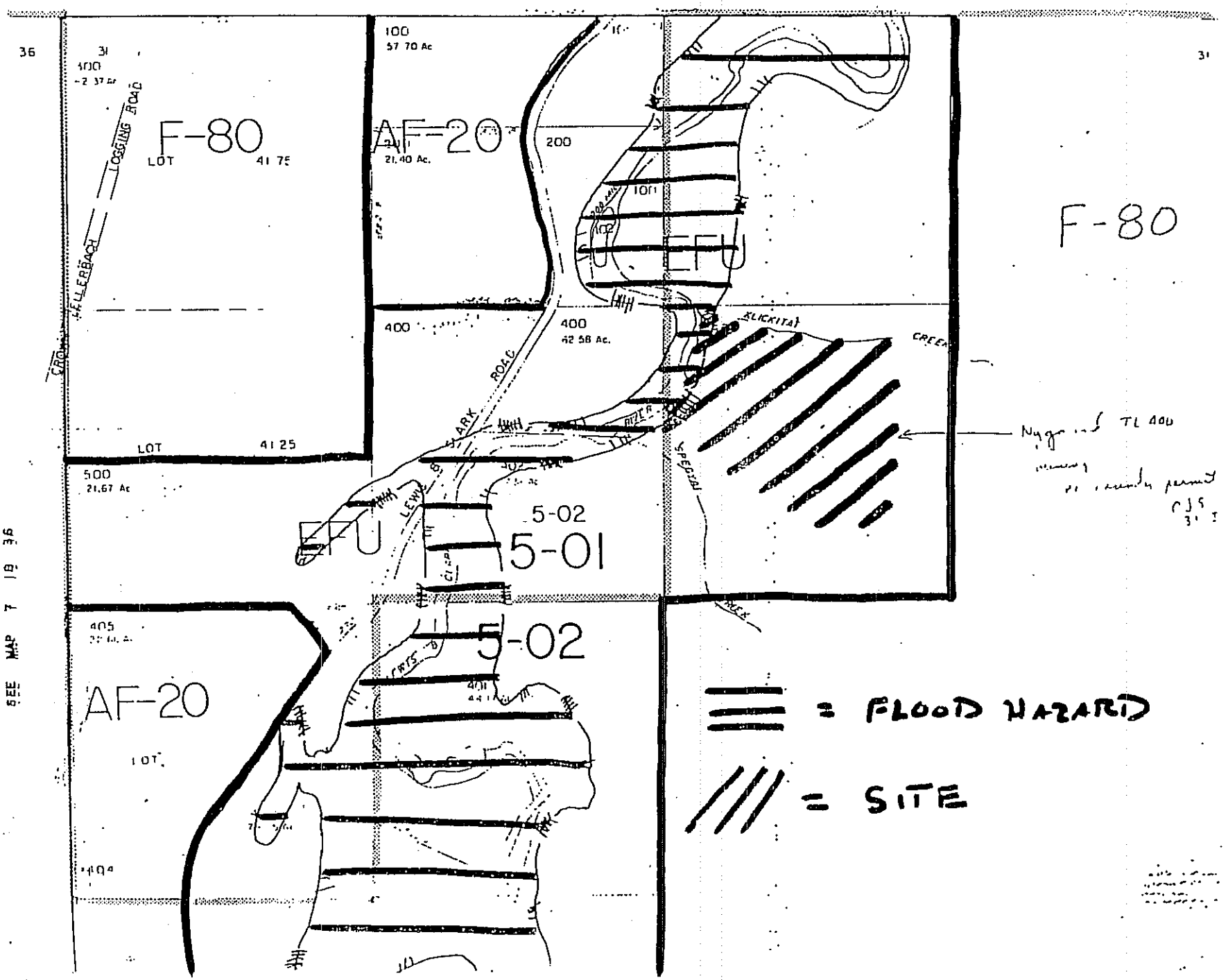
3. A buffer of 100 feet of existing vegetation shall be maintained on both sides of Spegyai Creek and both sides of Klickitat Creek.

4. A buffer of 100 feet of existing vegetation shall be maintained on the east side of the Lewis and Clark River except as required for anew access road.

5. No quarry related activities shall occur within the buffer areas except as required for a new access road.

6. A new access to the site shall meet applicable county, state, and federal requirements.

7. The post mining use of the site shall be a use that is permitted in the underlying zone.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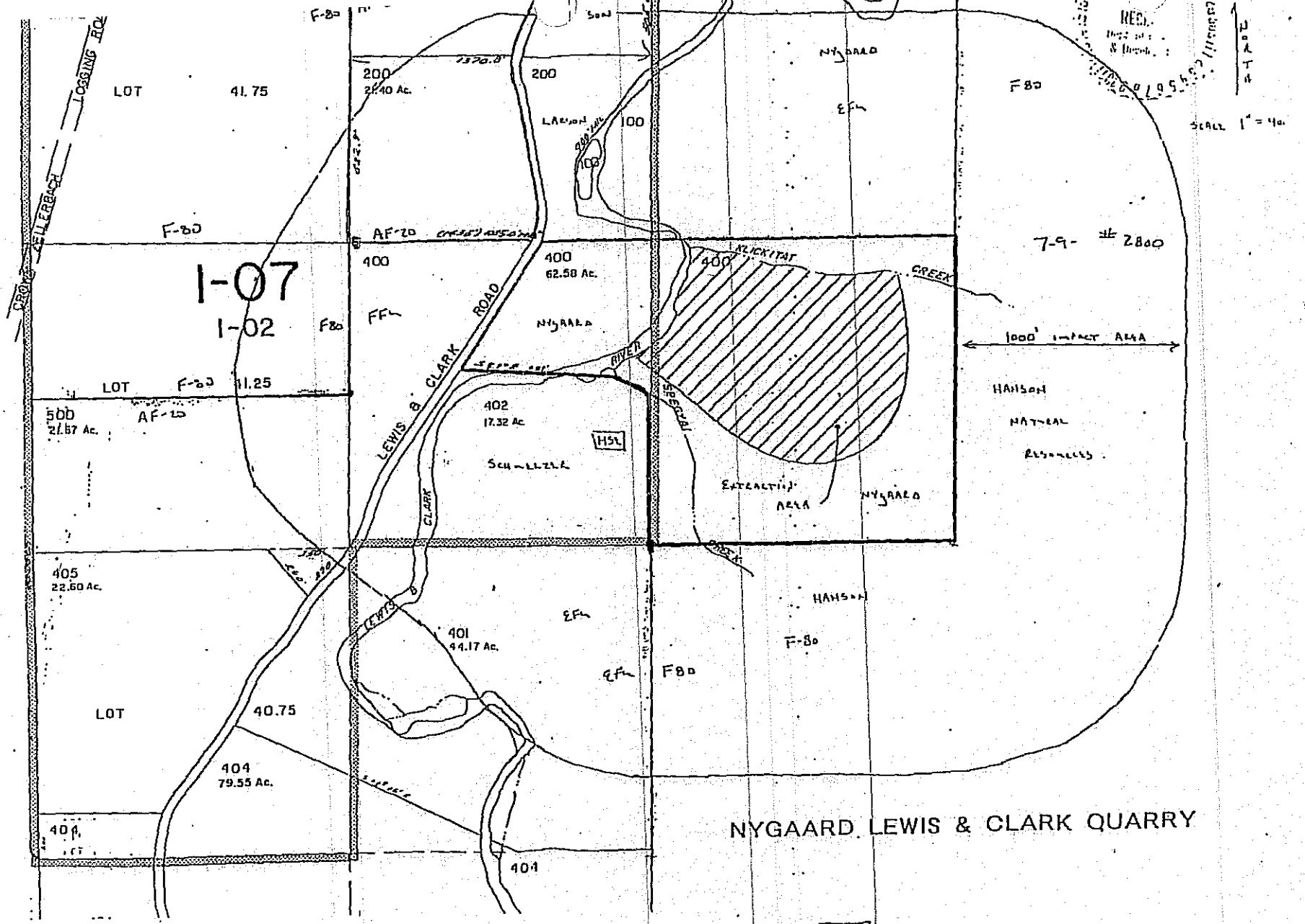
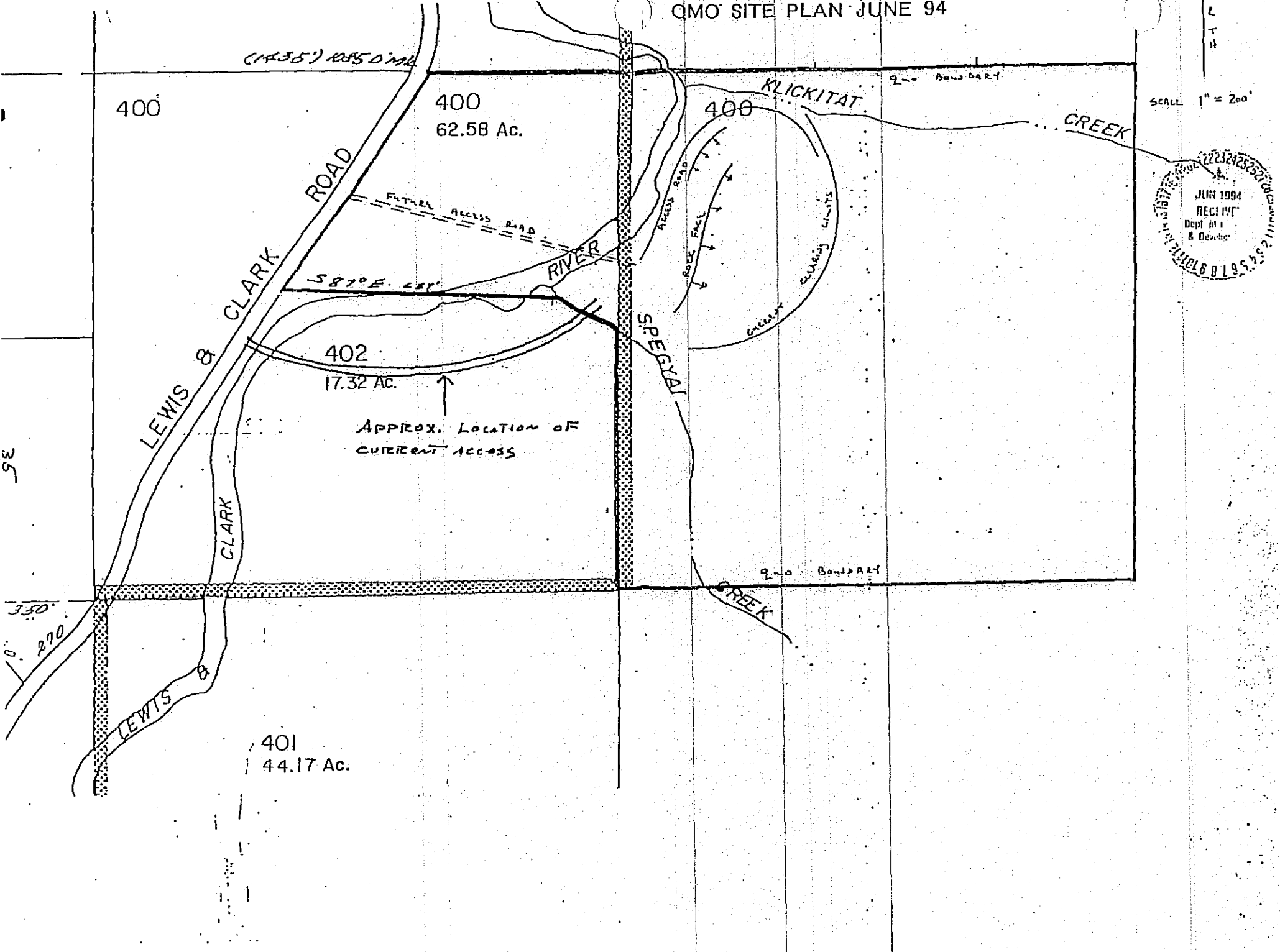


NYGAARD LEWIS & CLARK QUARRY

HSE = House

QMO SITE PLAN JUNE 94



May 24, 1994

Project EADX-94-0272
Report 04-054-1647

Mr. Don Lampi
Nygaard Logging, Inc.
P. O. Box 100
Warrenton, Oregon 97146

Dear Mr. Lampi:

Re: L. A. Abrasion, Sodium Soundness, Oregon air Degradation and Sediment Height tests performed on one (1) aggregate sample received in our laboratory on May 13, 1994.

Sample Identification: #1 (Crushed down from 4" minus basalt)

L. A. Abrasion (AASHTO T-96)

Sieve Size	Percent Wear
¾" - ½"	
½" - ⅜"	19.8

Sodium Soundness (AASHTO T-104)

Sieve Size	Weighted Percent Loss
# 4	2.9
# 8	4.5
# 16	10.8
# 30	15.4

Oregon Air Degradation (OSHD-208)

Sediment Height = 3.2"

Passing #20 = 36.0 %

If you have any questions or require additional testing please do not hesitate to call me at (800) 783-6985 or (503) 289-1778, extension 26, or Jack Callahan at extension 49.

Sincerely,

William M. Weyrauch, P.E.
Vice President/Principal Engineer

Jack Callahan, Supervisor
Soils Laboratory

mli/jc:mhh

f:system\400\mousza\misc94\nygard5.24

July 18, 1994

JUL 1994
RECEIVED
Dept. of Planning
& Development

Dave Carpenter
Department of Planning and Development
Clatsop County
Post Office Box 179
Astoria, Oregon 97146

Re: Quarry & Mining Overlay Public Hearings

This letter is intended to be a follow-up upon our counter discussion of this morning. It is my understanding that your tentative Planning Commission public hearing schedule includes QMO public hearings on September 6, 1994 for the Nygaard-Olney quarry and the Riekkola-Olney quarry. I also understand that the Nygaard-Lewis & Clark quarry QMO public hearing will be scheduled for the next available Planning Commission date after 9/6/94.

All three of these rock quarry sites meet the minimum ordinance quantity and quality standards listed in Section 4.424 of the Land and Water Development and Use Ordinance for recognition as "Primary Sites Requiring QMO Protection". Please reference in your public notices for these upcoming Planning Commission and Board of Commissioners public hearings that the ongoing QMO review process will provide for each of these three rock quarry sites to be added to Clatsop County's Goal 5 list of "Primary Sites Requiring QMO Protection".

Please insert the following supplemental information upon rock quality testing into the file for the Nygaard-Lewis & Clark quarry:

> May 24, 1994 rock test results from the laboratories of Braun Intertec Northwest, Inc. document that the rock samples from the Nygaard-Lewis & Clark quarry satisfy the zoning ordinance QMO zone Section 4.424 quality standards. Section 4.424 requires that an aggregate resource meet at least two of the three listed quality test standards (Abrasion, Oregon Air Degradation and Sodium Sulphate Soundness). Test results show an abrasion loss of 19.8% compared to the maximum ordinance standard of 35% (L.A. Abrasion test; AASHTO T-96). Test results show a sodium soundness loss result of 15.4% compared to the maximum ordinance standard of 17% (Sodium Soundness; AASHTO T-104). Test results show an air degradation loss of 36% compared to a maximum ordinance standard of 35% (Oregon Air Degradation; OSHD-208). This 1% difference is

attributed to "iron scaling" that typically occurs on surface rock that has been exposed to the atmosphere for a prolonged period of time; Braun Intertec lab personnel suggested that this test result would likely improve as deeper, subsurface rock was removed.

Thank you for your assistance in the Goal 5 QMO site protection process. Please contact me if you would like to discuss these three quarry sites in further detail or if you would like to schedule a staff site visit at the time you are preparing your staff reports for the upcoming QMO hearings.

Sincerely,

Don Lampi

Don Lampi
Land Use Consultant
1441 South Main Street
Warrenton, OR 97146
(503) 861-2420

RECORDED
FEB 24
DOC # 35020015 D
REEL #

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

ORDINANCE NO. 95-4

(AN ORDINANCE AMENDING THE
(CLATSOP COUNTY COMPREHENSIVE
(PLAN/ZONING MAP AND TEXT AS ADOPTED
(BY THE BOARD OF COMMISSIONERS
(ADOPTING CERTAIN FINDINGS WITH
(CONDITIONS AND RESCINDING
(INCONSISTENT PROVISIONS

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the Nygaard Olney QMO Comprehensive Plan and Zoning Map and Text Amendment.

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to revise and amend the Clatsop County Comprehensive Plan and Zoning Map and Text. In the interest of the health, safety and welfare of the citizens of Clatsop County and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the said Clatsop County Comprehensive Plan/Zoning Map and Text.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Planning Commission has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Planning Commission

held a public hearing on October 18, 1994. The Board received and considered the Planning Commission's recommendations on this request and held a public hearing on this ordinance pursuant to law on February 8, 1995.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supersede, control and repeal any inconsistent provision of the Clatsop County Land and Water Development and Use Ordinance, as amended, or any other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force and effective 30 days following adoption of this Ordinance.

SECTION 7. ADOPTION CLAUSE.

The Board of Commissioners hereby adopts the Nygaard Olney QMO Comprehensive Plan and Zoning Map and Text Amendment with conditions, set forth in Exhibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ADOPTED this 22 day of February, 1995.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

By Geoffrey Stone
Geoffrey Stone, Vice Chair

By Helen Kenyon
Recording Secretary

Effective Date:_____

APPROVED AS TO FORM:_____
Clatsop County Counsel

EXHIBIT "A"

To: Clatsop County Planning Commission

From: David Carpenter, Senior Planner

Applicant: Don Lampi and Martin Nygaard

Owner: Martin Nygaard

Location: Olney

Legal Description: T7N-R9W-Sec12-TL202 and 902

Comp Plan Designation: Conservation Forest Lands

Zoning: Forest-38 (F-38)
Geologic Hazard Overlay (GHO)

Request: Place a Quarry and Mining Overlay Designation Over the two parcels and designate the site as a significant Goal 5 Mineral and Aggregate site.

Date: September 30, 1994

I Listed below are the applicable Plan and Ordinance requirements and standards that will be used to review this application.

A. Clatsop County Comprehensive Plan (County-Wide Element)

1. Goal 1
2. Goal 2
3. Goal 3
4. Goal 4
5. Goal 5
6. Goal 7

B. Lewis and Clark Community Plan

1. Fish and Wildlife Policies

C. Clatsop County Land and Water Development and Use Ordinance 80-14

1. Article I
   Section 1.010-1.050
2. Article II Procedures
   Section 2.140 (Type IV Procedure)
3. Article III Zones
   Section 3.530
4. Article IV Special Districts
   Section 4.030

Section 4.400
4. Article V Permit and Issue Determinations
Section 5.300-5.302
Section 5.700-5.735
5. Article VI Public Deliberations and Hearing
Section 6.118
6. Article X General Provisions
Section 10.110-10.150

D. Standards Document

1. Sections 1-3
2. S3.700-S3.708
2. S4.400-S4.404
3. S4-500-S4.504

E. Statewide Planning Goals and OAR's

1. Goal 1
2. Goal 2
3. Goal 3
4. Goal 4
5. Goal 5
6. Goal 6
7. Goal 7
8. Goal 12
9. Goal 13
10. OAR 660-05

II Findings

A. Background and Location

Applicant (Background):

The M. Nygaard Logging Olney (Olney hereafter) Rock Quarry is located on an overall ownership of about 80 acres to the adjoining north of Highway 202 about one-half mile to the east of Olney. The quarry is located on Clatsop County Tax Lots 7-9-12 #902 and 7-9-13 #202. The active quarry area covers about 20 to 30 acres of the overall ownership. The quarry site has been continuously operated as a commercial rock source since 1979.

There have been two separate Clatsop County land use approvals for quarries on this site and at one time there were two active DOGAMI permits on this property. These two DOGAMI permits have been recently consolidated into a single operating permit. On July 6, 1979, Jim Parker obtained a letter permit from the Clatsop County Department of Planning and Development authorizing the establishment of a mining

operation on the subject property (copy attached). In 1979, this property was owned by the Heinze family. Mining was a permitted use in the County's General Farm Use and Forestry zone at the time of this approval. The letter permit authorized mining operations on the Heinze property on the north side of State Highway 202 provided that activity setbacks of 500 feet were maintained from the west property line and the Heinze house which was on the south side of Highway 202. Mr. Parker proceeded with the development of a commercial quarry that supplied pit-run and soapstone fill material to various markets in Clatsop County. The Parker quarry was authorized under DOGAMI permit #040052. The quarry site has been continuously used since 1979. Annual excavation volumes have typically ranged from 5000 to 10,000 cubic yards per year.

In October of 1985, Nygaard purchased the Heinze property. At the time of this purchase, Nygaard allowed Jim Parker to continue his ongoing mining operation of the site. Nygaard also initiated their own quarry operation to the east of the Parker pit and obtained DOGAMI permit #04-0066.

On July 11, 1986, Nygaard obtained conditional use approval from Clatsop County for a second, overlapping quarry operation on their property. This conditional use approval covered an area of about 15 acres in the southeast corner of the ownership that overlapped Parker's 1979 County approval. The Nygaard 1986 conditional use approval was obtained to allow separate DOGAMI permitting for the two quarries which were, at the time, operated by different parties. Since 1986, Nygaard has continuously utilized the quarry area on the southeast corner of this site as a source for pit run, riprap and crushed aggregate material. In recent years the Olney Quarry has supplied significant quantities of crushed rock products to the Clatsop County Road Department for various construction and repair projects.

Nygaard has now assumed operation of the Parker pit and placed all quarrying activities on the entire ownership under the control of DOGAMI permit #04-0066. This consolidation of DOGAMI permits does not effect the two existing and valid land use approvals that have been obtained from Clatsop County. The western portion of the quarry is being developed in conformance with the setback restrictions of the 1979 letter authorization and the eastern portion of the quarry is being operated in conformance with the stated conditions of the 1986 approval.

Applicant (Location):

The Olney Quarry is located on approximately 74 acres to the adjoining north Highway 202 about one-half mile to the east of Olney. The quarry is located on Clatsop County Tax Lots 7-9-12

"Significant", the site must be protected unless there are enough conflicting uses in proximity to the site such that the site could not be used as a quarry. Also, if there are other Goal 5 sites in the vicinity, the site must be analyzed for its impacts on the other Goal 5 site. Other than Big Game issues, there are no other Goal 5 issues associated with the site.

There are two existing county approvals to mine on the parcels. The "Parker approval" was issued in 1979 when the use was permitted in the zone. The "Parker approval" allows commercial mining activities on the entire 80 acre parcel after a 500 foot setback is taken from the west property line and a 500 foot setback is taken from the residential uses to the south. These boundaries are based upon the 7/6/79 letter permit to Jim Parker signed by Curtis J. Schneider of the Clatsop County Department of Planning and Development (attached).

The Nygaard Conditional use approval was issued in 1986. This County approval area overlaps the original mining area as approved for Jim Parker in 1979.

This Quarry and Mining Overlay amendment, as proposed, would allow the applicant to continue, and expand, its existing commercial mining operations on the subject property provided that these mining activities are conducted within the boundaries outlined as the QMO "extraction area" on the map identified as "Page D37" of the 9/30/94 Planning Department staff report. Any "expansion" of mining activities beyond the boundaries of this identified "extraction area" would require a future Clatsop County QMO amendment or conditional use approval.

This determination is based on the Goal 5 Policies of the Comprehensive Plan.

B. Definitions

CONFLICTING USE -- A use authorized in the underlying zone, which, if allowed, could adversely affect operations at a significant mineral and aggregate resource site, or could be adversely affected by mining or processing activities at a significant site. For purposes of this chapter, another Goal 5 resource located on or adjacent to a significant site may be considered a conflicting use if that resource could be adversely affected by mining or processing at the site.

ESEE ANALYSIS -- The analysis of economic, social, environmental and energy consequences of (a) allowing mining on a significant site, and (b) allowing conflicting uses to

#902 and 7-9-13 #202. The active quarry area covers about 20 to 30 acres of the overall ownership. The quarry site has been continuously operated as a commercial rock source since 1979.

The location of this quarry in the northwest corner of the county immediately adjoining Highway 202 makes it an ideal site for supplying rock to the Astoria/Warrenton area. In recent years the quarry has been utilized as one of the major rock supply sources for the Clatsop County Road Department.

Applicant (Purpose):

The purpose of this process is to place the Olney Rock Quarry in the recently established Clatsop County Quarry and Mining Overlay Zoning district. This overlay will provide land use protection for this valuable commercial rock resource.

Applicant (Proposed Mining Activities):

The site is being actively mined under the provisions of a State Department of Geology and Mineral Industries permit at this time. The quarry is one of the major commercial extraction and processing sites in Clatsop County.

Staff:

Martin Nygaard has applied for a Quarry and Mining Overlay (QMO) District for a portion of land Described as T7N-R9W-Sec12-TL202 and 902. This parcel is on the north side of Highway 202 approximately .5 miles east of Olney. The subject parcel is currently zoned Forest-38 (F-38) and is identified as mass movement topography. These zoning designations would remain. The QMO District would be added to the parcels.

The QMO overlay provides the following purpose statement:

> The purpose and intent of the Quarry and Mining Overlay District (/QMO) is:
>
> (A) To allow the development and use of mineral and aggregate resources;
> (B) To provide uniform standards for extraction and processing of mineral and aggregate resources;
> (C) To balance conflicts between mining operations and new and existing surrounding conflicting uses;
> (D) To ensure the rehabilitation and restoration of mining sites; and
> (E) To protect mineral and aggregate resources for future use consistent with Comprehensive Plan goals and policies and Statewide Planning Goal 5.

The Planning Commission has to determine if the site merits protection as a Goal 5 resource. If the site is found to be

displace mining on a significant site. Based on the results of the ESEE analysis, the County may determine a level of protection for the resource, and implement a program to achieve the designated level of protection.

EXTRACTION AREA -- The area within which mineral and aggregate extraction, processing and storage may take place under the provisions of this Chapter (see Appendix A).

IMPACT AREA -- An area determined on a case-by-case basis through the ESEE analysis, within which sensitive uses are limited or regulated (see Appendix A).

SENSITIVE USE -- A conflicting use or structure considered sensitive to dust, odor, vibration and/or noise, such as a residence, school, park or hospital. Industrial, agricultural and forestry activities are not sensitive uses unless the activity includes an accessory residential use.

C. Clatsop County Land and Water Development and Use Ordinance.

Staff:

Following are applicable sections from the QMO zone text followed by applicant and/or staff response.

<u>Section 4.406. Application of Overlay Zone.</u> Any conflicts between the provisions of this Chapter and the provisions of other chapters of this Ordinance, Comprehensive Plan Goals and Policies and the Statewide Planning Goals shall be resolved through the ESEE analysis.

The Quarry and Mining Overlay Zone consists of two distinct areas; the Extraction area and the Impact area.

(A) EXTRACTION AREA. The mineral and aggregate extraction area shall be applied to any site where mining will be permitted and which has been identified as a significant resource area in the Comprehensive Plan Inventory or through the QMO Overlay Zone designation procedure, outlined in Section 5.700. The area may consist of one or more tax lots or portion(s) of single tax lots, and may be applied to contiguous properties under different ownership. The size of the Extraction Area shall be determined by the Goal 5 process, but between any existing Sensitive Use and the extraction area boundary a general distance of 1,000 feet shall be applied. The exact distance may be varied through the planning process.

(B) IMPACT AREA. The mineral and aggregate Impact Area shall be applied to properties or portions of properties adjacent to and immediately surrounding an Extraction Area. The width of the Impact Area shall be determined through the ESEE analysis prior to application of the QMO Overlay Zone, based on the type of mineral or aggregate resource to be extracted as well as physical features of the area which may cause a larger or smaller area to be affected. The minimum width of the impact area shall be 1,000 feet from the Extraction Area boundary unless a reduced distance is justified, based on the ESEE analysis (see example in Appendix A).

Staff:

Following is the applicants ESEE analysis, discussion of conflicting uses, discussion of the impact area and a conclusion by the applicant.

Applicant (ESEE):

The Goal 5 rule (OAR 660-16-005(2)) requires that if conflicting uses to the resource are identified, the economic, social, environmental and energy (ESEE) consequences of the conflicts must be determined. "Both the impacts on the resource site and on the conflicting use must be considered in analyzing the ESEE consequences. The applicability and requirements of other Statewide Planning Goals must also be considered, where appropriate, at this stage of the process."

There is a seasonal drainage that runs in a north-to-south direction through the middle of the property at the base of a deep ravine. This drainage has seasonal flows during the winter. The area has not been identified as a significant Goal 5 freshwater wetland. The area has not been placed in the County's Lake and Wetland Overlay zoning district. This natural draw has been used as an overburden fill area. In the future, this overburden fill may be extended further to the north with appropriate permitting.

Nygaard has obtained a DEQ General Storm Water Permit which addresses issues related to rainwater runoff collection and handling. This permit establishes procedures for the monitoring of runoff waters and the handling of discharges into adjoining water courses. The quarry operation can be conducted in a manner that is fully compatible with this potential Goal 5 resource.

The Olney quarry site contains a valuable aggregate resource that merits Goal 5 protection. All other Goal 5 resources have

been examined and protected by a program of avoidance and use controls.

No Goal 5 conflicts have been identified for this site.

Applicant (Impact Area):

The Goal 5 rule (OAR 660-16-0002) requires identification of an impact area itself. The impact area is an area in which identified conflicting uses may adversely affect the resource. Although impact area is not defined in either the goals or in the Goal 5 rule, the impact area for a mineral and aggregate resource site must be the area which includes uses which could adversely affect the resource, but also the area including those uses which could be affected by the presence of a significant resource. The attached impact area map shows the boundaries of the Olney quarry operations and an impact area that extends 1000 feet beyond the perimeter of this quarry.

Noise, dust, odor and blasting effects typically have the potential to adversely effect surrounding properties in the immediate proximity to a quarrying operation.

The quarry operation utilizes an existing paved road approach onto Highway 202 that is in excellent condition and which provides safe highway access for existing and proposed traffic volumes.

Applicant (Potential Conflicting Uses):

Adjoining lands to the north, east and west are zoned for forest resource use. Lands to the south are zoned for rural residential and exclusive farm use. There is one house (Heinze) to the south approximately 700 feet from the active quarry area. To the west, properties owned by the Olney Grange and the Olney Community Church are located on the outer limits of the 1000 foot impact area; structures on these lands are just beyond the 1000 foot boundary. The Olney School is located further to the west. Existing zoning will limit future new residential or public developments within the impact area since the majority of the surrounding lands are zoned for forest or agricultural resource use.

The Heinze dwelling is within 1000 feet of the active quarry area. The dwelling is located on the opposite side of Highway 202 from the quarry and is well screened from the quarry use.

Applicant: (Conclusion)

Distance, topography and existing vegetation effectively screen the existing land uses on surrounding properties from

the on-going quarrying activities at the Olney site. Future quarry activities will be moving away from these existing uses. No significant use conflicts have been identified.

Staff:

There are two dwellings in the impact area. T7N-R9W-Sec13-TL300 is owned by LeClair while T7N-R9W-Sec13-TL200 is owned by Heinze et.al. Staff believes that the Heintz property is being bought by Larry Cave. Based on the information submitted by the applicant, The Heinze property is approximately 800 feet from the Extraction Area while the LeClair dwelling is approximately 600 feet from the Extraction Area.

The dwellings are currently buffered from the proposed extraction are by trees on both the applicant and home owner sites. The Nygaard CUP required a 75-100 foot buffer be maintained between the extraction areas and the Highway. Except for the access road into the site, a buffer is currently in place although staff can not verify the width. Both dwellings are on the south side of Hwy 202 while the quarry is on the north side of Hwy 202.

There is the potential of three more dwellings on the land that is zoned RA-2 and within the Impact Area to the southwest of the site. Within the Impact Area to the north, there is the possibility of one more dwelling within the F-80 zoning. Property to the east is already developed with a dwelling which is sited outside the Impact Area. The property to the south is zoned for resource use and currently has a dwelling. This dwelling is within the Impact Area and identified as the Heinze/Cave dwelling.

A seasonal drainage runs through the active quarry area. Portions of this rainwater collection system are culverted in the active mining area and one culvert outfall empties with a 30 to 40 foot drop to the floor of quarry. The Oregon Department of Fish and Wildlife (ODFW) has determined that this seasonal drainage does not serve as a viable fish habitat area. This seasonal drainage is not a perennial stream and it does not qualify for listing as a Class I or Class II stream. Since this is not a perennial stream, no buffers are required by the QMO development standards.

DOGAMI requires the operator to have a Department of Environmental Quality (DEQ) stormwater runoff permit as part of the operational requirements. The applicants have this approval. Oregon Department of Fish and Wildlife (ODFW) and DEQ have been given notice of this request.

County records indicate that there are no water rights located in the Extraction or Impact Areas.

The Browning quarry is located immediately to the east of the site but is not a Goal 5 site. Activities at the Browning site are similar to those at the Nygaard site. No conflict is expected as a result of the neighboring quarry.

The site currently accesses onto Highway 202. This is the only access to the site. ODOT has been given notice and has not commented.

The site is in an area designated as Peripheral Big Game Range. The Goal 5 Policies associated with this designation are discussed later in this report.

Section 4.424 Determination of Significance. Only sites deemed significant shall be designated with a QMO. The following criteria shall be used in determining significance:

(A) Significant Aggregate Resources. An aggregate resource shall have at least 250,000 cubic yards of reserve and meet at least two of the following minimum requirements:

(1) Abrasion: Loss of not more than 35% by weight;

(2) Oregon Air Degradation: Loss of not more than 35% by weight;

(3) Sodium Sulphate Soundness: Not more than 17% by weight.

(B) Other mineral resources. Significance of non-aggregate resources shall be determined on a case-by-case basis after consultation with DOGAMI.

Applicant (Quality):

Crushed aggregate products from this source have been used by the Clatsop County Road Department and other public and private commercial users for a number of years. This site produces an excellent quality of rock. Rock quality testing reports from Carlson Testing, Inc. are attached.

Applicant (Quantity):

The quantity of the rock source is estimated to be 500,000 to 750,000 cubic yards.

Applicant (Conclusion):

This large commercially developed rock reserve at a strategic location is a unique resource that is of significant economic value to Clatsop County.

The Olney quarry is a significant resource by virtue of its location, quality, quantity and established development that should be protected on the inventory of significant Goal 5 resources in the Clatsop County Comprehensive Plan.

Staff:

The applicant estimates the quantity of rock to be approximately 2 to 3 times the minimum amount necessary to qualify as a significant site. The minimum number of cubic yards requires is 250,000.

The Laboratory data submitted by the applicant indicates that the material meets the three quality specifications listed in the above standard.

Following is a list of Quarry sites separated into one of three classifications. This request includes placing this site on the Goal 5 list of sites requiring QMO protection.

Classification of County Mineral and Aggregate Sites*

Primary Sites Requiring QMO Protection

1)	Clatsop County - Clifton	T8N R7W S17	rock
2)	Clatsop County - Big Creek	T8N R7W S29 SW	gravel
3)	Howard Johnson - US 101	T5N R10W S4	rock
4)	Bayview Transit Mix - US 101	T5N R10W NW9 SW4	basalt

Primary Sites Requiring Conditional Use Approval

1)	George Ordway	T5N R10W S14	basalt
2)	Teevin Bros. Logging	T8N R6W S27 NW	rock
3)	Daren Berg, Humbug Rock	T5N R8W S22	rock
4)	M. Nygaard Logging	T7N R9W S31 NE	rock
5)	A. Riekkola	T7N R8W S18	basalt
6)	Tagg	T7N R10W S3	sand
7)	Horecny	T5N R9W S23	rock

Other Sites

1)	Clatsop County (Anderson Rd - Brownsmead)	T8N R7W S2 SW	clay
2)	Howard Johnson	T5N R10W S4 NW	rock
3)	Oregon State Forestry Dept.	T4N R9W S14,23 NW	rock

4)	Oregon State Hwy. Division	T5N R9W S16,17	basalt
5)	Oregon State Hwy. Division	T5N R8W S25 NW	basalt
6)	McClean Logging	T7N R8W S28	basalt

(NOTE: The Goal 5 background report includes a listing of additional "Other Sites" including the Nygaard-Olney quarry.)

Staff:

The Nygaard Olney quarry has been listed by Clatsop County as a "Goal 5 - Other Site" and the property owner has participated in the QMO planning process and requested the listing of the Olney quarry as a "Primary/Significant" Goal 5 Site." Approval of this QMO amendment will include recognition of this quarry as "Primary/Significant" Goal 5 site.

Section 4.414. Development Standards - Extraction Area. A development plan shall be submitted to the County Planning Department for any activity allowed in Section 4.412. The development plan shall provide the necessary documents, permits, and maps to demonstrate compliance with the standards and requirements listed below.

Staff:

As per sections 4.414, 4.416 and 4.418, the applicant for a QMO designation does not need to show compliance with the following standards at this time. As discussed in the Background portion of this report, compliance with these standards is only required before expansion can occur. When this occurs, the applicant must responded to these standards and receive planning director approval prior to commencement of operations. The following operational standards are provided, however, for your information.

(A) Screening and Buffering:

(1) An earthen berm and buffer of existing or planted trees or vegetation shall be maintained to fully screen the view of any mineral and aggregate activity and all related equipment from any public road, public park, or residence within 1,000 feet. Where screening is shown through the ESEE analysis to be unnecessary because of topography or other features of the site, the screening requirements may be waived by the Planning Director.

(2) Sight obscuring fencing or approved barrier type shrubs shall be required to eliminate any safety hazards that use of the site may create. Fencing, if required, shall be sight obscuring and a minimum of 6 feet high.

(B) Access:

(1) All private access roads from mineral and aggregate sites to public roads shall be paved or graveled. If graveled, the access road shall be graded and maintained as needed to minimize dust.

(2) Improvements of fees in lieu of improvements of public roads, County roads and State highways may be required when the Planning Director or hearings body, in consultation with the appropriate road authority, determines that the increased traffic on the roads resulting from the surface mining activity will damage the road sufficiently to warrant off-site improvement. If the fee in lieu of improvements is required, the amount of the fee shall reflect the applicant's pro-rated share of the actual total cost of the capital expenditure of the road construction or reconstruction project necessitated by and benefiting the surface mining operation. Discounts for taxes and fees already paid for such improvements, such as road taxes for vehicles and for property already dedicated or improved, shall be applied.

(3) Any internal road at a mineral and aggregate site within 250 feet of a Sensitive Use shall be paved or graveled, and shall be maintained at all times to reduce noise and dust in accordance with County or DEQ standards specified in the ESEE analysis.

(4) An effective vehicular barrier or gate shall be required at all access points to the site.

(C) Hours of Operation:

(1) Blasting shall be restricted to the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday. No blasting shall occur on Saturdays, Sundays, or any recognized legal holiday.

(2) Mineral and aggregate extraction, drilling, processing and equipment operation located within 1,000 feet or as established by the ESEE analysis of any Sensitive Use is restricted to the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, and 8:00 a.m. to 5:00 p.m. Saturday. All other sites are limited to operating hours of 7:00 a.m. to 10:00 p.m. Monday through Saturday. No operation shall occur on Sundays or recognized legal holidays.

(3) An increase in operating time limits shall be granted for all activities except blasting if:

(a) Three are no Sensitive Uses within 1,000 feet of the mining site; or if

(b) There are Sensitive Uses within 1,000 feet, the increased activity will not exceed noise standards

established by the County or DEQ; and

(c) The operator shall notify the owners and occupants of all Sensitive Uses within 1,000 feet or the distance established by the ESEE analysis by first class mail which is mailed at least 96 hours prior to the date and approximate time of the activity for which the operator receives an exception.

(4) The operating time limits may be waived in the case of an emergency as determined by the County governing body.

(D) Environmental Standards:

(1) DEQ Standards. Mineral and aggregate extraction, processing and other operations shall conform to all applicable environmental standards of the County and State. Any crusher, asphalt, concrete, ready-mix or other machinery shall submit an approved DEQ permit(s) at the time of development plan application.

(2) DOGAMI Standards. Mineral and aggregate extraction, processing, other operations and site reclamation shall conform to the requirements of the Department of Geology and Mineral Industries (DOGAMI).

(3) Permits Required. Mining shall not commence until all applicable State and Federal permits, if any, are provided to the County.

(E) Equipment Removal:

All surface mining equipment, machinery, vehicles, buildings, man-made debris and other material related to the mineral and aggregate activity shall be removed from the site within 30 days of completion of all mining, processing and reclamation, except for structures which are permitted uses in the underlying zone.

(F) Performance Agreement:

(1) The operator of a mineral and aggregate site shall provide the County with annual notification of DOGAMI permits.

(2) Mineral and aggregate operations shall be insured for $500,000.00 against liability and tort arising from production activities or operations incidental thereto conducted or carried on by virtue of any law, ordinance or condition, and such insurance shall be kept in full force and effect during the period of such operations. A prepaid policy of such insurance which is effective for a period of one year shall be deposited with the County prior to commencing any mineral and aggregate operations. The owner of operator shall annually provide the County

with evidence that the policy has been renewed.

(G) Significant Resource Area Protection:

Conflicts between inventoried mineral and aggregate resource sites and significant fish and wildlife habitat, riparian areas and wetlands, and ecologically and scientifically significant natural areas and scenic areas protected by the Clatsop Plains Community Plan or other provision of the County Comprehensive Plan, shall be balanced as determined by the site-specific ESEE analysis.

(H) Site Reclamation:

A reclamation plan shall be submitted concurrently with the development plan required in Section 4.418. The reclamation plan shall include a schedule showing the planned order and sequence of reclamation, shall assure that the site will be restored or rehabilitated for the land uses specified in the underlying zone consistent with the site specific Goal 5 program, and shall meet DOGAMI requirements.

(I) Water Management:

(1) Surface water shall be managed in a manner which meets all applicable DEQ, DOGAMI, and ODFW water quality standards. Approval may be conditioned upon meeting such standards by a specified date. Discharge across public roads shall be prohibited. Existing natural drainages on the site shall not be changed in a manner which substantially interferes with drainage patterns on adjoining property, or which drains waste materials or waste water onto adjoining property or perennial streams. Where the mineral and aggregate operation abuts a lake, river, or perennial stream, all existing vegetation within 100 feet of the mean high water mark shall be retained unless otherwise authorized in accordance with the ESEE analysis and the development plan.

(2) All water required for the mineral and aggregate operation, including dust control, landscaping and processing of material, shall be legally available and appropriated for such use. The applicant shall provide written documentation of water rights from the State Department of Water Resources and/or local water district prior to any site operation.

(J) Floodplain:

Any QMO Extraction Area located wholly or in part in a Special Flood Hazard Area as shown on the Federal Insurance Rate Map (FIRM) shall receive approval in accordance with Section 4.000 of this Ordinance prior to any site operation.

Section 4:416. Application Process. Final development plan approval is required prior to the beginning of any mineral and aggregate activity listed in Section 4.412, and before any expansion of a pre-existing or non-conforming site. The applicant shall provide the following at the time of application:

(A) A development plan demonstrating that the development standards required in Section 4.414 can be met, including:

(1) Screening and fencing;
(2) Access;
(3) Hours of operation;
(4) Environmental standards;
(5) Equipment removal;
(6) Performance agreement;
(7) Significant resource area protection;
(8) Site reclamation;
(9) Water management; and
(10) Floodplain.

(B) A map or diagram showing the location and setbacks of all proposed mineral and aggregate activities and operations and the location and distance to all Sensitive Uses within the Impact Area.

Applicant:

A. Screening and Buffering
The Hienze dwelling that is located about 700 feet tot he south of the southern boundary of the quarry is the only existing residential use within 1000 feet of the active quarry. The Olney Grange and Olney Community Church are both located about 1000 feet to the west of the active quarry. Quarry rock extraction activities are moving to the north and east away from these existing uses. Existing topography and vegetation provide a screening buffer between the quarry activities and these uses.

B. Access
The existing road approach from Highway 202 into the Olney quarry is paved and the main access road is gavelled. The sole access point is controlled by a locked gate that is closed during periods of inactivity.

C. Hours of Operation
The quarry can be operated within the restrictions established by the ordinance's provisions for hours of operation and these provisions would be an acceptable

condition of approval for this site.

D. Environmental Standards
As stated above, the existing quarry use has been established in conformance with required State of Oregon DEQ and DOGAMI permitting requirements. Additional state and federal permits will be obtained as required for future quarrying activities.

E. Equipment Removal
Quarrying equipment and accessory structures will be removed at the time commercial quarry activities are completed at the Olney site.

F. Performance Agreement
Proof of bonding and insurance will be provided to the County as required.

G. Significant Resource Protection
ESEE conflicts have been detailed and addressed above.

H. Site Reclamation
The reclamation plan that has been previously filed with DOGAMI will be followed when this quarry site is closed.

I. Water Management
The existing quarry is operating under the provisions of a DEQ wastewater runoff treatment plan. This plan will be modified in the future as required by the DEQ or as appropriate for any change in operations.

J. Floodplain
The proposed QMO extraction area is entirely outside the County's mapped flood hazard zone.

Staff:

The applicant has demonstrated compliance with the Section 4.416(A) QMO development standards. Continued commercial mining operations will be permitted on this site based upon the approval conditions of this QMO amendment.

<u>Section 4.418. Site Plan Review</u>.

(A) Site plan review is required prior to commencement of mining. Application shall be in the form required by the County, and shall demonstrate compliance with the standards of Section 4.414 and any requirements adopted as part of the Goal 5

process.

(B) Applications for site plan approval of surface mining operations and activities authorized by Section 4.408 in accordance with ORS 215.425 and ORS 1917.195.

(C) The County shall approve, conditionally approve, or deny a site plan based on the ability of the site plan to conform to the standards of Section 4.414 and other requirements adopted as part of the Goal 5 process.

(D) If the County determines that the site plan is substantially different from the proposal approved in the Goal 5 process, the application shall be denied or conditioned to comply with the decision adopted as part of the Goal 5 process, or the applicant may choose to apply for a Comprehensive Plan amendment whereby the original decision reached through the Goal 5 process will be reexamined based on the revised site plan.

Staff:

The applicant has submitted a site plan for continued commercial rock quarrying operations within his approved "extraction area". Any expansions of commercial quarrying operations beyond the approved "extraction area" will require the submittal of a new site plan and further County land use approvals.

C. Clatsop County Comprehensive Plan (County-Wide Elements)

Applicant:

The Land Conservation and Development Commission acknowledged the County's Comprehensive Plan on May 31, 1984. However this plan did not contain provisions to identify and protect valuable Goal 5 aggregate resources. This analysis is part of the County's current efforts to inventory and protect its known aggregate resources. The County finds that this site would not be affected by conflicting uses, including nearby residences or forest lands. This designation is consistent with a determination to preserve the resource in accordance with the Goal 5 administrative rule (OAR 660-16-005(1). In the event that the County receives a request to rezone properties in the vicinity to a zone that would permit conflicting uses, this overlay designation would protect the site from encroachment. No such rezoning or development has been proposed at this time.

Staff:

Following are applicable Comprehensive Plan Goals and the

Policies from these Goals.

Goal 1 Citizen Involvement

Staff:

All applicable Comprehensive Plan and Land and Water Development and Use Ordinance goals and standards were developed with citizen involvement. This hearing addresses the goal requirements for this application.

Goal 2 - Land Use Planning

Conservation Forest Lands:

Forest lands are those lands that are to be retained for the production of wood fiber and other forest uses.*

In land use changes involving a change from Conservation Forest Lands or Rural Agricultural Lands to Rural Lands or Development designations an Exception to the Agricultural Lands or Forest Lands Goals must be taken.*

Staff:

The site is zoned Forest -38 (F-38) with a portion of the site designated with a Geologic Hazard Overlay (GHO). The site has a Comprehensive Plan designation of Conservation Forest Lands. The request does not involve a change in this designation.

Goal 3 - Agricultural Lands

Goal:

To preserve and maintain agricultural lands.

Policies

1. The County shall provide areas for the continued practice of agriculture and permit the establishment of only those new uses which are compatible with agriculture activities.

Staff:

Only the area to the south is utilized as farm land. The site currently exists as a quarry site. Future quarry activities should be similar to those that currently occur on site.

6. Agricultural land which also meets the criteria for forest land and which is primarily utilized for livestock

grazing or forestry in sufficient parcel size, shall be conserved for forest uses.

Staff:

The site is zoned for forest and farm uses. These uses will still be permitted uses

Goal 4 - Forest Lands

Goal:

To conserve forest lands for forest uses.

Policies:

1. Forest lands shall be conserved for forest uses, including the production of trees and the processing of forest products, open space, buffers from noise, visual separation from conflicting uses, watershed protection, wildlife and fisheries habitat, soils protection from wind and water, maintenance of clean air and water, outdoor recreational activities compatible with these uses, and grazing land for livestock.

Staff:

The uses allowed in the F-38 zone will still be permitted uses after the QMO is placed. Forestry is not considered to be a "Sensitive Use" as defined by the QMO zone text.

14. Roads in forest areas shall be limited to the minimum width necessary for traffic management and safety.

Staff:

The roads necessary to serve any expansion areas must comply with access and road standards of the QMO zone text.

17. Expansion of existing non-forest developments and uses in forest zones may be permitted under a Type II procedure only when such expansion is substantially confined to the existing site.

Staff:

Expansion would be processed as a type II procedure.

Goal 5 - Open Space, Scenic and Historic Areas and Natural Resources

Goal: To conserve open space and protect natural and scenic resources.

Staff:

Goal 5 provides the following Goal and Policies intended to address mineral and aggregate resources.

Mineral and Aggregate Resources Goal:

To protect and ensure appropriate use of mineral and aggregate resources of the county, while minimizing any adverse effects of mining and processing upon surrounding land uses.

Policies:

1. The County shall protect significant mineral and aggregate resources consistent with Statewide Planning Goal 5 and the process for complying with the Goal specified in Oregon Administrative Rules Chapter 660, Division 16.

Staff:

The information submitted by the applicant is intended to address the applicable requirements. If the site meets the QMO Quality and Quantity standards, then the site is considered Significant. The QMO provides protection as required by Statewide Goal 5.

2. In making a decision whether to protect a significant mineral or aggregate site from conflicting uses, the County shall recognize that Goal 5 requires the protection of natural resources for future generations, and that the requirements of other applicable Statewide Planning Goals must be considered in any analysis of conflicting uses.

Staff:

An analysis of other applicable statewide goals is found at the end of this report. The conflicting uses found within the Impact Area are identified earlier in the report. The QMO provides development standards that must be met before expansion could occur. At this time, the Planning Commission must analyze the existing conflicting uses against the quarry site and configure the extraction area boundary and impact area boundary accordingly.

3. The County shall maintain an inventory of mineral and aggregate resources sites. The Comprehensive Plan

inventory shall consist of three parts:

a. An inventory of "significant sites" identified through the Goal 5 process as important resources that will be protected from conflicting uses;

b. An inventory of "potential sites" for which sufficient information concerning the location, quality, and quantity of a resource site is not adequate so as to allow the County to make a determination of significance;

c. An inventory of "other sites" for which available information demonstrates that the site is not a significant resource to be protected.

Staff:

This list is included in the staff report. The applicant is requesting the site be listed as a Significant Site.

4. The location of a mineral or aggregate resource shall be identified as the site of a recoverable source of material. A resource site may consist of all or portions of a parcel, and may comprise contiguous parcels in different ownerships. Identification of a resource site need not include mineral and aggregate reserves that are irrevocable committed to other land uses which are incompatible with surface mining.

Staff:

The proposed Extraction Area spans two parcels that are owned by Martin Nygaard. The applicant has included a map that identifies the area to be excavated. If approved, the Extraction Area would be considered the location of the protected resource.

5. For an aggregate site to be determined significant, the resource must meet Oregon Department of Transportation specifications for concrete aggregate rock. It is the County's policy to protect the highest quality rock for future use.

Staff:

The applicant has submitted laboratory test results of the material at the site. This information submitted indicates that the material meets the QMO quality standards. These standards are the same as the ODOT specifications.

6. For an aggregate site to be determined significant, the site must possess a minimum of 250K cubic yards of minable reserves. It is the policy of the County to protect a variety of large reserves in order to serve the regional market.

Staff:

The applicant has indicated that 500,000-750,000 cubic yards of material exist at the site. This exceeds the 250,000 minimum requirement.

7. The significance of non-aggregate mineral resources shall be judged on a case-by-case basis, taking into account information concerning the commercial or industrial use of the resource, as well as the relative quality and relative abundance of the resource within at least the County.

Staff:

This site is not a source of "non-aggregate mineral". This policy does not apply.

8. Because material source sites owned or controlled by municipal, County or state government agencies have been acquired for the purpose of maintaining the public road system, and collectively form a network of great importance, the County shall deem such sites presumptively significant. Such sites shall be analyzed along with other significant sites to establish the appropriate level of protection from conflicting uses.

Staff:

This site is privately owned. This policy does not apply to privately owned sites.

9. The County shall recognize existing surface mining operations as significant resources pursuant to Goal 5, and shall allow existing operations to continue for two (2) years without conforming to the performance standards in the zoning ordinance. Expansion beyond the limits of an existing site shall be in accordance with County zoning regulations.

Staff:

This is an "existing surface mining operation". Expansion

beyond the combined boundaries of the previous County land use approvals for Parker in 1979 and Nygaard in 1986 would require conformance with the QMO performance standards. See the next policy for discussion of "existing operation".

10. The scope of an existing or "grandfathered" aggregate operations shall be established by:

    a. Authorization by a County land use approval; or
    b. The extent of the area disturbed by mining on the effective date of this ordinance; or
    c. The continuous pursuit of a specific mining plan by an operator for not less than five years.

Staff:

As discussed in the Background portion of this report, Clatsop County has granted approvals for two separate and overlapping commercial rock quarries on the subject property. The "Parker approval" was originally granted in 1979 and the Nygaard Conditional Use approval was granted in 1986. Both of these commercial quarry approvals are still valid. QMO Policy 10(a) applies to both the 1979 Parker and 1986 Nygaard commercial quarry approvals. The "extraction area" proposed as part of this QMO amendment covers an area that has been previously approved by Clatsop County for commercial quarry operations. The proposed "extraction area" is smaller than the combined approval areas of the 1979 Parker and 1986 Nygaard land use approvals.

11. In order to maintain the right to continue an existing surface mining operation and bring the County's inventory of mineral and aggregate resources into compliance with Goal 5, an analysis of economic, social, environmental and energy (ESEE) consequences performed for an existing site shall only consider the consequences of potential conflicting uses upon current or future operations, and the consequences of mine expansion on existing or potential conflicting uses.

Staff:

An ESEE analysis is provided that evaluates uses with a 1000' Impact Area surrounding the proposed Extraction Area.

12. Sites on the "other sites" inventory shall not be protected pursuant to Goal 5.

Staff:

This site is proposed for listing as a "significant" Goal 5 site.

13. For sites on the "potential sites" inventory, the County shall review available information about mineral and aggregate resources, and if the information is sufficient, determine the site to be significant when one of the following conditions exists:

    a. As part of the next scheduled periodic review;
    b. When a landowner or operator submits information concerning the potential significance of a resource site and requests a Comprehensive Plan amendment;
    c. When resolution of the status of a potential resource is necessary to advance another planning objective.

Staff:

This site is not on the "potential sites" list. The owner of the site is seeking QMO designation pursuant to policy 13.b. by submitting laboratory data and addressing the appropriate standards.

14. For each site determined to be significant, the County shall complete the remainder of the Goal 5 process of identifying conflicting uses, analyzing the ESEE consequences of the conflicting use(s), and designating a level of protection from conflicting uses. If the final decision concerning the site is to fully preserve or partially protect the resource from conflicting uses, the site shall be zoned with the Mineral and Aggregate Resources Overlay.

Staff:

The ESEE analysis and the data on the quality of the rock is intended to justify protecting this site and designating it with a QMO. The laboratory data indicates that material qualifies for QMO protection.

15. When analyzing the ESEE consequences of potential conflicts between a significant mineral or aggregate resource and another significant Goal 5 resource, the County shall consider the protection program adopted for the conflicting resource. Conflicts with other natural resources shall not be the basis for mining restrictions unless the County has included the conflicting resource on the inventory of significant Goal 5 resources, and adopted a resource protection program.

Staff:

The only other Goal 5 resource is the "Peripheral Big Game Range" designation on the site. The county has Goal 5 policies for this designation. These policies are addressed later in this report.

The QMO development standards require the maintenance of all existing vegetation within 100 feet from the edge of all perennial streams. Since there are no perennial streams on the subject property, this standard is not applicable.

All necessary state permits must be submitted before the planning department could approve a request to operate.

16. The County may consider the effects of surface mining operations on public roads and traffic. Consideration may include review of proposed routes, site distances at access points, roadway width and alignment, and level of service. The County may impose conditions or restrictions directly related to the impact created by surface mining; however, any conditions or restrictions shall not be approval criteria, and shall be applied uniformly to all road users in a manner consistent with the County's transportation plan.

Staff:

Highway 202 is within the Impact Area and serves as the transportation corridor for all trucks to and from the site. ODOT has been sent notice regarding this request. Traffic associated with the site would be a continuation of the existing quarry related traffic.

17. In order to approve surface mining at a site zoned for exclusive farm or forestry use, the County shall find, as part of the ESEE analysis, that the proposed activity will not: (1) force a significant change in, or significantly increase the cost of, accepted farming or forestry practices on surrounding lands, and (2) will not significantly increase fire hazard or significantly increase fire suppression costs or significantly increase risks to fire suppression personnel.

Staff:

The site is zoned Forest-38 (F-38). The area proposed for the QMO is not currently utilized for farming or forestry. Access to the site is existing, therefore, new access points or driveways that could remove land from resource use would not be required. Land to the east is currently used for mining. The highway borders to the south. The land to the north is owned by Hanson while the parcel to the west is owned by the Olney Church. Both parcels are zoned for forestry.

Only a small portion of the Church property is within the Impact Area. No dwellings or sensitive uses are proposed for the site that could potentially effect forestry practices on Hanson or church parcel.

18. The County shall not independently apply the Mineral and Aggregate Resources Overlay to land within another County, or within a city or its urban growth boundary. The County shall seek to ensure protection of significant sites where the impact area surrounding the resource extends across jurisdictional boundaries through cooperative agreements with another County or a city.

Staff:
This site is entirely within the jurisdiction of Clatsop County.

19. The County shall require increased setbacks, insulation, screening, or similar measures as conditions of approval for any new conflicting use within an impact area surrounding a mineral or aggregate resource site when such measures are deemed necessary to resolve conflicts identified in a site-specific Goal 5 analysis.

Staff:
This is not a request for a conflicting use. This policy is not applicable.

20. The County may establish and impose conditions on operation of a surface mine when deemed necessary as a result of a site-specific Goal 5 analysis. Where such conditions conflict with criteria and standards in the Mineral and Aggregate Resources Overlay, the conditions developed through the Goal 5 analysis shall control.

Staff:
As part of this process, if the Planning Commission feels that specific concerns can only be addressed through the adoption of conditions, such conditions can be imposed.

21. As part of the ESEE analysis and decision on the level of protection to be afforded significant mineral and aggregate resource sites, the County shall determine the appropriate post-mining use of the site.

Staff:

The applicant has not proposed a post-mining use. The County must make this determination as part of the approval. This can include that the site only be used for uses permitted in the underlying zone (F-38).

22. The County recognizes the jurisdiction of the Department of Geology and Mineral Industries (DOGAMI) for the purpose of the mined land reclamation pursuant to ORS 517.750 to 517.900 and the rules adopted thereunder.

Staff:

The applicant will have to comply with all applicable DOGAMI standards if he proposes to expand beyond the limits of his existing DOGAMI permit.

23. Unless specifically determined on a case-by-case basis, it shall be the policy of the County, pursuant to ORS 517.830(3), that DOGAMI delay its final decision on approval of a reclamation plan and issuance of an operating permit, as those terms are defined by statute and administrative rule, until all issues concerning local land use approval have been adjudicated by the County.

Staff:

With its approval of this QMO amendment, Clatsop County will acknowledge to DOGAMI that the Nygaard-Olney commercial quarry is in full compliance with all applicable County land use requirements.

24. No surface mining or processing activity, as defined by the zoning ordinance, shall commence without land use approval from the County, and approval of a reclamation plan and issuance of an operating permit by DOGAMI.

Staff:

The applicant has valid County land use approvals to continue commercial mining operations on this site. Approval of this QMO amendment will allow the applicant to conduct commercial mining activities within the boundaries of its designated "extraction area". The applicant has filed a reclamation plan and operating permit application with DOGAMI for the Olney quarry site. Based upon this County QMO approval and the issuance of appropriate DOGAMI permits, the applicant will be allowed to conduct commercial mining activities on the subject

property.

25. Land shall not be rezoned to remove the Mineral and Aggregate Resources Overlay until the mineral or aggregate resource is depleted, and the site has been reclaimed.

Staff:
This is not a request to remove the QMO zone.

Fish and Wildlife Areas and Habitats Policies.

4. To protect riparian vegetation along streams and lakes not covered by the Forest Practices Act, the County shall require a setback for non-water dependent uses.

Staff:
Since there are no perennial streams or lakes on the subject property, there are no riparian setbacks or buffers will be required for this proposed commercial quarry.

7. The County shall rely on the Division of State Lands' permit process, under the Fill and Removal Law, to insure that proposed stream alterations such as bridges, channelization, or filling do not adversely affect the stream's integrity or its value as fish habitat.

Staff:
The applicant shall comply with the requirements of the DSL Fill and Removal Law.

8. New developments shall not restrict existing public access to rivers, streams, or lakes. New developments are encouraged to provide additional public access to rivers, streams and lakes where such access is consistent with the area's environmental characteristics.

Staff:
The site does not currently provide public access to a river or stream.

Goal 7 - Natural Hazards

Goal:

To protect life and property from natural disasters and hazards.

General Mass Movement Policies:

1. The County shall recognize the development limitations imposed by areas of mass movement potential.

Staff:

The request is for protection of the resource site. Any development proposed for the site will require prior approval. Any potential structures would need to be reviewed against this policy.

2. Mass movement hazards do not necessitate disapproval of development, but higher development standards can be expected in order to minimize problems.

Staff:

Again, this is not a request for development. This policy would be reviewed against any development proposal.

Development Policies for Areas of Mass Movement:

2. Access roads and driveways shall follow slope contours to reduce the need for grading and filling, reduce erosion, and prevent the rapid discharge of runoff into natural drainageways.

Staff:

as expansion requires prior approval, this policy would be reviewed and is applicable for this site.

D. Compliance with the Lewis and Clark Community Plan

Fish and Wildlife Policies

1. Clatsop County will cooperate with governmental agencies to conserve and protect identified fish and wildlife habitat.

Staff:

The Peripheral Big Game Range Policies apply on this site. These policies were addressed earlier in the report. The United States Fish and Wildlife Department and Oregon Department of Fish and Wildlife have been notified of this

request. We have not received comments from these agencies.

2. Public and private land ownership preserves many habitat areas. There is limited regulatory power to assure that more living communities and animal species do not become rare and endangered in the future. Therefore new development should be designed and constructed so as to:

   a. maintain wherever possible a natural, vegetative buffer strip along wetlands and streams,
   b. minimize the alteration of land and vegetation, and
   c. preserve open space, including agricultural and forest lands.

Staff:

Since there are no perennial streams or lakes on the subject property, no riparian setbacks or buffers will be required for this proposed commercial quarry.

E. Compliance with Statewide Goals

Goal 3:

Staff:

The site is currently zoned F-38, a mixed farm and forest zone. The site will maintain the F-38 zoning designation before, during and after mining activities occur.

Goal 4:

Applicant:

Aggregate extraction and processing operations on this site are not expected to conflict with the protection of adjoining forest lands or forest practices, or other activities necessary and appropriate for management of soil, air, water and fish resources, the provision for recreational opportunities, and agricultural uses. Mining and processing of aggregate and mineral resources are permissible uses of forest lands as specified by Goal 4 administrative rule. No aspects of the quarry's development would force a significant change in, or significantly increase the cost of accepted forest or farming practices on surrounding lands dedicated for resource use. Similarly, no aspects of the proposed operations are expected to significantly increase the fire hazard, the cost of fire suppression, or risks to fire suppression personnel.

Staff:

This site is currently zoned for farm and forest use. The site already has an existing access thus eliminating the need to reduce the amount of forested land for new access. Mining activities are allowed on forest land pursuant to Goal 4. The activities allowed by the QMO are similar to those that could occur under Goal 4.

Goal 5

Applicant:

The Statewide Planning Goal Number 5, requires in part that "where conflicting uses have been identified the economic, social, environmental and energy consequences of the conflicting uses shall be determined and programs developed to achieve the goal". The goal guideline suggests that "in conjunction with the inventory of mineral and aggregate resources, sites for removal and processing of such resources should be identified and protected".

The Goal 5 rule specifies the requirements and procedures local government must follow to comply with Goal 5. Goal compliance involves six basic steps:

1. Identify a resource's location, quality and quantity;
2. Determine the resource's significance;
3. Identify conflicting uses;
4. Analyze the economic, social, environmental and energy consequences of conflicts;
5. Determine the level of protection for the resource; and,
6. Implement a program to protect significant resources.

The purpose of this process is to complete the Goal 5 analysis and protect the Olney quarry and processing site for future continued use.

Summary of ESEE Analysis

The ESEE analysis demonstrates that the Olney quarry site is a significant aggregate resource for Clatsop County that merits protection through the County land use planning process.

Program to Achieve Goal

The Goal 5 rule (OAR 660-16-010) provides: "Based upon the

determination of the economic, social, environmental and energy consequences, a jurisdiction must develop a program to achieve the gaol".

The County has adopted policies in the Comprehensive Plan and a zoning overlay zone to protect significant quarry sites. The purpose of this analysis is to demonstrate that the Olney quarry site is significant. The attached map illustrates the active quarry site and a 1000 foot impact area surrounding the entire existing and proposed quarry activity area. The underlying zone will continue to be Forest-38 the QMO overlay will be added until such time as the subject rock resource is depleted and the site is reclaimed. The Olney quarry will continue to operate within the boundaries of the approved QMO extraction area under the conditions of approval of this QMO amendment.

Staff:

Goal 5 is designed to identify, and then protect where appropriate, a variety of resources. Rock and mineral resources are a Goal 5 category resource. The request is to recognize this site as a Significant Goal 5 site and provide it with the QMO district protection. If the site is found to be significant and there are no other significant resources, the site must be protected unless there are enough conflicting uses that render the site unsuitable for the proposed use. The submittals from the applicant and this staff report address compliance with the applicable requirements.

Goal 6:

Applicant:

The environmental effects of the quarry operation have been discussed above. The existing quarry has an active DOGAMI mining permit. The existing storm water collection and treatment system has appropriate DEQ permits. Current DEQ permitting standards require the monitoring and testing of these runoff waters. DEQ air and water quality permits are also required for the rock processing equipment that is operated at the Olney quarry site.

The Olney quarry is currently operating under the controls of required environmental permits without any identified problems.

Staff:

The site will have to comply with all DEQ and Oregon Department of Fish and Wildlife (ODFW) requirements regarding

the drainage and impacts on the river. Operational standards are provided by the QMO text. These standards must be addressed by the applicant before the quarry can expand beyond the boundaries of the approved QMO "extraction area".

Goal 12:

Applicant:

Statewide Planning Goal 12 requires local governments "to provide and encourage a safe, convenient and economic transportation system". The Olney quarry is a very important source of aggregate materials for a wide range of City, County, State and Federal street and highway construction and repair projects.

Staff:

The information provided by the applicant indicates that the material will meet QMO quality standards. This is an active site that provides material for a variety of uses including road construction.

Goal 13:

Applicant:

The Olney quarry by virtue of its strategic location promotes energy conservation. It is far most efficient to utilize rock from this centrally located source than to import rock from outlying locations within Clatsop County or from areas outside of our County.

Staff:

This is a functioning quarry. Protecting a significant site ensures that a source of quality aggregate will be available in proximity to Hwy 202 and the Astoria/Warrenton area.

III Options

Following is an outline that reflects potential actions the Planning Commission can undertake. The outline is not intended to address every issue but rather to serve as a guide upon which the commission can act.

1. Deny the request.

2. Approve the request.

3. Approve the request with conditions.

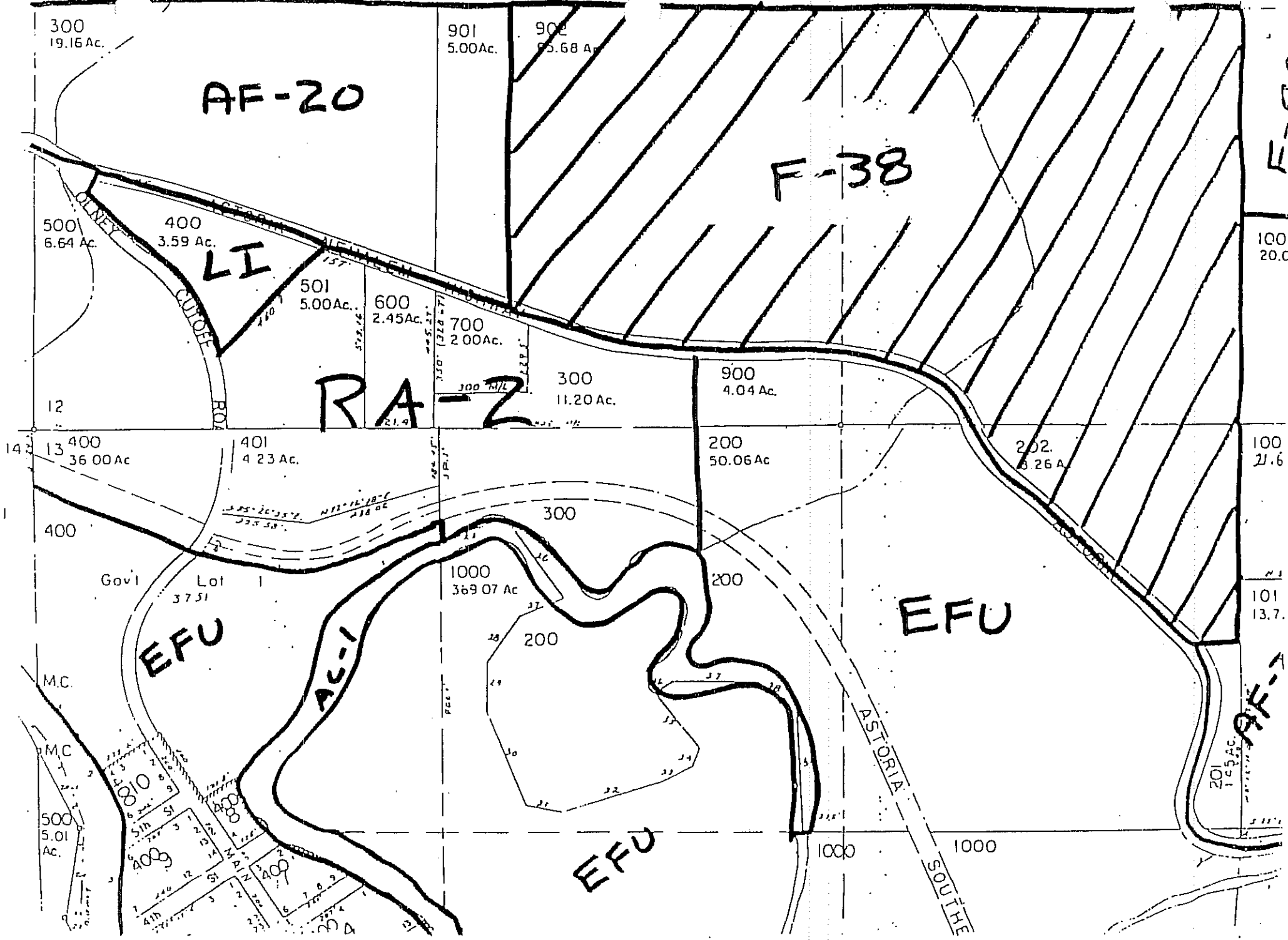
4. Continue the hearing.

Planning Commission Recommendation:

By unanimous motion on 10/18/94, the Clatsop County Planning Commission recommended approval of the Quarry and Mining Overlay zoning designation for the Nygaard-Olney quarry site and the designation of this site as a Significant Goal 5 rock resource site based upon staff report findings (to be amended by staff as directed) and the following conditions of approval:

1. The "extraction area" and "impact area" shall be configured as they are represented in the 9/29/94 staff report.

2. The post mining use of the site shall be a use that is permitted in the underlying zone.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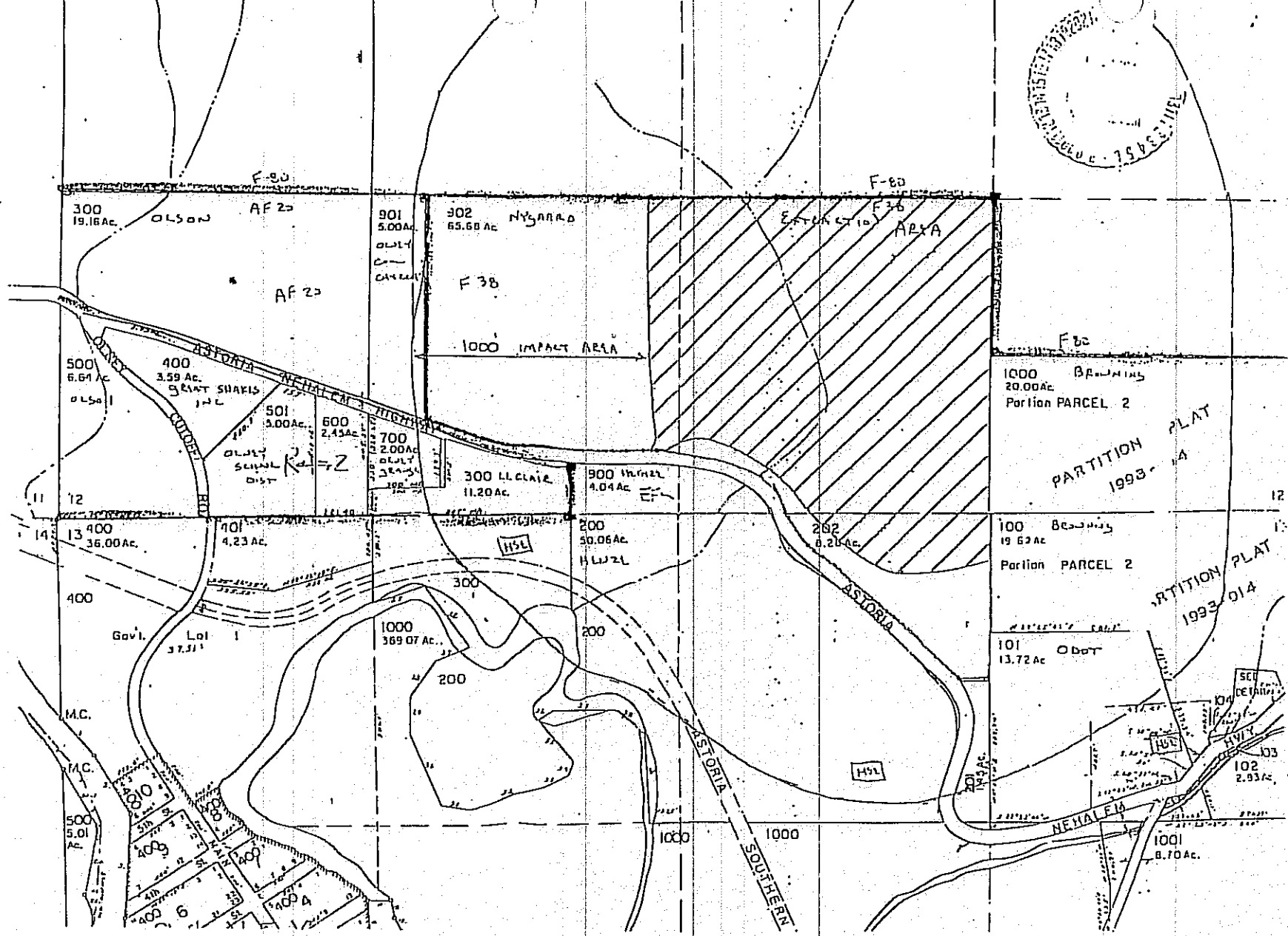
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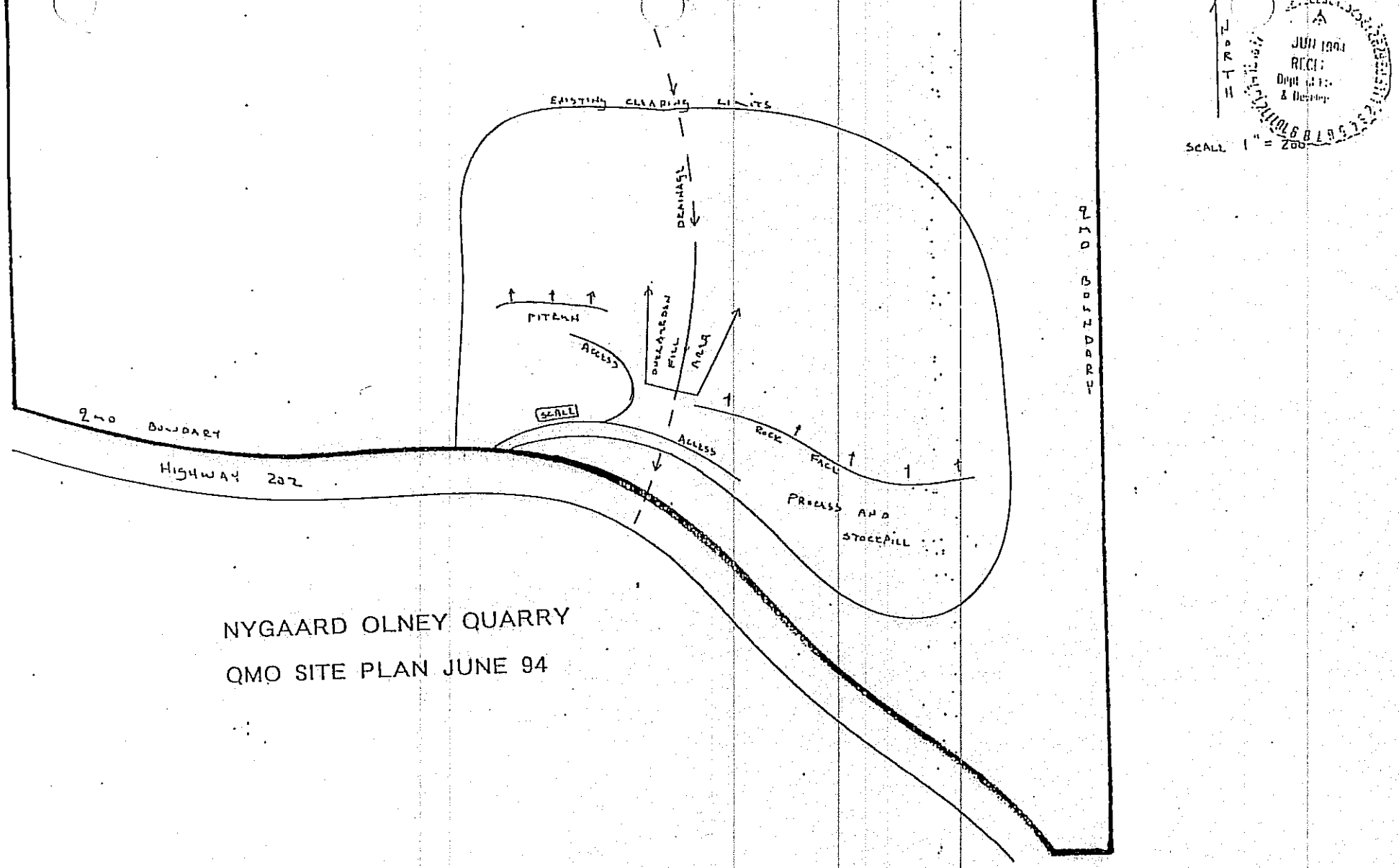
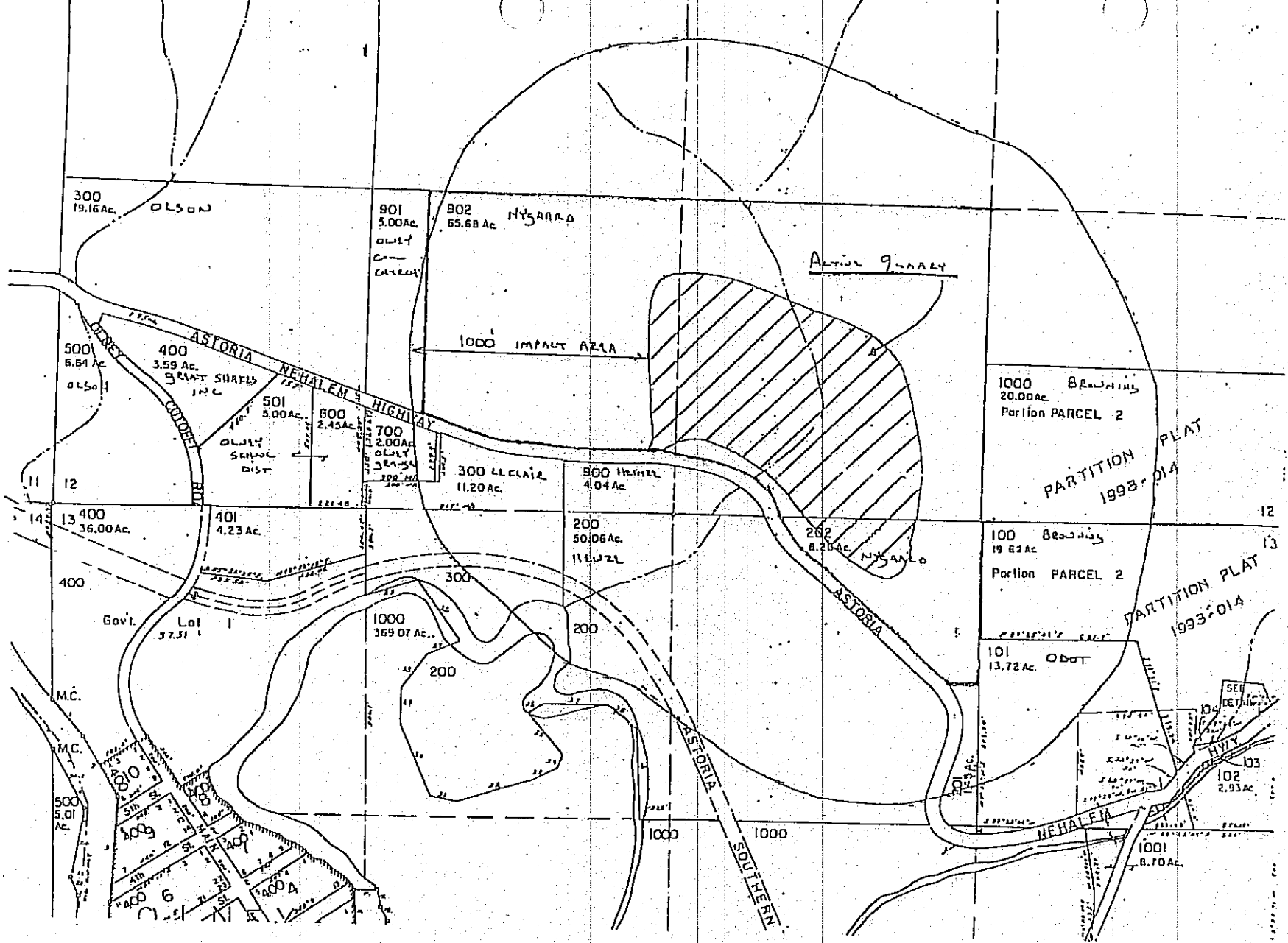


NYGAARD OLNEY QUARRY

QMO SITE PLAN JUNE 94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ASTORIA SOUTHERN
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NEHALEM
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2.93Ac.
1001
8.70Ac.

July 18, 1994

JUL 1994
RECEIVED
Dept. of Planning
& Development

Dave Carpenter
Department of Planning and Development.
Clatsop County
Post Office Box 179
Astoria, Oregon 97146

Re: Quarry & Mining Overlay Public Hearings

This letter is intended to be a follow-up upon our counter discussion of this morning. It is my understanding that your tentative Planning Commission public hearing schedule includes QMO public hearings on September 6, 1994 for the Nygaard-Olney quarry and the Riekkola-Olney quarry. I also understand that the Nygaard-Lewis & Clark quarry QMO public hearing will be scheduled for the next available Planning Commission date after 9/6/94.

All three of these rock quarry sites meet the minimum ordinance quantity and quality standards listed in Section 4.424 of the Land and Water Development and Use Ordinance for recognition as "Primary Sites Requiring QMO Protection". Please reference in your public notices for these upcoming Planning Commission and Board of Commissioners public hearings that the ongoing QMO review process will provide for each of these three rock quarry sites to be added to Clatsop County's Goal 5 list of "Primary Sites Requiring QMO Protection".

Please insert the following supplemental information upon rock quality testing into the file for the Nygaard-Lewis & Clark quarry:

> May 24, 1994 rock test results from the laboratories of Braun Intertec Northwest, Inc. document that the rock samples from the Nygaard-Lewis & Clark quarry satisfy the zoning ordinance QMO zone Section 4.424 quality standards. Section 4.424 requires that an aggregate resource meet at least two of the three listed quality test standards (Abrasion, Oregon Air Degradation and Sodium Sulphate Soundness). Test results show an abrasion loss of 19.8% compared to the maximum ordinance standard of 35% (L.A. Abrasion test; AASHTO T-96). Test results show a sodium soundness loss result of 15.4% compared to the maximum ordinance standard of 17% (Sodium Soundness; AASHTO T-104). Test results show an air degradation loss of 36% compared to a maximum ordinance standard of 35% (Oregon Air Degradation; OSHD-208). This 1% difference is

attributed to "iron scaling" that typically occurs on surface rock that has been exposed to the atmosphere for a prolonged period of time; Braun Intertec lab personnel suggested that this test result would likely improve as deeper, subsurface rock was removed.

Thank you for your assistance in the Goal 5 QMO site protection process. Please contact me if you would like to discuss these three quarry sites in further detail or if you would like to schedule a staff site visit at the time you are preparing your staff reports for the upcoming QMO hearings.

Sincerely,

Don Lampi

Don Lampi
Land Use Consultant
1441 South Main Street
Warrenton, OR 97146
(503) 861-2420

June 24, 1994

HAND DELIVERED

Dave Carpenter
Department of Planning Development
Clatsop County
Post Office Box 179
Astoria, Oregon 97103

JUN 1994
RECEIVED
Dept. of Planning
& Development

Re: QMO Submittals

Dear Dave:

As you requested, I have revised the "Impact Area Maps" and "QMO Site Plans" for the Nygaard-Olney, Riekkola and Nygaard-Lewis & Clark QMO sites to include (1) existing zoning, (2) "extraction areas" and (3) approximate locations of dwellings within the 1000 foot impact area. The revised maps are attached. You may wish to attach copies of your counter zoning maps to improve the presentation clarity of the zoning district boundaries at these sites.

As we discussed, these three quarry sites should also be added to the County's list of "Significant Sites" as part of your scheduled Quarry and Overlay Zoning amendment process. All three sites have rock deposits which satisfy the quantity and quality standards of Section 4.424.

Please advise when you establish public hearing dates for the QMO review process. I would appreciate if you would place my name on the mailing list for these public notices and also forward copies of notices to the owners of these individual quarry sites.

Please advise if you have further questions.

Sincerely,

Don Lampi

Don Lampi
Land Use Consultant
1441 South Main Street
Warrenton, OR 97146
(503) 861-2420

Carlson Testing, Inc.

Construction Inspection & Related Tests
Geotechnical Consulting

P.O. Box 23814
Tigard, Oregon 97281
Phone: (503) 684-3460
Fax: (503) 684-0954

April 8, 1994
94-1344

M. Nygaard Logging Co.
PO Box 157
Warrenton, Oregon 97146

Attn: Mr. Gerry Backanen

Re: Aggregate Qualification Testing

Gentlemen:

As requested, we have completed aggregate qualification testing on a sample of 1 1/2"-0 aggregate submitted to our laboratory on March 28, 1994 by your representative. The testing and specifications shown on the data portion of the text are from the OSHD Standard Specifications For Highway Construction section 02690 PCC Aggregates. The testing requested were applicable to coarse aggregates. Following is the test data:

ABRASION - AASHTO T96:

Percent Loss to Abrasion @ 500 Revs. = 15.6% *

OSHD Specification: 30.0% maximum

* Grading "A" used in loss determination

FRIABLE PARTICLES - AASHTO T112:

Percent Friable Particles = 1.50%

OSHD Specification: 2.00% maximum

DEGRADATION - OSHD TM 208:

Percent Passing the No. 20 Sieve = 19.3%

OSHD Specification: 30.0% maximum

Sediment Height = 1.0"

OSHD Specification: 3.0" maximum

LIGHTWEIGHT PARTICLES - AASHTO T113:

Percent Lightweight Material @ 2.40 Specific Gravity = 0.093%

OSHD Specification: 0.25% maximum

SOUNDNESS - OSHD TM 206:

SIEVE FRACTION	WEIGHT BEFORE TEST	WEIGHT AFTER TEST	% LOSS @ 5 CYCLES
1 1/2" to 3/4"	1500.0 g	1493.5 g	0.43%
3/4" to 3/8"	1002.3 g	992.8 g	0.95%
3/8" to #4	302.3 g	299.5 g	0.93%
TOTALS:	2804.6 g	2785.8 g	2.31%

Average Percent Loss @ 5 cycles = 0.77%

OSHD Specification: 12.00% maximum

In summary, we have found the tests conducted on this submitted sample to meet the OSHD PCC Aggregate requirements.

Our reports pertain to the material tested/inspected only. Information contained herein is not to be reproduced, except in full, without prior authorization from this office.

If there are any further questions regarding this matter , please do not hesitate to contact this office.

Respectfully submitted,

CARLSON TESTING, INC.

Douglas W. Leach
President

SJ

CLATSOP COUNTY

Courthouse . . . . Astoria, Oregon 97103

July 6, 1979

Jim Parker
Route 1 Box 994
Astoria, Oregon 97103

Dear Mr. Parker:

This is to confirm in writing what you've been told in the office regarding an intended mining operation on property owned by Marie Heinze.

The property you describe is located on the north side of Highway 202 in Tax Lot 900, Section 12, Township 7 North, Range 9 West. Zoning for the property is A-1 (General Farm Use and Forestry), in which mining is an outright permitted use except within 500 feet of residential or commercial zones or any existing dwelling unit.

This means that your intended mining operation is permitted as long as it is kept a distance of at least 500 feet from any dwelling unit. Also, because Tax Lot 901, owned by Olney Community Church and lying immediately west of the Heinze property, is the boundary of a commercial zone, the operation must be kept a distance of at least 500 feet from the east property line of Tax Lot 901.

If you have any questions, feel free to stop by.

Sincerely,

Curtis Schneider for

Mark R. Oggel, Zoning Administrator
Department of Planning and Development

MRO:ta

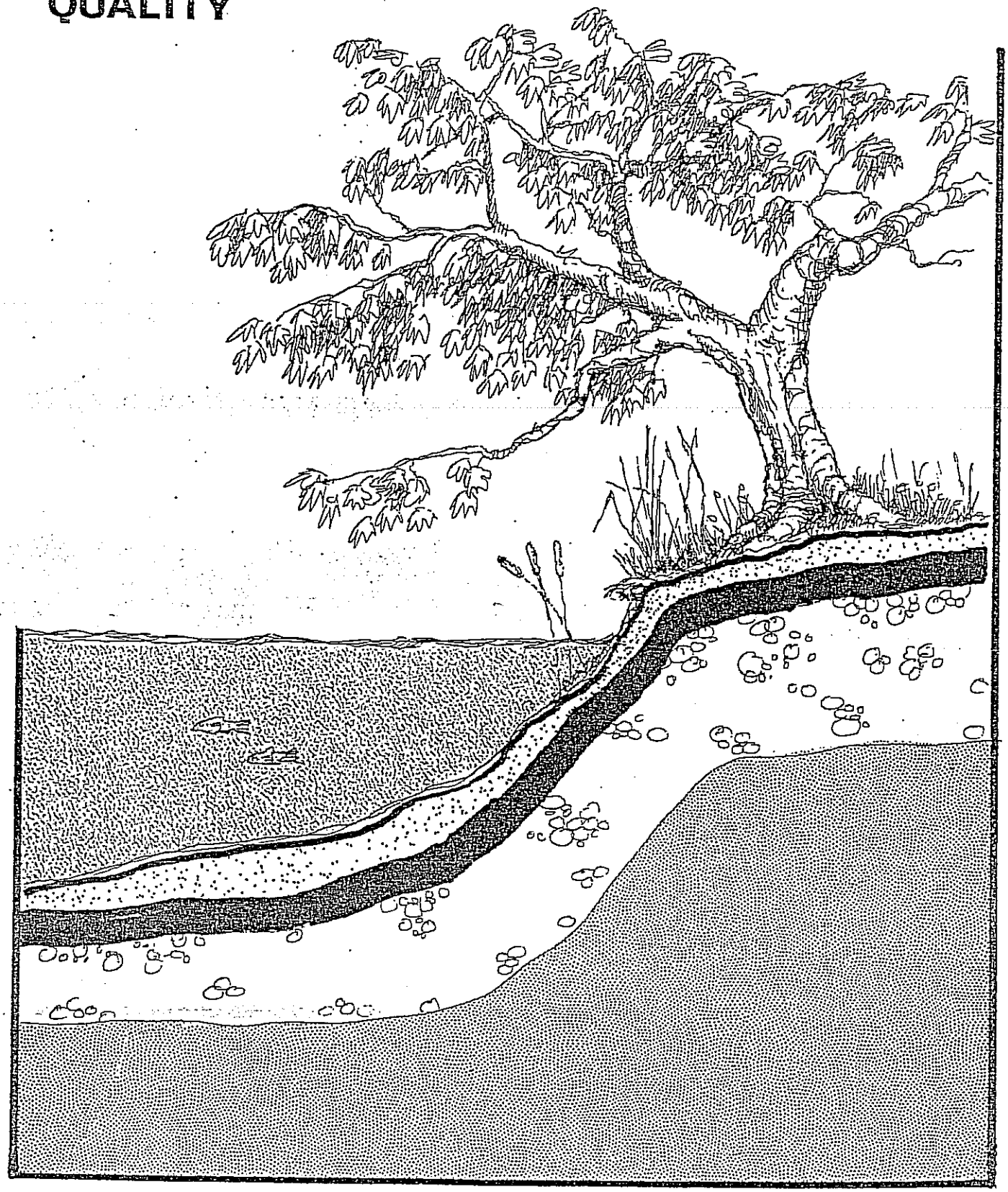
cc: Stan Ausmus, Department of Geology and Mineral Industries, Albany, OR

7 9 12 900

Goal 6

CLATSOP COUNTY
GOAL 6
COUNTY-WIDE ELEMENT

AIR, WATER and LAND RESOURCES QUALITY



GOAL 6 AIR, WATER, AND LAND RESOURCES QUALITY

1. Adopt a policy to assure that the County will comply with state and federal environmental standards.

Proposed addition to the County Comprehensive Plan:

Any development of Land, or change in designation of use of land, shall not occur until it is assured that such change or development complies with applicable state and federal environmental standards.

Waste discharges from any development, when combined with existing discharges from existing development, shall not result in a violation of state or federal environmental quality statutes, rules, or standards.

Proposed change in the County Land and Water Development and Use Ordinance:

State and Federal Permits. Applicants for development which require a state or federal permit shall submit to the Planning Director a copy of: the completed permit application, other supporting material provided to the permit granting agency, and other pertinent information demonstrating that the development is consistent with the Comprehensive Plan and this Ordinance.

COUNTY-WIDE ELEMENT

Goal 6

Air, Water and Land Resources Quality

Adopted July 23, 1980 by
Clatsop County Board of Commissioners

Introduction

Clatsop County is fortunate in that it generally has clean air and water. The quality of the County's environment is a factor that yearly draws many visitors to the area and also contributes greatly to the quality of life of its residents.

Basic Findings

Air Quality

The small population, strong year round ocean winds and large amounts of forest lands help to mitigate and remove what localized air quality problems exist in Clatsop County during most of the year. The major point sources of air pollution in the County are the Wauna paper mill and the Astoria plywood mill, both of which are meeting the requirements of their Air Contaminant Discharge Permits. The Wauna mill has installed air polution control equipment which is removing an estimated 90-95% of its air contaminants.

DEQ air quality officials do not feel that there are significant air pollution problems in Clatsop County. Air Contaminant Discharge Permits are monitored on a regular basis by the State, and the combination of pollution control equipment and the wind in the area mitigate against the need for additional controls. Several mlajor sources of air pollution will be eliminated when the County closes the remaining burning dumps after approval of a new landfill site.

Under EPA and DEQ regulations some air quality deterioration through industrial development could take place in Clatsop County without exceeding national air quality standards.

Water Quality

Because of its coastal location, high rainfall and presence of the Coast Range Mountans, Clatsop County is rich in water resources. Besides the rivers (including the Columbia River, the largest river in western North America), streams, creeks and lakes, there are two known aquifer areas; Clatsop Plains and Gnat Creek aquifers.

Pollution sources in Clatsop County's streams and rivers come from point (direct sources such as sewage outfalls) and non-point (indirect sources such as sedimentation) sources. Point sources require discharge permits and are closely monitored by the Department of Environmental Quality (DEQ) and Environmental Protection Agency (EPA). Non-point sources are regulated by DEQ under the 208 Program. This program contains a statewide assessment of the location, type and severity of water quality problems including streambank erosion, sedimentation, excessive debris, water withdrawal, elevated water temperature and nuisance algae. A complete ranking of the above problems indicated that the Nehalem River has the greatest amount of water quality problems in Clatsop County. The ranking system was arbitrary but was designed to indicate relative problem areas within a region or county.

Since about 86% of the land area of Clatsop County is forest land, timber management has a significant effect on water quality. The Oregon Forest Practices Act and rules have been designated the best management practices to control forestry related water quality problems. The County has no local control over the enforcement of the Forest Practices Act.

Possible nitrate pollution of the Clatsop Plains aquifer has prompted the County, in conjunction with Warrenton, Hammond and Gearhart, to study and monitor the quality of the groundwater under the 208 Program.

A comparison of existing water rights with average monthly stream flows on most of the major rivers and streams in the County shows that water rights exceed minimum recommended stream flows for aquatic life. No appropriations of water except for human consumption, livestock consumption and water legally released from storage should be granted by a state agency when the averagte stream flow is less than that sufficient to support aquatic life.

Noise Control

The most probable future noise control problems in Clatsop County would be due to conflicts between noise sensitive properties and noisy industrial users, noise from major arterials and noise conflicts created by airports. In order to minimize these conflicts, noise considerations can be used when designating new industrial zoned land. In addition, performance standards for noise can be used in approving new commercial and industrial uses to minimize any conflicts with surrounding noise sensitive properties. The State Highway Department should be encouraged to use noise pollution considerations when realigning, improving, or building new highways.

The Seaside airport and its clear zones are located in the City of Seaside's and Gearhart's Urban Growth Boundaries. Appropriate zoning limiting conflicting uses will be developed during the UGB adoption process.

Areas surroundingn the Clatsop County Airport that are or in the future may be exposed to an aviation noise environment of 55 Ldn have been planned and zoned for industrial, exclusive farm use, and low density residential use (in areas of existing residential use). The current large amounts of open space and agricultural, industrial, and low density residential zoning should result in compatibility with noise standards.

Policies

1. The County shall encourage the maintenance of a high quality of air, water and land through the following actions:

   (a) encouraging concentration of urban development inside Urban Growth Boundaries,

   (b) encouraging maintenance and improvement of pollution control facilities,

(c) cooperating with the State Highway Department to provide an efficient transportation system. Methods to reduce congestion and air pollution on Marine Drive/Commercial Street should be explored.

(d) encouraging indigenous, clean industries such as fishing, boat building, tourism, and forest products utilization and

(e) encouraging development of resource recovery mechanisms such as recycling centers and wood waste processing.

2. The County Planning Department shall work with the Department of Environmental Quality (DEQ) to monitor and keep its environmental data base current including information on air quality, surface and groundwater quality, and land quality including waste disposal and erosion problems.

3. The cumulative effect of development on the County's environment should be monitored and, where appropriate, regulated. When evaluating proposals that would affect the quality of the air, water or land in the County, consideration should be given to the impact on other resources = important to the County's economy such as marine resource habitat and recreational and aesthetic resources important to the tourist industry.

4. The County shall continue its efforts to find an acceptable regional solid waste disposal site or an acceptable alternative (i.e. recycyling, electricity generation).

5. Recovery of wood wastes, rather than slash burning, shall be encouraged as a means of reducing air and water pollution, improving the economy, and for producing energy.

6. Upon completion of the Clatsop Plains Groundwater Study, the County shall reevaluate the Clatsop Plains Community Plan to determine whether existing policies and standards are adequate to protect water quality in the aquifer, lakes and streams. Consideration shall be gtiven to protection of the lakes from further degradation (eutrophication), and possible remedial actions to improve water quality.

7. The County shall work to maintain the quality of its estuarine waters through participation in the regional Columbia River estuary planning process.

8. The County shall cooperate with DEQ, State Forestry Department, State Transportation Department and other agencies in implementing best management practices to reduce non-point pollution.

9. The County shall recommend that state agenies regulate the issuance of water rights so as to insure that the total water rights of a stream bed do not exceed the minimum stream flow.

10. Subdivisionss adjacent to majcr arterials shall address the reduction of noise impacts in their site plans.

11. Performance standards for noise will be considered for inclusion as standards in the County's industrial-commercial zones.

12. The District Conservationist shall be used for technical evaluation of all development activities (including subdivisions and major partitions) that could create erosion and sedimentation problems with his/her recommendations incorporated into planning approvals.

Background Report

GOAL 6

AIR, WATER AND LAND QUALITY IN CLATSOP COUNTY

by

Mike Morgan
Clatsop-Tillamook Intergovernmental Council

and

Patricia Kubala
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PREFACE

Clatsop County has been involved in the process of updating the Clatsop County Comprehensive Plan in order to comply with the Oregon Land Conservation and Development Commission's Statewide Planning Goals and Guidelines, and to develop sound comprehensive planning in the best interests of the area. This task has been undertaken incrementally, resulting in several informative and technical Background Reports to be used as the basis for policy formulation.

The planning staff has attempted to provide a clear, complete and accurate accounting of current circumstances within Clatsop County. Your comments are encouraged to assist in the maintenance and periodic update of the Clatsop County Comprehensive Plan.

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AIR QUALITY

In 1974, the Environmental Protection Agency (EPA) issued air quality regulations under the 1970 version of the Clean Air Act (P.L. 91-604) for the prevention of significant deterioration of air quality (PSD). These regulations established a scheme for protecting areas with air quality cleaner than the national ambient air quality standards (NAAQS). EPA's prevention of significant deterioration regulatory scheme was further modified by 1977 amendments to the Clean Air Act (P.L. 95-95).

Under existing EPA regulations, "clean areas" of the nation can be designated under one of three "classes". Specified numerical "ambient increments" of net air pollution increases are permitted under each class up to a level considered to be significant for that area. Class I increments permit only insignificant air quality deterioration; Class II increments permit moderate deterioration; Class III increments allow for the greatest amount of deterioration, but in no case beyond the national air quality standards.

Under the Federal regulations, all areas of the state are automatically classified as Class II areas, except for mandatory Class I areas and "non-attainment" areas. The area classification scheme is administered and enforced through a pre-construction and pre-modification permit program for specific types of stationary air pollution sources. No such air pollution sources could begin construction or modification unless EPA and DEQ have found that the source's emissions will not exceed the numerical "increments" for the applicable class, and that the source would use the best available air pollution control technology.

Under this classification scheme, Clatsop County is a Class II area. According to DEQ's Handbook for Environmental Quality Elements of Oregon Local Comprehensive Plans, the Clatsop County airshed has 100% of its Class II TSP and SO2 "increments" still available to it. This implies that some air quality deterioration, through industrial development, could take place without exceeding national air quality standards.

TABLE 2

POINT AND AREA AIR POLLUTION SOURCES
IN CLATSOP COUNTY, 1978
(tons per year)

SOURCE	PARTICULATES (TSP)	CARBON MONOXIDE (CO)
POINT SOURCES		
Astoria Plywood	518.7	24.0
Bumble Bee Seafood	2.4	--
Bioproducts	2.8	--
Cannon Beach Dump	4.2	22.3
City of Astoria Landfill	5.2	27.6
Clatsop County Road Department	34.1	--
Crown Zellerbach-Wauna	699.1	3720.3
Palmberg Paving	8.5	--
Port of Astoria--Grain Terminal	66.9	--
Seaside Dump	23.8	126.2
Tongue Point Job Corps	8.8	2.4
Warrenton Lumber	35.7	15.4
AREA SOURCES		
Motor Vehicles		
Light	148.8	12,377.2
Heavy	27.5	989.2
Off Highway Vehicles	2.2	650.5
Sea-going Vessels	24.8	75.0
Astoria Airport	--	46.1
Residential Space Heating	6.6	13.3
Commercial/Industrial Space Heating	33.1	7.3
Slash Burning/Forest Fires	131.7	936.2

Air Quality Problems

In Clatsop County, the small population, strong year-round ocean winds and large amount of forest lands help to mitigate air quality problems. However, the DEQ 1978 Oregon Air Quality Report indicates that Clatsop County has some significant air pollution "point sources" (point sources are specific sources such as factories, mills or burning dumps). Table 1 shows emissions for each Oregon county during 1978 for carbon monoxide (CO), nitrogen oxides (NO_X), sulfur oxides (SO_X) and total suspended particulates (TSP). The 3,942 tons of CO from the County's point sources are equal to Multnomah County's output. The 1,054 tons of SO_X are almost as much as that of Marion County.

The major sources of air pollution in Clatsop County are the Crown Zellerbach paper mill in Wauna and the Astoria plywood mill. Table 2 shows the particulate and CO emissions of all the point and area sources in the County. This indicates that the Wauna Mill produces 94% of the carbon monoxide pollutants in the County.[1] The wauna mill is also the major source of particulates, followed closely by the Astoria plywood mill. All of the point sources in the County are meeting the requirements of their Air Contaminant Discharge Permits. The Wauna mill has installed air pollution control equipment, which is removing an estimated 90% - 95% of its air contaminants.

DEQ air quality officials do not feel that there are significant air pollution problems in Clatsop County. Air Contaminant Discharge Permits are monitored on a regular basis by the State, and the combination of pollution control equipment and the wind in the area mitigate against the need for additional controls. Several major sources of air pollution will be eliminated when the County closes the remaining burning dumps and initiates a new disposal method. Unless the Federal air quality standards are changed, it is not anticipated that area or point source pollution will be reduced in the near future.

The lack of problems does not, however, relieve the County of controversy. The AMAX Aluminum Refinery was denied a permit by the Environmental Quality Commission to locate in Warrenton because of potential impact of flouride emissions on Youngs Bay, part of the Columbia River estuary. Therefore, though industry may locate in the County due to the existing air quality, each proposal is evaluated on its own merits. Local citizen concerns often play an important role in the decision to approve or deny discharge permits.

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[1] 1978 Oregon Air Quality Report, DEQ, p. 31.

TABLE 4

SELECTED DATA

COLUMBIA RIVER ESTUARY TRIBUTARY STREAMS

STREAM	DRAINAGE BASIN (Square Miles)	MEA-SURE-MENT LOCAT*	DISCHARGES, CFS MIN.	MAX.	AVERAGE	(For Fish) RECOMMENDED STREAMFLOWS CFS SUMMER LOW MIN*	OPT*	WINTER HIGH MIN*	OPT*	N/R*
Skipanon River	16	Mouth	1.6	585	49.5	None Established				1
Lewis & Clark River	62	Mouth	8.3	3,010	255	15	50	80	115	1
Youngs River	122	Mouth	18.4	6,600	588	15	82	138	190	1
Klaskanine River										
North Fork	NA	Stream Mile 4.7	3.0	245		8	31	70	86	2
South Fork	NA	Mouth	11.0	356	No Data	10	44	80	100	3
Walluski River	NA	No Data				None Established				
Bear Creek		No Data				3	10	15	26	
Big Creek	39	Stream Mile 2.9	21.0	538	No Data	20	52	90	130	2
Gnat Creek	26	No Data								
Hunt Creek		No Data								
Plympton Creek			4.85	No Data	No Data	4	13	20	34	

Source: CREST Inventory, p. 202-11. *Location; Minimum; Optimum; Notes/Remarks

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Specific Water Quality Problems in Clatsop County

Concern over the water quality of the Clatsop Plains has prompted the County, in conjunction with Warrenton, Hammond and Gearhart, to study the groundwater characteristics of the Plains under the 208 Program. Design of the study is currently underway. A preliminary study entitled Carrying Capacity of the Clatsop Plains Sand Dune Aquifer, was prepared in 1977 by hydrogeologist H. Randy Sweet. The primary concern of this and future studies is the protection of groundwater from nitrogen contamination. Among the recommendations of the study are 1) the limitation of dwelling density (with septic tank drainfields) to one per 1.2 acres, 2) the reduction of density of drainfields in critical areas, 3) the reservation of 1.6 square miles of dune lands for aquifer protection, and 4) additional monitoring. A summary of the findings from the report is included in Appendix I.

Sewage from failing septic tanks in the Westport-Wauna area has created a water quality problem in lower Plympton Creek. A sewer district has been formed and a preliminary sewer facilities plan completed. What has and will continue to delay the construction of the system is the current lack of federal funds. Currently funding is not expected for 3-5 years.

There is a question of water quality in some of the Clatsop County water systems due to the lower turbidity standard adopted in the Federal Safe Drinking Water Act of 1974. Astoria, for example, is not generally able to meet the lower standard during the rainy months of the year. Astoria presently supplies water to the unincorporated County water systems of the Fernhill, John Day, Willowdale, Olney-Wallooskee, and Burnside Water Districts.

The basin plans are to be updated every three years. The North Coast-Lower Columbia River plan is scheduled for revision during fiscal year 1980.

The Department of Environmental Quality has prepared a program to address non-point sources of water pollution. These non-point sources include agriculture, forest practices, and urban development. It contains a statewide assessment of the location, type and severity of water quality problems caused by non-point sources of pollution. Based on this assessment, priorities for non-point source water quality management will be assigned.

The Environmental Protection Agency requires that the State prepare an annual strategy for achieving the goals of its water quality plan. The major elements included are: a ranking of stream segments based on water quality problems and how the State plans to solve these problems and; a priority listing of municipal sewerage construction needs.

In part, the Department of Environmental Quality implements its water quality program through the issuance of permits. The Federal Water Pollution Control Act of 1972 requires that before waste can be discharged into a navigable stream, a waste discharge permit (NPDES) must be issued. In Oregon, the Department of Environmental Quality has the responsibility for issuing these permits. The Department of Environmental Quality also requires a Water Pollution Control Facilities permit (WPCF) for the construction and operation of those disposal systems that discharge no effluent into a stream. Both of these permits can only be issued if they are consistent with the Federal rules and guidelines and the applicable section of the State's water quality plan.

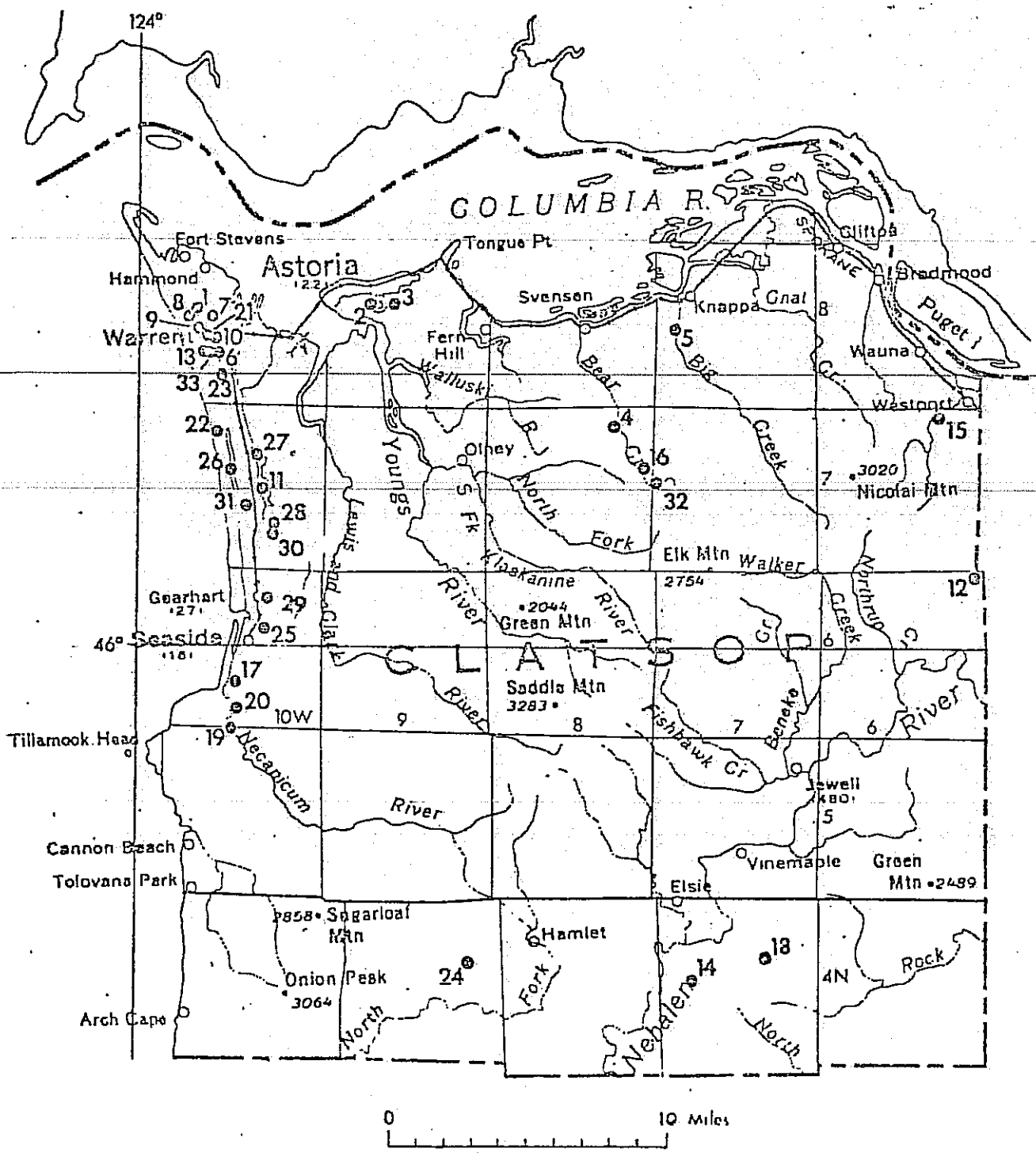
Prior to the issuance of a federal permit, such as an Army Corps of Engineers 404 permit for filling, the Department of Environmental Quality must certify that the proposed action will not violate the State's water quality standards.

The construction of an on-site sewage disposal facility requires approval from the Department of Environmental Quality. In Clatsop County, DEQ has the authority to issue these permits. Such a permit is required before a building permit can be issued.

The Department of Environmental Quality must approve all plans for municipal sewage and industrial waste treatment facilities, both new or expanded, and new or extended sewer systems before the start of construction. The Department of Environmental Quality must certify to the EPA that sewage works construction grant applications address a priority need in the State and that they meet State requirements. This certification is required for Step I (planning), Step II (design), and Step III (construction) grant applications.

FIGURE 2.

Locations and Identification Numbers of Lakes in Clatsop County (Refer to Table 6).



Locations and identification numbers of lakes in Clatsop County.

Water Quality Data for Lakes and Reservoirs in Clatsop County - page 2

	pH		CONDUCTIVITY		ALKA-LINITY	TOTAL HARDNESS	TOTAL DISSOLVED SOLIDS	TRANS-PARENCY	COLOR	COLIFORM	DEPTH	ACRES
	SURFACE	BOTTOM	SURFACE	BOTTOM								
21. Shag Lake	7.1	6.6	133	128	22	27	96	4	70	8400	6	5
22. Slusher Lake	10.1	9.6	205	205	48	35	180	6	15	40	8	20
23. Smith Lake	7.8	6.7	92	92	21	25	180	-	30	2800	6	50
24. Soapstone Lake	6.5	6.1	35	35	20	16	-	6	40	274	24	10
25. Stanley Lake	7.7	-	170	-	43	68	156	0	100	660	1	4
26. Sunset Lake	8.2	7.3	172	172	56	48	180	3	-	2900	19	110
27. Taylor (Carnahan) Lake	—	—	—	—	NOT	AVAILABLE	—	—	—	—	25	9
28. Triangle Lake	7.0	6.3	105	120	18	19	116	1	100	4800	10	3
29. Unnamed Lake	7.1	7.2	122	250	48	60	168	1	150	150	15	4
30. Unnamed Lake	6.1	-	62	-	50	15	98	2	60	5100	5	2
31. West Lake	6.7	-	110	-	28	32	122	1	25	4000	14	35
32. Wickiup Lake	7.6	7.1	66	66	52	30	94	7	20	-	16	28
33. Wild Ace Lake	7.6	6.8	126	124	31	36	128	5	25	2100	6	11

Oregon's Statewide Assessment of Non-Point Source Problems

During 1977 and 1978, the Oregon Department of Environmental Quality undertood an assessment of non-point pollution sources throughout the State, funded by Section 208 of the Federal Clear Water Act of 1972. The information was compiled based on citizen and agency comments, and addressed the three major problems:[3]

1. Introduction of materials from diffuse sources of land runoff into streams, lakes, reservoirs and estuaries;

2. Physical alteration of a stream corridor, or the banks and adjacent areas of any water body; and

3. Reduction in streamflow, due to consumptive use, which causes an interference with other beneficial uses.

The inventory results are illustrated on statewide hydrologic unit maps at a scale of 1:500,000. These maps are on file in the County planning office. The problems, and their severity, as identified in Clatsop County are classified as follows:

Streambank Erosion:

Streambank erosion is the lateral movement of a stream channel that undercuts banks and removes soil and vegetation. When excessive, streambank erosion can destroy productive land and impact several beneficial uses of water. The uses most severely impacted are those associated with fish and aquatic species habitats. In addition, sediment derived from streambank erosion can interfere with domestic and industrial water supplies.

A severe streambank erosion problem is one which causes a substantial loss of land or a nearly

[3]DEQ, Oregon's Statewide Assessment of Non-Point Sources of Pollution, August, 1978.

Water Withdrawal:

Water withdrawal is a consumptive use of water that adversely affects other beneficial uses. In some cases, water withdrawal reduces streamflow to zero and therefore interferes with every other beneficial use. The two uses most commonly affected are downstream consumption and fish and aquatic species habitats.

A severe water withdrawal problem is one where consumptive uses cause local people to perceive there is insufficient water to sustain existing water rights and to meet other desired uses. A moderate problem exists where consumptive use threatens to impact other uses.

There is a severe water withdrawal problem on a small portion (2 miles) of the Upper Necanicum River, and a moderate problem on a 20-25 mile stretch of the Nehalem in the Elsie-Jewell area.

Elevated Water Temperature:

Elevated water temperature is an increase in temperature which interferes with aquatic life or other beneficial uses of water. The use most severely affected is the rearing of salmonid fish. Specifically, the most common impacts on salmonids are increased occurrence of diseases, decreases in dissolved-oxygen concentrations, and eliminiation of rearing and/or holding areas.

A severe water temperature problem is one where there is a substantial interference with salmonid fish production. A moderate problem exists when salmonid fish production is somewhat hindered.

The only stream with elevated water temperatures in Clatsop County is the Nehalem River. This problem is considered severe throughout its length, from Birkenfeld to the Nehalem Bay.

Nuisance Algae:

Nuisance algae or aquatic plant growths are excessive growths which interfere with the beneficial uses of water. Such excessive growths can interfere with water supplies, irrigation, fish rearing, recreation, and aesthetic quality. These growths usually indicate other types of problems in the water such as high nutrient concentrations and high temperatures.

A severe algae or aquatic plant growth problem is one which causes a substantial loss of money, time or recreation. A moderate problem occurs when local people perceive that losses are beginning to occur.

NOISE CONTROL

Although many believe noise is an irritation or annoyance, they are not aware of the direct effect excessive noise has on health. It is well documented that noise is a public health hazard, both physically and psychologically. For example, noise can cause or aggravate headache, muscle tension, fatigue and other reactions. Impairment of functions such as loss of performance, impairment of hearing and temporary and permanent hearing loss are caused by excessive noise exposure. Very common effects of noise are interference with communication, including direct conversations, radio, television and telephone. Other activities noise disrupts are rest, study and sleep. Feelings of annoyance, such as irritability, distractibility and frustration are also caused by noise. Physically measurable stress effects of noise such as glandular responses, cardiovascular response and hypertension are well documented. All of these adverse effects of noise on humans are cited as examples to understand why excessive noise is recognized as a threat to public health and welfare.

In 1971 the legislature gave the Environmental Quality Commission (EQC) power, through the Department of Environmental Quality (DEQ--enactment arm of EQC), to adopt Statewide Standards for permitted noise emissions in the State of Oregon and to implement and enforce compliance with these adopted standards.

Standards have been set in 4 areas:

1. for new motor vehicles sold in the State,
2. for motor vehicles presently in use,
3. for industry and commerce, and
4. for new and existing airports.

All new motor vehicles sold within Oregon must meet maximum allowable decibel limits. Vehicle categories include automobiles and light trucks, motorcycles, buses, snowmobiles and medium and heavy trucks. In-use motor vehicle emission standards have been established for road vehicles and off-road recreational vehicles.

Noise sources from industry and commerce must meet ambient noise standards measured at the nearest noise sensitive property. Noise sensitive property is defined as residences, schools, churches, libraries and other places where people normally sleep. The definition for industry is very broad. However, some activities are exempted for reasons of lack of control technology, lack of an adequate standard or preemption by federal regulations. Industrial and commercial noise standards are based upon protection of speech communication during the daytime (7 a.m. to 10 p.m.) and protection of sleep at night (10 p.m. to 7 a.m.). During the day, noise is generally any sounds that disturb normal speech. Tests have shown this to be sounds above 60 decibels. During the night, noise is any sounds that disturb sleep. Tests have shown this to be sounds above 45 decibels. The standards are written in statistical terms over a one hour sampling period. This allows some variations in the noise level over time, but limits the statistical distribution of the measured noise throughout the one hour sampling period. Special standards have been developed for industrial and commercial sources that produce impulsive sounds; e.g., blasts, drop forge and punch press noise.

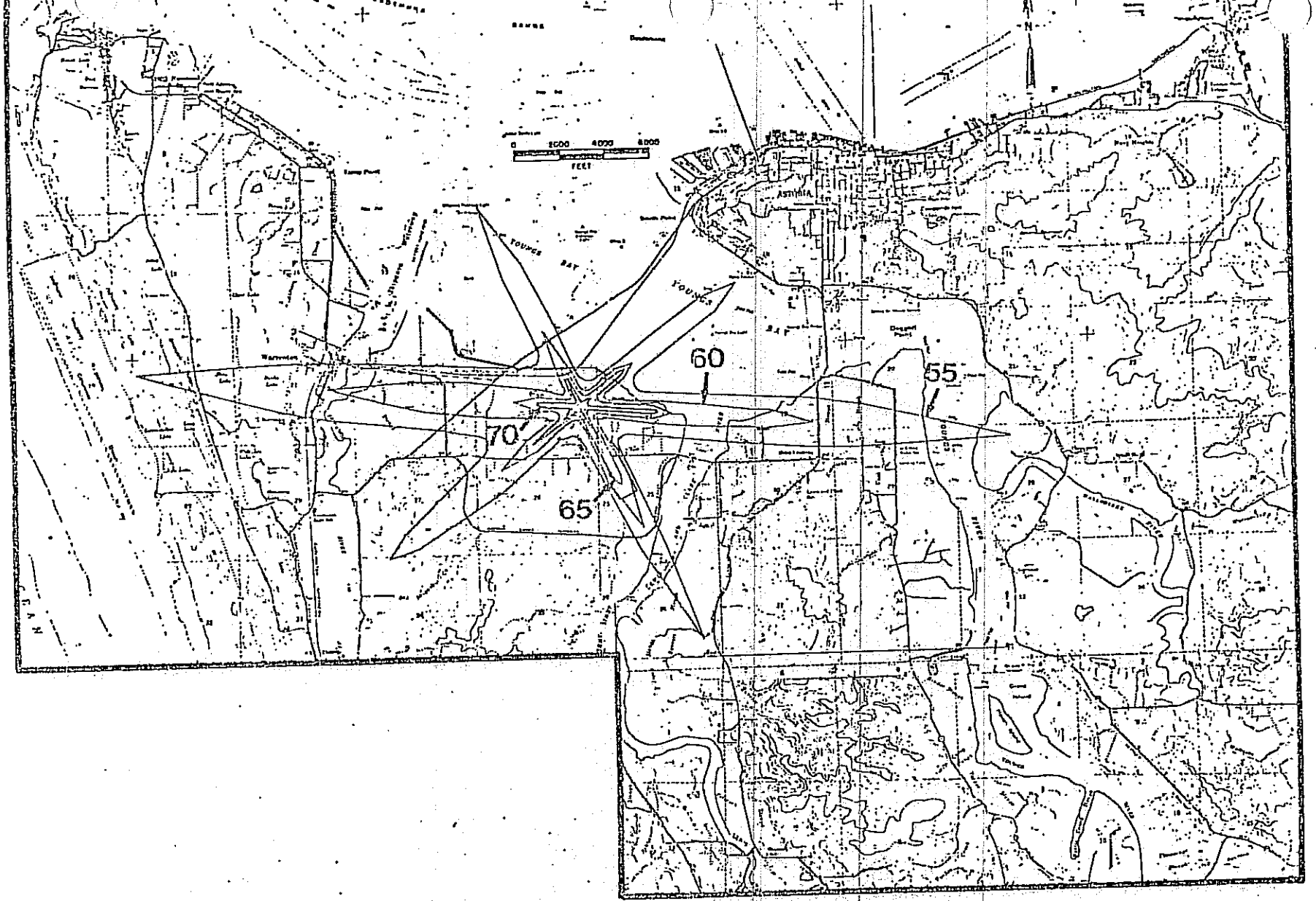


Figure 7. Clatsop County Airport Ldn Contours - Year 1978

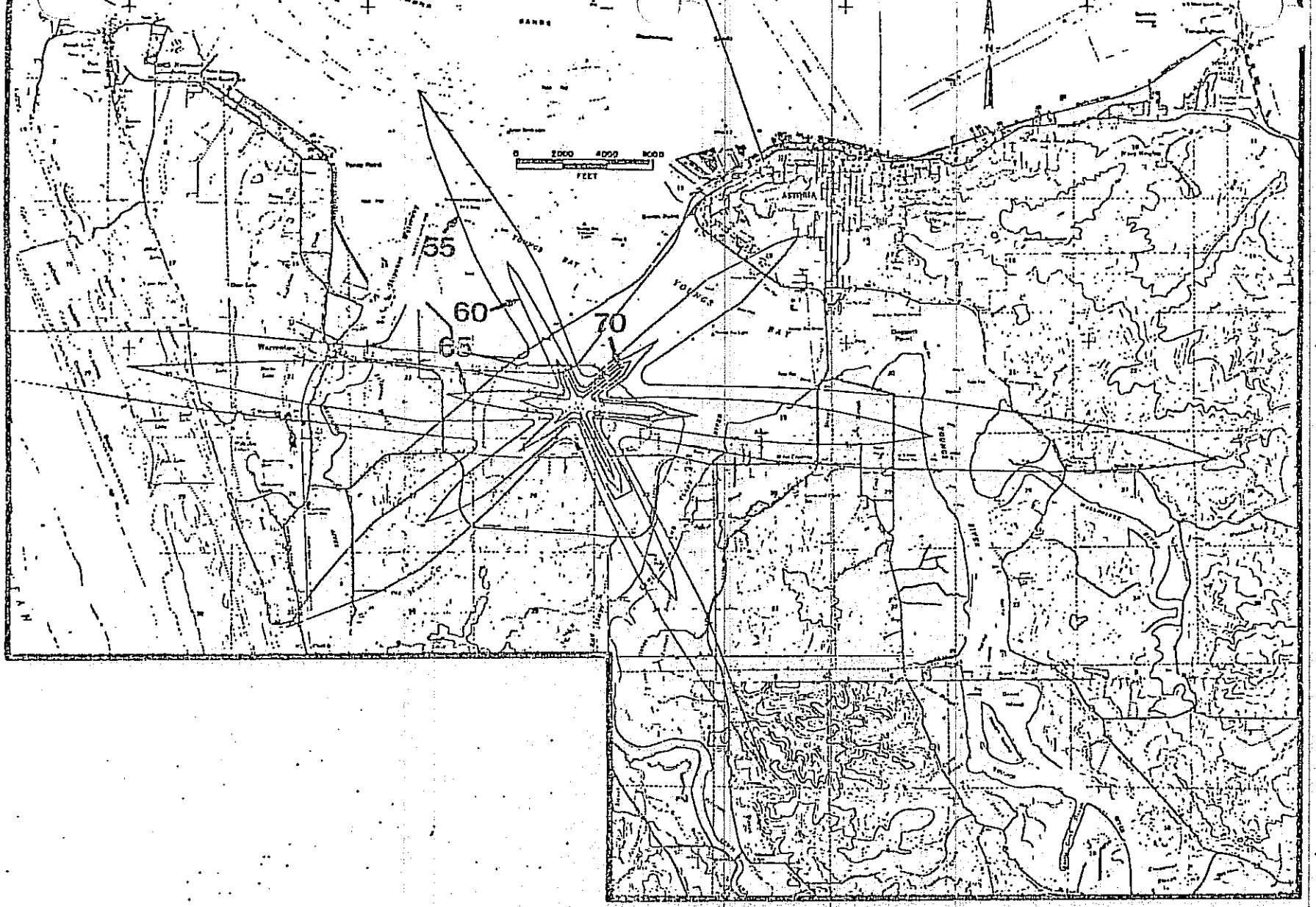


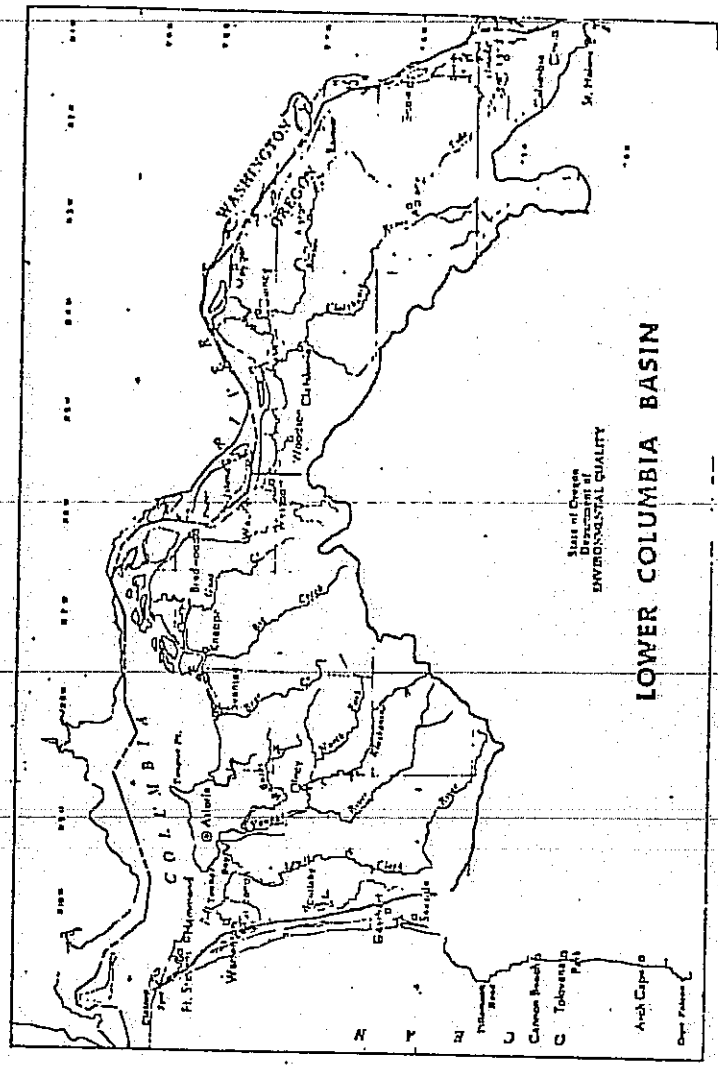
Figure 9. Clatsop County Airport Ldn Contours - Year 1990

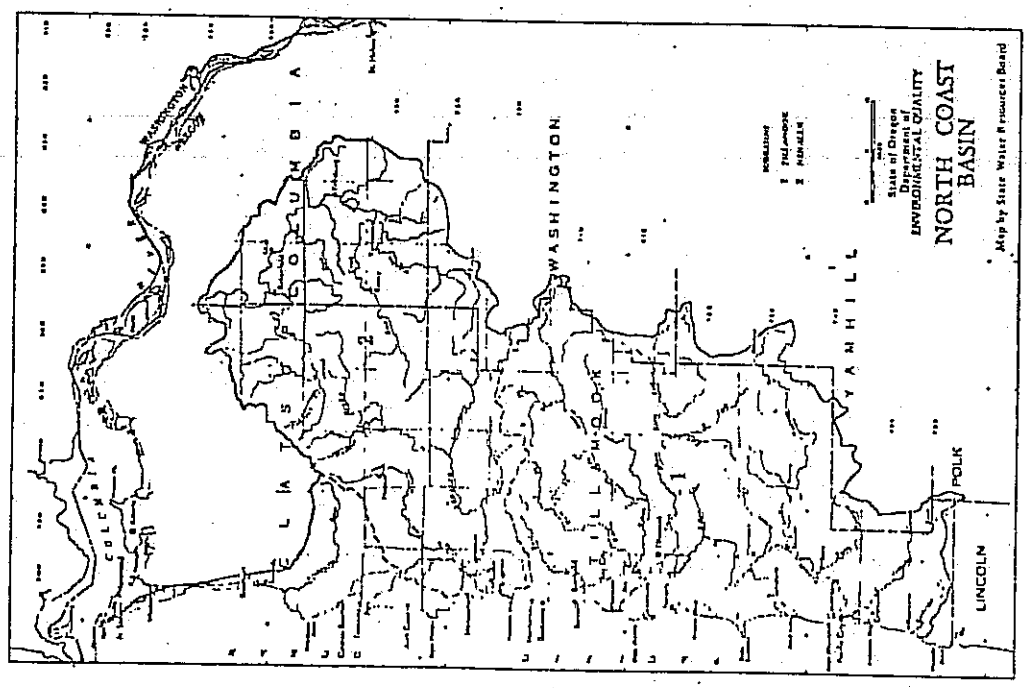
SOLID WASTE

Background information on solid waste is contained in the Public Facilities Background Report.

V North Coast - Lower Columbia Basin

[A.--Preface----------] (Note: Preface consolidated for all basins into Sections I and II.)





B [6]. Water Quality Standards Not to be Exceeded (To be adopted pursuant to ORS 468.735 and enforceable pursuant to ORS 468.720, 468.990 and 468.992.)

1. Notwithstanding the water quality standards contained below, the highest and best practicable treatment and/or control of wastes, activities and flows shall in every case be provided so as to maintain dissolved oxygen and overall water quality at the highest possible levels and water temperatures, coliform bacteria concentrations, dissolved chemical substances, toxic materials, radioactivity, turbidities, color, odor and other deleterious factors at the lowest possible levels.

2. No wastes shall be discharged and no activities shall be conducted which either alone or in combination with other wastes or activities will cause violation of the following standards in the waters of the North Coast-Lower Columbia River Basin:

   a. Dissolved Oxygen (DO):

      1) Fresh Waters: DO concentrations shall not be less than 90 percent of saturation at the seasonal low, or less than 95 percent of saturation in spawning areas during spawning, incubation, hatching, and fry stages of salmonid fishes.

      2) Marine and Estuarine Waters (Outside of zones of upwelled marine waters naturally deficient in DO): DO concentrations shall not be less than 6 mg/l for estuarine waters, or less than saturation concentrations for marine waters.

      3) Columbia River: DO concentrations shall not be less than 90 percent of saturation.

c. Turbidity (Jackson Turbidity Units, JTU):

No more than a 10 percent cumulative increase in natural stream turbidities shall be allowed except for certain specifically limited duration activities which may be specifically authorized by DEQ under such conditions as it may prescribe and which are necessary to accommodate essential dredging, construction, or other legitimate uses or activities where turbidities in excess of this standard are unavoidable.

d. pH (Hydrogen Ion Concentration): pH values shall not fall outside the following ranges:

1) Marine [and Estuarine] Waters: 7.0 - 8.5

2) Estuarine and Fresh Waters: 6.5 - 8.5

e. Organisms of the Coliform Group where Associated with Fecal Sources (MPN or equivalent MF using a representative number of samples):

1) Columbia River from the Highway 5 Bridge between Vancouver and Portland to the Mouth: Average concentrations shall not exceed 1,000 per 100 milliliters, [or exceed this value in more than 20% of the samples.] with 20% of samples not to exceed 2,400 per 100 ml.

2) Marine Waters and Estuarine Shellfish Growing Waters: [Average] Median concentrations shall not exceed 70 per 100 ml.

k. Objectionable discoloration, scum, oily sleek or floating solids, or coating of aquatic life with oil films shall not be allowed.

l. Aesthetic conditions offensive to the human senses of sight, taste, smell or touch shall not be allowed.

m. Radioisotope concentrations shall not exceed Maximum Permissible Concentrations (MPC's) in drinking water, edible fishes or shellfishes, wildlife, irrigated crops, livestock and dairy products or pose an external radiation hazard.

n. The concentration of total dissolved gas relative to atmospheric pressure at the point of sample collection shall not exceed one hundred and five percent (105%) of saturation, except when stream flow exceeds the 10-year, 7-day average flood.

o. Dissolved Chemical Substances:

[~~1)~~ ~~Columbia-River:~~] Guide concentrations listed below shall not be exceeded unless otherwise specifically authorized by DEQ upon such conditions as it may deem necessary to carry out the general intent of this plan and to protect the beneficial uses set forth in Section [B] A.

	mg/l
Arsenic (As)	0.01
Barium (Ba)	1.0

set forth in this section, except those standards relating to aesthetic conditions, within a defined immediate mixing zone of specified and appropriately limited size adjacent to or surrounding the point of waste water discharge.

b. The sole method of establishing such mixing zone shall be by the Department defining same in a waste discharge permit.

c. In establishing a mixing zone in a waste discharge permit the Department:

1) May define the limits of the mixing zone in terms of distance from the point of the waste water discharge or the area or volume of the receiving water or any combination thereof,

2) May set other less restrictive water quality standards to be applicable in the mixing zone in lieu of the suspended standards; and

3) Shall limit the mixing zone to that which in all probability, will

a) Not interfere with any biological community or population of any important species to a degree which is damaging to the ecosystem; and

b) Not adversely affect any other beneficial use disproportionately.

a. During periods of low stream flows (approximately May 1 to October 31): [High Quality Secondary] Treatment resulting in monthly average effluent concentrations not to exceed 20 mg/l of BOD and 20 mg/l of SS or equivalent control [shall be provided].

b. During the period of high stream flows (approximately November 1 to April 30) and for direct ocean discharges: A minimum of [conventional] Secondary Treatment or equivalent [shall be provided] and unless otherwise specifically authorized by the Department, operation of all waste treatment and control facilities [shall be operated] at [a] maximum practicable efficiency and effectiveness so as to minimize waste discharges to public waters.

c. Effluent BOD concentrations in mg/l, divided by the dilution factor (ratio of receiving stream flow to effluent flow) shall not exceed one (1) unless otherwise approved by the EQC.

d. Sewage wastes shall be disinfected, after treatment, equivalent to thorough mixing with sufficient chlorine to provide a residual of at least 1 part per million after 60 minutes of contact time unless otherwise specifically authorized by permit.

e. Positive protection shall be provided to prevent bypassing raw or inadequately treated sewage to public waters unless otherwise approved by the Department where elimination of inflow and infiltration would be necessary but not presently practicable.

f. More stringent waste treatment and control requirements may be imposed where special conditions may require.

d. Industrial cooling waters containing significant heat loads shall be subjected to offstream cooling or heat recovery prior to discharge to public waters.

e. Positive protection shall be provided to prevent bypassing of raw or inadequately treated industrial wastes to any public waters.

f. Facilities shall be provided to prevent and contain spills of potentially toxic or hazardous materials and a positive program for containment and cleanup of such spills should they occur shall be developed and maintained.

NOTE: E. Policies and Guidelines, and F. Implemementation Program, which appeared in the original basin plan are consolidated in Sections III and IV, respectively.

Administration of the Rules

1. The State Forester take immediate steps to improve the level of training of forest practice officers. Training in soils, stream protection, road location and design, and harvesting systems is particularly important.

2. The State Forester encourage development of educational programs for training timber operators in stream protection methods, recognition of potential landslide and erosion problems, and forest practice rules requirements.

3. The State Forester continue development of guidelines to provide field supplements for the Forest Practices Act Rules, similar to the stream clearance guidelines.

4. The turnover rate among forest practice officers (particularly those with college training) be reduced by whatever means deemed appropriate, in order to promote and encourage stability and build field experience.

5. The percentage of college-trained forest practice officers be increased to raise the level of technical expertise in the field. Minimum qualifications should be established for forest practice officers to insure a specified level of expertise and field experience when hiring college graduates or promoting those from within the organization.

6. The number of inspections be increased, particularly preoperation inspections on high priority operations. Road maintenance inspection should also be increased.

7. The system for identifying high priority areas by improved be requiring submission of a very brief operations plan.

8. Forest practice officers be provided with sufficient time to inspect high priority operations by specifying a minimum review period between notification and initiation of the operation.

9. Verbal notification of the operations starting date be required on all operations if other than that specified on the notification.

10. Technical support be provided for forest practice officers especially in soils, hydrology, and forest engineering.

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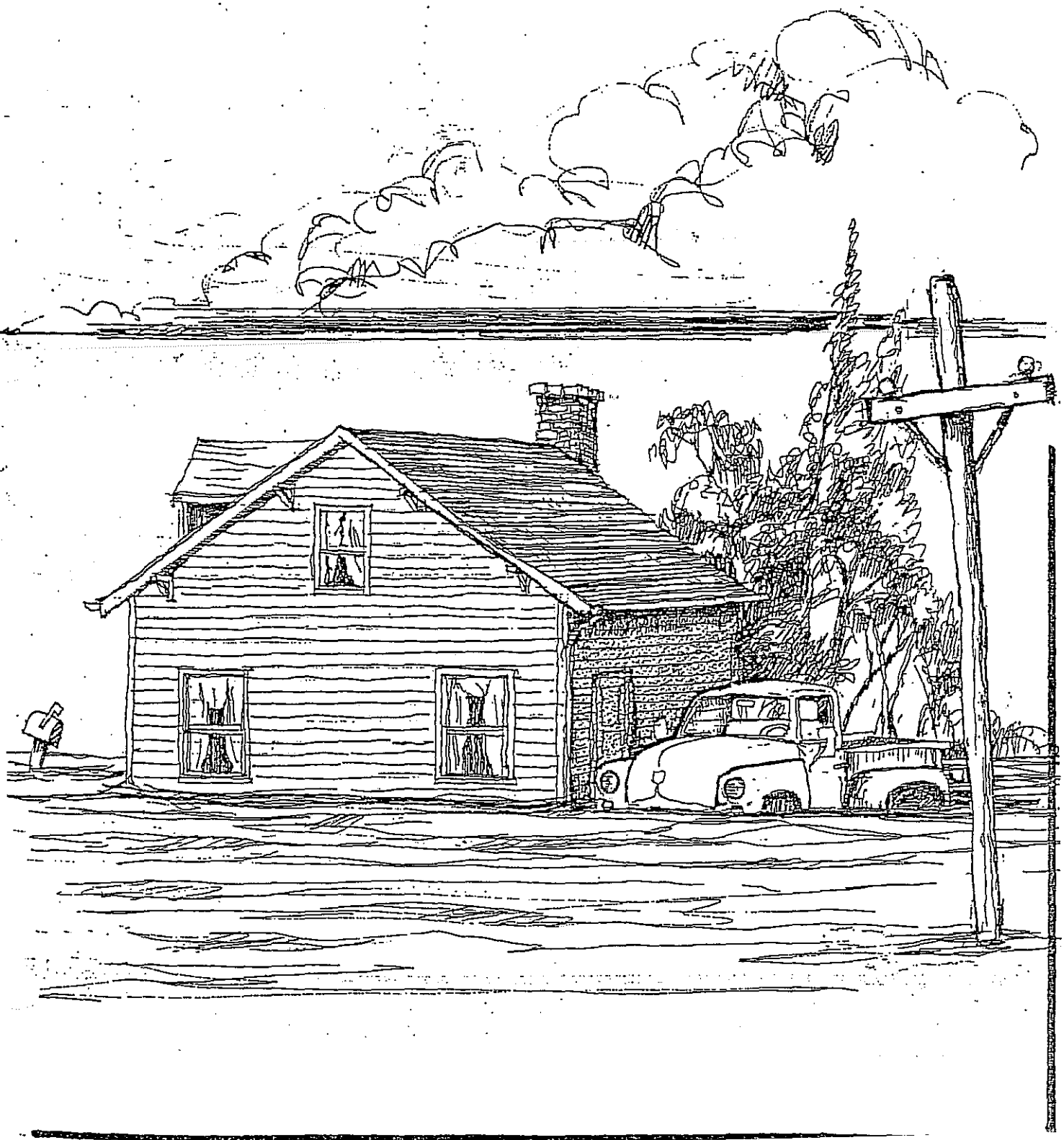
Goal 7

CLATSOP COUNTY
GOAL 7
COUNTY-WIDE ELEMENT

AREAS SUBJECT to NATURAL DISASTERS and HAZARDS



COUNTY-WIDE ELEMENT

GOAL 7

Areas Subject to Natural Disasters and Hazards

Adopted July 3, 1980 by Clatsop County Board of Commissioners
Amended by Ordinance 03-08

Introduction

In considering the suitability of various land for development, physical characteristics that are hazardous or limiting must be analyzed. Safeguards need to be taken in these areas to minimize the loss of life and property and avoid expensive and burdensome corrective measures.

The following natural hazards are of concern in Clatsop County:

1. Stream and Normal Ocean Flooding, Tsunamis,
2. Mass Movement and Earthquakes,
3. High Groundwater and Compressible Soils, and
4. Erosion and Deposition.

Stream and Normal Ocean Flooding, Tsunamis

Basic Findings

Clatsop County experiences flooding from three different sources: stream flooding, ocean flooding and tsunamis. Flooding is most severe in the low lying coastal and estuaries of the County such as the Necanicum Estuary where high river flows from storms can combine with ocean flooding from high tides. High tides hold back the high river flows and greatly aggravate lowland flooding along streams. Ocean flooding also affects diked areas of the County bordering the Columbia, Lewis and Clark, and Youngs River when high tides and river flows close the tide gates, temporarily flooding the diked tidelands.

Stream flooding in the upland areas of the County is much less severe than in the low flat coastal and estuary areas. The extenf of flooding in the upland areas is most times limited by the narrowness of the stream valleys.

As part of the participation in the National Flood Insurance Program, Clatsop County has adopted a floodplain ordinance setting forth regulations for development in floodways and floodplains in relation to the degree of hazard present. No structures for human habitation are allowed in floodways. In other flood areas, structures must be floodproofed or elevated 1 foot above the 100 year flood. The flood elevations determined in coastal areas took coastal flooding and tsunamis into consideration.

Clatsop County recognizes the development limitations of floodplains, with their best use being for agriculture, forestry, and open space where the number of structures subject to damage is minimized. Most of the diked tideland and areas of the County with broad floodplains have been placed in Exclusive Farm Use (EFU) zones. Where subdivisions do occur in floodplains, developers are encouraged to cluster homes outside of the floodplain area, leaving the floodplain in open space.

Goal 7 - Natural Hazards

Goal

To protect life and property from natural disasters and hazards.

Flood Hazard Policies

1. Clatsop County recognizes the value of an integrated flood hazard management program in order to protect life and property and shall continue participation in the Federal Flood Insurance Program.

2. Through an integrated flood hazard management program, the county will implement and administer appropriate land use planning techniques and construction standards.

3. The County will develop and maintain educational efforts regarding the public benefit derived from an integrated flood hazard management program.

4. The County shall limit land uses in the floodplain to those uses identified by the adopted floodplain regulations as suitable.

5. The County shall strive to make flood hazard information, including that related to tsunamis, available to the public to insure that owners and potential buyers of flood prone land are aware of the hazard.

6. To provide continued flood protection, the County encourages the maintenance and repair of existing flood control structures. The construction of new dikes, for the purpose of establishing future development in floodplain areas, shall be discouraged.

7. Agriculture, forestry, open space and recreation shall be the preferred uses of flood prone areas.

8. The County shall prohibit the placement of hospitals, public schools, nursing homes, and other similar public uses within areas subject to flooding.

9. Subdivisions occurring within floodplain areas shall be encouraged to cluster land uses outside of the floodplain area leaving the floodplain in open space.

10. For specified areas, the County will consider the adoption of regulations requiring the preparation and implementation of a drainage plan as part of its review and approval of conditional use permits and development permits.

Mass Movement

Basic Findings

Extensive areas of Clatsop County are subject to mass movement, the majority of which is in the mountainous interior of the County used exclusively for forestry. However, throughout the County there are areas with mass movement potential which have the possibility of more varied use, such as rural areas along the Columbia River and along the southwest coast. Structures and facilities arre subject to severe damage or complete destruction over time from moving masses of earth.

The southwest coast is the area of the County with the most severe mass movement hazards. The area has a history of major landslide activity including the Silver Point and Ecola landslides. A detailed geologic report by Martin Ross found the entire southwest coast retreating landward at varying rates caused by ocean wave undercutting and related landsliding. The recommendations from this study form the basis for the hazard policies the County has adopted as part of the Southwest Coastal Community Plan.

Care needs to be taken in approving development in areas of mass movement hazards. Excavations, cuts, fills and drainage modifictions may decrease the stability of an area and initiate sliding. The County has the opportunity to minimize hazards by controlling the design of developments. Some methods include discouraging cut and fill construction practices, retaining stabilizling vegetation, and requiring roads to follow slope contours.

The best sources of information for mass movement hazards in areas of the County other than the southwest coast is the detailed soils mapping by the Soil Conservation Service (SCS). The SCS has prepared an inventory of the slopes at which different soil types in the County become hazardous (Table 1). When development is to occur on hazardous soils and slopes, the County will require a preliminary site investigation for evidence of hazards. If evidence of hazards is found, the County will require a detailed site investigation which includes possible solutions to address the hazard.

Most of the Oregon coast is categorized as a zone of minor potential earthquake damage for which quakes of Mercalli intensity V-VI may occur. The major hazard of earthquakes is that in regions of moderate to steep slopes and saturated ground conditions such as large areas of Clatsop County, earthquake vibrations could initiate significant slope failure.

Table 1.
Soils Hazardous in Relations to Mass Movement

Soils	Mapping Symbol	Slopes at Which Becomes Hazardous
Astoria silt loam	2E, F, G	20%
Hembre silt loam	12H	60%
Kilchis silt loam	27	60%
Klickitat stony loam	20G, H	50-60%
Svensen loam	37E, F, G	20%
Terrace escarpment	28E	
Tolovana silt loam	38E,F,G,H,F-1	20%
Winema silty clay (33 silt loam)	34E,F,G,	20%
Ecola silt loam (13 silt loam)	13E,F,G,H	20%

General Mass Movement Policies

1. The County shall recognize the development limitations imposed by areas of mass movement potential.

2. Mass movement hazards do not necessitate disapproval of development, but higher development standards can be expected in order to minimize problems.

3. Clustering of development on stable or less steep portions of sites is encouraged in order to maintain steeper or unstable slopes in their natural conditions.

4. Closely spaced septic tanks and drainfields should be restricted from moderately to steeply sloping areas because of the potential for sliding.

5. Projects which include plans for modifying the topography of sloping areas or established drainage patterns shall be evaluated in terms of the effect these changes would have on slope stability.

6. The presence of faults in an area shall constitute additional reason for restricting development in areas of landslide topography.

7. The County Planning Department should inform potential builders and developers of the presence of fault lines and may require a site investigation in appropriate situations (such as the construction of a school, hospital or large residential development).

Development Policies for Areas of Mass Movement

1. Structures should be planned to preserve natural slopes. Cut and fill construction methods shall be discouraged.

2. Access roads and driveways shall follow slope contours to reduce the need for grading and filling, reduce erosion, and prevent the rapid discharge of runoff into natural drainageways.

3. Loss of ground cover for moderately to steeply sloping lands may cause land slippage and erosion problems by increasing runoff velocity. Development on moderate to steep slopes should generally leave the natural topography of the site intact. Existing vegetation, particularly trees, should be retained on the site.

4. The County shall require a preliminary slope stability investigation in the following hazard areas:

   a. Where detailed soils map exist, in hazardous soils areas listed in Table 2;

   b. Where no detailed soil maps exist, all areas which have slopes in excess of 25%.

   Where the preliminary slope stability investigation indicates mass movement hazards on the site, a detailed site investigation report shall be prepared. The detailed report shall indicate the severity of the hazard and any recommended techniques that could be used to alleviate the hazard before structures, roads, and septic tanks are allowed in non-commercial forest lands.

High Groundwater and Compressible Soils

Basic Findings

In the alluvial lowland areas near streams and rivers and in the interdune areas of the Clatsop Plains, the groundwater table is at or near the ground surface much of the year. Problems associated with high groundwater include hydrostatic pressure causing buoyancy of underground tanks or fracturing of basement floors and walls and health hazards from improperly working septic systems. Much of the problem of building in areas of high groundwater has been addressed by the present DEQ rules which prohibit the issuane of septic tank permits when the groundwater level is within 5-1/2 feet of the ground surface.

Most of the soils with high groundwater levels also experience problems due to the compressible properties of the soils. Construction on compressible soils can result in differential settling of development such as homes, roads, railroads, airport runways and pipelines.

Engineering solutions include excavation and backfillinlg with a more suitable material, preloading, and the use of piling or spread footings depending upon the nature of the specific structure being considered and the degree of severity of the hazard.

Policies for Areas with High Groundwater and/or Compressible Soils

1. The County shall recognize the development limitations of lands with high groundwater and compressible soils during its planning process.

2. It is recommended that in all areas identified as having a high groundwater level, DEQ conduct a winter water check before issuing any septic tank permits.

3. Prior to the approval of a subdivision in areas of compressible soils, the County shall require a site investigation prepared by a soils engineer, geologic engineer or other expert. The report shall indicate what techniques can be used to address the hazards on the property.

4. Prior to the issuance of a building permit in an area of compressible soils the building official may require that special provisions be made in the foundation design and construction to safeguard against damage. The building official may require a site investigation and report to provide this design and construction criteria.

5. The County shall update its compressible soils and high water table maps as detailed soils information becomes available.

Table 2.

Compressible Soils and Soils that Exhibit High Groundwater Levels in Clatsop County

Soil	Detailed Soils Map Symbol	Compressible	High Groundwater
Peat	21A	X	X
Braillier muck	3A	X	X
Clatsop silty clay loam	5A	X	X
Coquille silty clay loam	7A	X	X
Warrenton loamy fine sand	23A		X

Erosion and Deposition

Erosion hazards in Clatsop County can be divided into streambank erosion, wind erosion, and wave erosion.

Wind and wave erosion hazards are addressed in the Beaches and Dunes section of the Clatsop Plains Community Plan and the Hazards section of the Southwest Coastal Community Plan.

Streambank Erosion and Deposition

Basic Findings

Areas of most active streambank erosion are recognized by steep slopes, little vegetative cover, and position on the outside of stream and river

channels. In addition to the loss of land, stream erosion is responsible for deterioration of water quality, destruction of fish spawning grounds and silt deposition which results in the clogging of the streams and estuaries.

Streambank erosion is a special hazard in dikes areas. Much of the problem may be due to wave action caused by tug and other boat traffic.

Both direct and indirect measures need to be taken if streambank erosion and deposition are to be controlled. Direct actions include streambank planting and installation of riprap, groins or baffles. Indirect methods of control are an attempt to get at the causes of erosion and are often the most difficult. Control of logging activity to reduce the amount of sediment and debris in the water is a major concern.

Streams and rivers in Clatsop County with erosion hazards have been identified by the Department of Geology and Mineral Industries as part of their two environmental geology reports and through the 208 Program conducted by the DEQ. Erosion rates are not known for the various rivers and streams in the County, which makes it difficult to prescribe safe setbacks for improvements. However, floodways of various widths exist along the streams and rivers within which no permanent structures are allowed. In addition, building setbacks along water lines will be prescribed for the multilple purpose of preventing erosion, maintaining wildlife habitat and providing a natural filter for runoff.

Policies for Streambank Erosion and Deposition

1. The outside faces of dikes shall be stabilized to prevent erosion as part of the regular maintenance of existing dikes.

2. A buffer of riparian vegetation along streams and rivers should be encouraged in order to protect and stabilize the banks.

3. Property owners shall bne notified of areas of streambank erosion so they can take this information into account when placing structures.

4. The DEQ's best management practices for agricultural areas shall be supported to reduce erosion and sedimentation of streams.

5. Appropriate agencies should work to obtain speed limits and enforcement of these speed limits for boats in areas where dikes are affected by wave erosion.

6. The Forest Practices Act shall be strictly enforced to reduce sedimentation of streams.

7. Problems from natural erosion or the creation of situations where erosion would be increased due to actions on or adjacent to the river banks shall be avoided by carefully reviewing state and federal permits for shoreline stabilization to minimize impacts on adjacent land.

CLATSOP COUNTY COMPREHENSIVE PLAN

Background Report

NATURAL HAZARDS

Goal 7

Adopted July 23, 1980 by
Clatsop County Board of Commissioners

Revision: January, 1991
Amended by Ordinance 03-08

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INTRODUCTION

This inventory has been prepared to identify those areas in Clatsop County susceptible to natural hazards--information which is important to take into consideration when planning for future land use. These areas pose risks for the construction of buildings, utilities and roads, and for the safety of persons living in these areas. The degree of risk varies over areas. In one area the presence of a particularly critical hazard may override all other planning considerations. In other areas appropriate safeguards can be taken and the land still used for various residential, commerical or industrial uses.

This information will be used by the Citizen Advisory Committee when preparing their community plans, as well as being available to county planners, Planning Commissioners, and elected officials for consideration in all land use actions. In this way the detrimental effects of natural hazards can be reduced by accounting for them and taking appropriate safeguards.

The following natural hazards have been identified in Clatsop County:

1. Stream and Normal Ocean Flooding, Tsunamis,
2. Mass Movement and Earthquakes,
3. Wind Erosion,
4. High Groundwater,
5. Compressible Soils,
6. Stream bank Erosion and Deposition.

FLOOD HAZARDS

Clatsop County may experiences flooding from three different sources: stream flooding, ocean flooding and tsunamis.

Stream and Normal Ocean Flooding

Stream flooding in the upland areas of the County is much less severe than in the low, flat coastal and estuary areas. The extent of flooding in the upland areas is most times limited by the narrowness of the stream valleys, an exception being the broader floodplains in the Elsie-Jewell area. Some of the rivers have built up terraces along their banks, which constricts many of the floods to the channel. The major hazard associated with upland flooding is stream bank erosion.

The most extensive flooding occurs in the low lying coastal and estuary areas. Coastal streams respond quickly to the rapid runoff caused by the steep topography and low bedrock permeability of the uplands. Flooding is the greatest when

stream flooding occurs in conjunction with ocean flooding from high tides and winter storms. Storms that produce the storm surges also bring heavy rains. High tides hold back the high river flows and greatly aggravate lowland flooding along streams.

Ocean flooding also affects diked areas bordering the Columbia River and Youngs Bay when high tides and river flows close the tide gates. While tide gates are closed, storm runoff accumulates and floods the flat, low lying floodplain areas. This flooding is temporary, however, as the water drains through the tide gates on the next low tide.

Tsunami

The other type of coastal flooding hazard is the tsunami. Tsunami is the term applied to waves generated at sea by earthquakes. There are two types of tsunami events, near shore tsunamis and distant tsunamis. Tsunamis have the potential to be by far the most destructive flooding event. The inundation of low lying coastal areas can result in the loss of both property and lives. A near shore tsunamis will be generated by a Cascadia Subduction Zone earthquake (See the Earthquakes section). Scientists estimate that such an earthquake will generate a tsunami with wave run up heights of 16 to 30 feet above the prevailing seas. The first tsunami crest will arrive within 15 - 30 minutes after the earthquake is felt. Multiple waves will occur, with later crests having the potential to be higher than the initial event. After the earthquake and tsunami event, a significant amount of beach erosion can occur as beaches seek to reestablish equilibrium with the new lower elevations of the coastline.

In 1996, the Oregon Department of Geology and Mineral Industries (DOGAMI), pursuant to ORS 455.446 and 455.447, prepared maps showing the tsunami inundation zone for the Oregon coast based on a magnitude 8.8 Subduction zone earthquake. The base map for this mapping is the USGS 7.5 minute maps which are at a scale of 1:24,000. Pursuant to the Oregon Revised Statutes referenced above, the mapped inundation zone identifies areas where the construction of certain types of essential facilities and special occupancy structures is restricted.

In 1998, DOGAMI completed tsunami hazard mapping for the Seaside-Gearhart area. The study area extended from north of the Highlands Road to an area in the vicinity of the Johnson rock quarry south of Peterson Point. The study identified areas of moderate, high and extreme risk associated with a major Cascadia Subduction Zone earthquake.

Tsunamis from earthquakes located at transoceanic sites (e.g., Alaska, Japan, Chile) are termed distant tsunamis. Researchers have found the wave height of distant tsunamis to be directly

related to the magnitude of the earthquake with which it is associated. The most recent significant distant tsunami in Clatsop County was the 1964 Good Friday tsunami caused by a submarine earthquake that occurred off the south coast of Alaska. The tsunami caused considerable damage to the cities of Warrenton, Seaside, and Cannon Beach. Warrenton suffered $20,000 damage, particularly to docks and log rafts in the mill area. Seaside was struck by a wall of water estimated to be more than 10 feet high, which flowed up the Necanicum River, doing $40,000 damage as far inland as the golf course. The surge of water in Cannon Beach was so great it swept the 200-foot long Elk Creek highway bridge 1/4 mile upstream. Motels along Elk Creek were badly damaged and much of the business district was flooded.

The Federal government has established a warning system that notifies local emergency preparedness personnel in the event of a far shore tsunami. Generally, 4 to 15 hours of notice can be given.

Flood Damage and Protection

Flood damage is greatest in areas of fast flowing currents. The force of these currents can cause damage by smashing floating objects against stationary structures, by scouring out channels under or around structures, eroding away foundations and washing out roads and bridges.

Although not an immediate threat to life, flooding in areas outside of rapidly moving water can cause loss to buildings, equipment, and facilities from water and mud damage. A danger to safety is contamination of well and drinking water supplies.

The federal flood insurance program differentiates between the two types of flood areas mentioned above by the terms "floodway" and "area of special flood hazard". The floodway is the flood channel that carries the fast moving floodwater. Areas of special flood hazard are areas of rising floodwaters without rapid flow.

Clatsop County has participated in the National Flood Insurance Program since 1974. A floodplain ordinance and final maps establishing elevations, boundaries of floodways and special flood hazard areas was adopted June 21, 1978. Regulations for floodplains and floodways were adopted in relation to the degree of hazard. No structures for human habitation are allowed in floodways. In other flood areas, structures must be flood proofed or elevated above the level of a flood, which has a 1%, or greater chance of happening in any one year (100 year flood). The flood elevations determined in coastal areas took coastal flooding and tsunamis into consideration.

In addition, Clatsop County, in its planning process, has taken

flood hazards into consideration when determining land use designations. Most of the diked tideland and areas of the County with broad floodplains have been placed in Exclusive Farm Use (EFU) zones. The EFU~~s~~ zones protect agricultural uses which ~~is~~ are compatible with flood areas while limiting the number of residential and commercial structures

The Department of Environmental Quality has rules whereby a sanitarian can deny approval for an on-site treatment system based on excessive saturation, if frequent flooding occurs, or based on high groundwater if the water table rises from below. These rules are intended to ensure that on-site treatment systems function without creating a health hazard or water pollution.

BACKGROUND REPORT
NATURAL HAZARDS
FLOOD HAZARD RELATED MATERIAL

FLOOD HAZARDS

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Table 1. Flooding in Clatsop County: **1953 - 1977**

Date	Description	Damage (thousands of dollars)
Memorial Day, 1953	Vanport Flood	N/A
February, 1960	Freak Wave	N/A
January, 1964	River Flooding; Astoria - 4.32" of rain in 24 hours	N/A
March, 1964	Tsunami Heavy damage to homes and bridge washout in Cannon Beach. Heavy damage to homes in 6 block area of north Seaside and washouts of 12 th Street, Railroad, and Hwy. 101 bridges.	City of Warrenton 20 City of Seaside 20 private property in Seaside 235 TOTAL for County 1,000
December, 1964 January 1965	Flooding of the Columbia and Nehalem Rivers Damages on Columbia River (Oregon side from Willamette River to mouth of Columbia River) Damages on Nehalem River (including Tillamook County)	TOTAL 1,181 Businesses 275 Flood fight &Rehab. 370 Physical Damage 536 Emergency Relief 41 TOTAL 328
December, 1966	Flooding on Necanicum River. Seaside, 3.35" of rain in 48 hours	N/A
December, 1967	High winds and freak wave (damage and overtopping of dikes on Lewis & Clark River, Youngs River, Brownsmead, Knappa, Blind Slough and Gnat Creek. Cannon Beach was declared a special disaster area.)	Cannon Beach 125 Seaside 7 County- mainly agricultural damages 200
December, 1970	Flooding on Neawanna Creek. Seaside, 3.65 A of rain in 48 hours. Crown Camp, 5.6 A of rain in 48 hours with 20-32" of snow in hills.	N/A
January, 1971	High storm tides and heavy rains (100 mph winds reported at Cannon Beach). Seaside - 1.53" of rain in 24 hours with 15-26" snowmelt in hills.	Cannon Beach 75 County- mainly agricultural damages 216.5
December, 1972	High storm tide (+12 feet). Overtopping of dikes caused flooding in Alderbrook (Astoria) and in Brownsmead causing dike and tidegate washout.	N/A Brownsmead damages 13
January, 1974	High storm tides and river flooding (tide 2-3 feet above normal). Flooding on the Nehalem River.	TOTAL 203.3

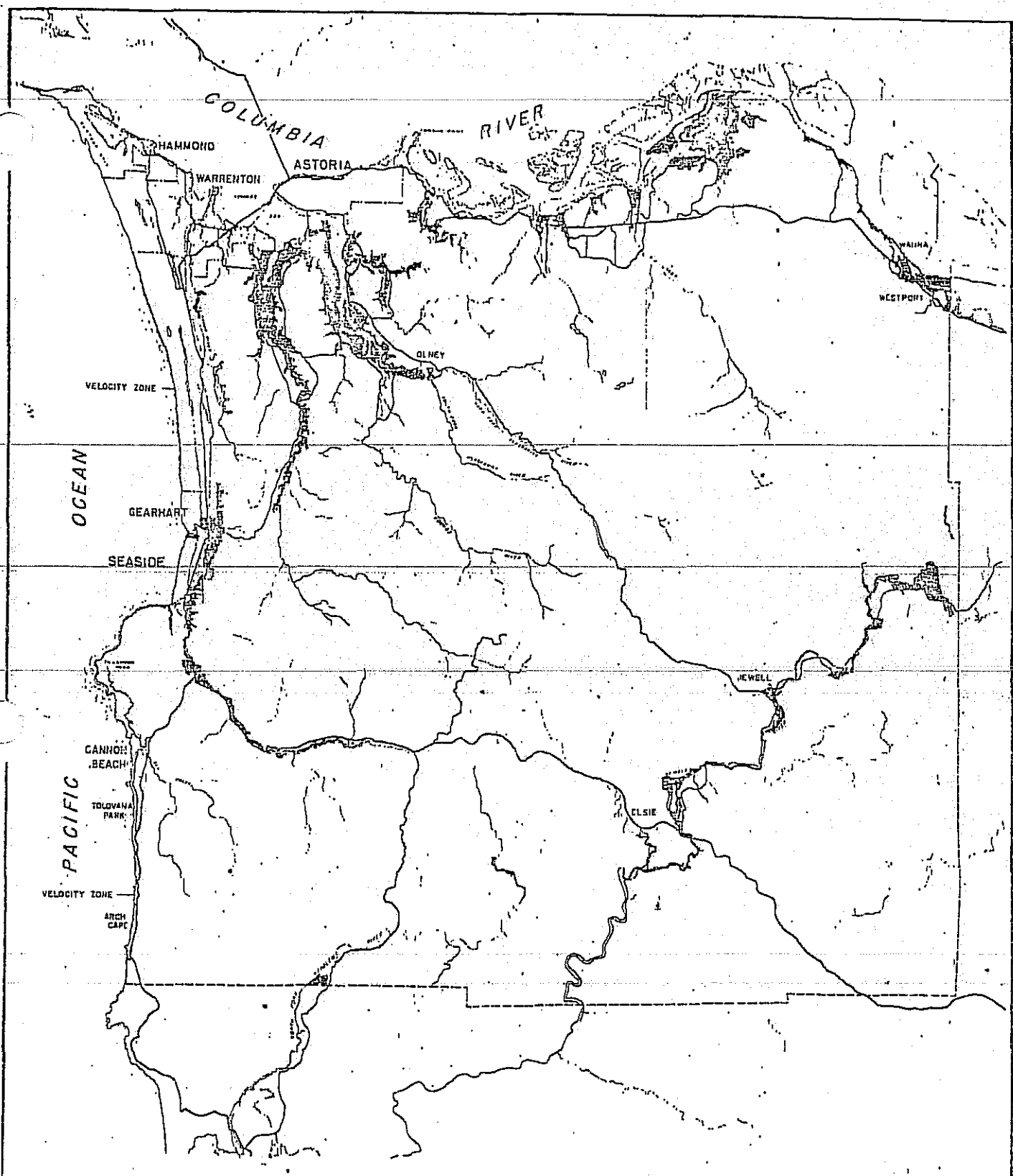
W:\PL\Veronica\Hazards\back ground Flood Hazards codified 6-17-03.doc

Date	Description	Damage (thousands of dollars)
	State of Oregon declared disaster area.	(estimated total county damages)
December, 1975	Stream flooding. Clatsop Airport - 8.99" of rain in 6 days. Floodgate washout on Skipanon River.	N/A
February, 1976	Storm tides (sea swells were reported as 12-18 feet).	Arch Cape and Cannon Beach 75
December, 1977	High tide and river flooding. Astoria - 3.28" of rain in 24 hours. Overtopping of dikes on Youngs River, Lewis & Clark River, Brownsmead and Svensen Island. Tidegate and road washout occurred on Lewis & Clark Road. Extremely hazardous surf conditions on all beaches.	Damages 80

Sources: The Daily Astorian, U.S. Dept. of Agriculture, Soil Conservation Service, U.S. Army Corps of Engineers, and the National Weather Service.

Since 1979, the most severe flooding event occurred in February of 1996. A damage survey report prepared for the Federal Emergency Management Agency by Clatsop County estimated that the damage to public facilities, roads and individual property was approximately 2.65 million. Actual damage probably exceeded this figure. Flood damage was heaviest in rural Clatsop County, especially in the Nehalem River Valley, where the river crested 14 feet above flood stage. A log jam destroyed a bridge on the Lower Nehalem River, leaving the neighborhood of Sha-Ne-Mah without any road access. A section of Highway 202 was damaged resulting in an O-DOT road modification project with an estimated cost of one million dollars. The Columbia River flooded diked lands in the Brownsmead, Burnside and Svensen island area. The railroad access to western Clatsop County was closed by a landslide at Aldrich Point. (By 1999, the slide had not been removed). Emergency personnel evacuated residents around the county, with between 200 and 300 residents being evacuated in the Nehalem River Valley. National Guard troops distributed sandbags in Westport, Wauana, Seaside and at the Tongue Point Job Corps Center in Astoria.

Although the majority of property owners located in flood hazard areas do not have flood insurance, claims filed under the Federal Flood Insurance Program can provide some information on the extent of flood damage and where it is located. Since 1977, 29 property loss claims have been filed with FEMA; only one of these claims is considered to be a repetitive loss claim. Of the 29 claims, 14 were filed in the early part of 1996 and are assumed to have been associated with the February 1996 flood. Although the effect of the 1996 flood was significant, the information on claims filed under the Federal Flood Insurance Program indicate that flooding has not been a major problem in the county over the last two decades.



CLATSOP COUNTY

UNINCORPORATED AREAS

GENERALIZED FLOOD PLAIN MAP

AREAS INUNDATED BY 100 YEAR FLOOD

N

0 1 2 3 4 5
SCALE IN MILES

MAP REDUCED FROM U.S. DEPT. OF HOUSING AND URBAN DEVELOPMENT FLOOD INSURANCE RATE MAPS FOR CLATSOP COUNTY, 1978

CLATSOP COUNTY PLANNING COMMISSION

MAP

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Clatsop County Comprehensive Plan
Goals and Policies Document
Chapter 8 – Recreational Lands

Introduction

Clatsop County recreational land sites are utilized by the public for a wide range of recreational activities. Many of these activities are tied to the enjoyment of the natural plant and wildlife communities that currently exist on these publicly owned lands. The preservation of existing vegetative communities and wildlife habitat systems should be an important consideration in examining the desirability of future park development projects.

The County's park and recreational lands are valuable natural, cultural and economic resources of its residences.

The County is home to approximately 35,630[1] permanent residents. The population swells in excess of 80,000 on summer weekends as vacationers are drawn by the scenery, mild weather, small-town atmosphere and wealth of natural beauty. The region is well known for its history and many recreational opportunities afforded by the ocean beaches, dense forests, mountains, rivers and streams. More than 80 percent of the land in the County is forested.

Traditionally Clatsop County's economy was dependent on products and activities associated with its renewable natural resources. New restrictions on harvesting these resources and changes in markets have contributed to the decline of both the seafood and forest product industries.

On the other hand, tourism and other visitor-related activity has become more dominant. A workforce analysis by the Oregon Employment Department for February 2003 showed approximately 24 percent of the total private employment in leisure and hospitality and about 12.8 percent in natural resources and mining, wood product manufacturing and paper manufacturing.

The County's attractive natural and historic features, in combination with its recreational opportunities, are likely to continue to attract growing numbers of visitors. At the same time, these features are of great importance and are cherished by the citizens who live here.

The government of Clatsop County owns and manages nearly 1000 acres of County parks, recreational land sites, public parks and recreational areas. These parcels range from highly developed parks, such as Cullaby Lake, to primitive, passive recreational sites, such as David Douglas.

[1] This number is based on year 2000 U.S. Census, from the Center of Population Research and Census, Portland State University.

Oregon Statewide Planning Goal 8 requires local governments to inventory recreation needs based upon adequate research and analysis of public wants and desires. Inventories are based on adequate research and analysis of available resources. Findings need to be documented in long-range plans and action programs to meet the recreational needs. Among various issues, Goal 8 focuses attention on facilities and uses that meet recreational needs for high density population centers and persons of limited mobility and finances, provide maximum conservation of energy and minimize environmental deterioration, are available to the public at nominal cost and meet the needs of visitors to the state.

Oregon Administrative Rule (OAR) 660-034-040 suggests appropriate zoning categories and map designations (a "local park" zone or overlay zone is recommended), including objective land use and siting review criteria, in order to authorize the existing and planned park uses described in local park master plans.

Further, OAR 660-034-0040 provides for the uses listed in OAR 660-034-0035-(2)(a) through 660-034-0035-(2)(g) on agricultural or forest land within a local park provided such uses are listed in a master plan that meets specific requirements. Uses include campground areas, day use areas, recreational trails, boating and fishing facilities, park visitor and employee amenities, park land support facilities and infrastructure, park maintenance and management facilities, natural and cultural resource interpretative, educational and informational facilities, and visitor lodging and retreat facilities.

In 2005-06, the Clatsop County Recreational Lands Planning Advisory Committee created the 2006 Clatsop County Parks and Recreational Lands Master Plan. The Master Plan (available for review in its entirety in the Goal 8 Element of the multiple-volume Clatsop County Comprehensive Plan and Background Report) provides Recreational Lands Goals, Policies, and Actions listed on subsequent pages. The following **General Policies** also apply to Recreational Lands in the County:

1. The County should protect, manage, enhance and preserve identified park resources and recreational land resources.

2. The County should, to the extent practicable, retain existing county-owned stream front properties identified in adopted or approved park master plans, the County Transportation System Plan, or as needed for public access such as boat ramps, trails or other recreational needs.

3. The Recreational Lands Advisory Committee will maintain a public forum for citizen input regarding any future changes that potentially impact parks, recreational lands, trails, boat ramps and related programs within the county.

4. The County shall participate with other governmental, private, regional, volunteer and non-profit groups and agencies in coordinating planning efforts that may impact the County's recreational resources or park master plans.

5. County park and recreational lands shall be managed in accordance with county adopted or approved park master plans.

6. Clatsop County shall utilize the County Recreational Lands Committee as a primary public review body for all County actions related to recreation issues. This committee shall be given the opportunity to review and comment on all County recreational issued including:

    - Potential County land sales involving County Park lands or lands adjoining County park properties;
    - Potential County timber sales involving County Park lands or lands adjoining County park properties;
    - Major County Park improvement proposals; and
    - Annual County Parks budget proposals.

7. Existing County-owned recreational lands sites, as identified in the Clatsop County Parks and Recreational Lands Master Plan, shall not be sold, traded, rezoned or exchanged without first requesting the input of the County Recreational Lands Advisory Committee and a careful examination of existing and potential recreation values.

8. All revenue generated from the use, sale or lease of county parks shall be used solely for county park purposes.

9. Periodically review and update the County Park Master Plan.

10. A "county park" zone designation shall be created to support the Clatsop County Recreational Lands Master Plan in conformance with OAR 660-034-0035(2)(a) through 660-034-0035(2)(i).

11. Eliminate conflicting provisions of the Clatsop Plains Area Plan unless it can be demonstrated that public and private infrastructure or natural systems are unable to accommodate future park development.

12. Consider zone district text amendments that support Clatsop County Recreational Lands Master Plan.

Goal 8 – Recreational Lands

GOAL 1 – PARKS MANAGEMENT: Maintain and improve the county's park and recreational resources.

1.1 OBJECTIVE: Provide a consistent, high quality, park and recreation experience.

ACTIONS:

1.1.1. Establish consistent, high quality and recognizable identity for Clatsop County parks and recreational lands, including signage.
1.1.2. Display information about the entire park system at each developed county park.
1.1.3. Work with producers or area recreational maps and brochures to include county parks.
1.1.4. Provide more restroom facilities.
1.1.5. Coordinate with other law enforcement and security personnel to share patrolling of county parks as appropriate.
1.1.6. Strive to increase connectivity between parks and adjacent recreation areas.
1.1.7. Consider establishing "quiet zones" within the parks or consider identifying entire parks as "quiet parks". Exceptions could be made for special events, concerts, or other permitted activities.
1.1.8. Ensure adjacent land uses, especially industrial uses, are compatible with future park acquisitions and development projects.

1.2 OBJECTIVE: Manage each park to preserve and enhance the natural and cultural resources within the park system.

ACTIONS:

1.2.1 Provide staff training on issues of resource management and protection.
1.2.2 Implement a noxious weed control program.

1.3 **OBJECTIVE:** Identify additional county-owned land that could be used for recreational activity and educational purposes.

ACTIONS:

1.3.1 Maintain a parks classification system to guide current and future management.
1.3.2 Strive to locate parks close to population centers.
1.3.3 Create a policy for the acquisition, development, and disposal of parks and recreational lands that addresses long-term county needs.
1.3.4 Establish the exact boundaries and ownerships of all county owned parks and recreational lands.

1.4 **OBJECTIVE:** Provide park facilities that are safe and accessible for their designated uses.

ACTIONS:

1.4.1 Contact recreational user groups to ascertain their needs and gain their cooperation.
1.4.2 Minimize user conflicts by separating uses or through special use agreements.

1.4.3 Increase the number of maintained trails in each park.
1.4.4 Increase the number of designated fishing locations.
1.4.5 Create or adopt trail building guidelines.
1.4.6 Consider implementing ADA (Americans with Disabilities Act) accessibility standards within existing facilities, i.e., new handicapped-accessible fishing platforms at existing park sites.
1.4.7 Establish countywide development, building, and maintenance standards.
1.4.8 Decommission underused and derelict facilities that do not have heritage significance, including the removal of excess parking areas, roads, picnic shelters and parks buildings.

GOAL 2 – FUNDING AND OPERATION: Ensure a sustainable, high quality and cost effective park operation.

2.1 OBJECTIVE: Make the parks operation increasingly self-sustaining, including developing partnerships when possible.

ACTIONS:
2.1.1 Implement appropriate revenue generating potential of the county parks; consider a graduated fee schedule for county/non-county residents.
2.1.2 Investigate the establishment of a "Friends of the Parks" foundation to establish fundraising.
2.1.3 Pursue grants from state, federal, and private sources.
2.1.4 Consider the formation of a restricted fund as a source of stable, supplemental funding for parks.

2.2 OBJECTIVE: Utilize advanced and improved technologies in parks and facilities management to improve efficiencies.

ACTIONS:
2.2.1 Establish a reservations system for special facilities.
2.2.2 Evaluate operations for potential cost savings.
2.2.3 Annually evaluate prior year's performance and prioritize activities for the coming year.
2.2.4 Utilize resident park hosts, volunteers, and work crews where appropriate.
2.2.5 Acknowledge and reward volunteers with recognition.

GOAL 3 – COMMUNITY HEALTH & ECONOMIC/SOCIAL BENEFITS: Promote the community health and regional economic benefits of the park system.

3.1 OBJECTIVE: Raise public awareness of the health and economic benefits of the park system.

ACTIONS:

3.1.1 Determine the economic advantages to the county of current and potential parks and recreational lands, including future development projects.

3.1.2 Develop a marketing plan, including cross-marketing opportunities with other recreational providers, to highlight the county's scenic, recreational, and cultural qualities as an important part of a desirable, healthy lifestyle.

GOAL 4 – ENVIRONMENTAL STEWARDSHIP: Promote volunteerism and a greater sense of land stewardship among county residents of all age.

4.1 OBJECTIVE: Build an effective outreach strategy to engage the public.

ACTIONS:

4.1.1 Expand the Adopt-a-Park program, encouraging area schools, businesses and other community organizations to enlist volunteers in the development and maintenance within parks.

4.2 OBJECTIVE: Practice environmentally responsible park management.

ACTIONS:

4.2.1 Complete a system-wide natural Resources Inventory to be used to protect and enhance the environment.

4.2.2 Develop and implement a "green purchasing" program for park maintenance and operations.

4.2.3 Minimize tree cutting in parks with priority given to dead or identified hazard trees.

4.3 **OBJECTIVE:** Increase awareness of the county parks' natural and cultural resources.

ACTIONS:

4.3.1 Install interpretive signage at park locations where feasible.

4.3.2 Sponsor public events that highlight the county's unique natural and cultural features.

4.3.3 Use various media, such as newsletters, interpretive panels, and the county's website, to highlight the parks' natural and cultural resources.

GOAL 5 – REGIONAL RECREATIONAL CONNECTIONS: Establish a more integrated and connected system of parks and recreational resources within the county parks system and between the county and other public and private recreation providers.

5.1 **OBJECTIVE:** Establish a permanent recreation council of local, county, state, federal, and private recreation providers in Clatsop County to improve and integrate regional park and trail developments.

ACTIONS:

5.1.1 Create a Land and Water Trails Plan

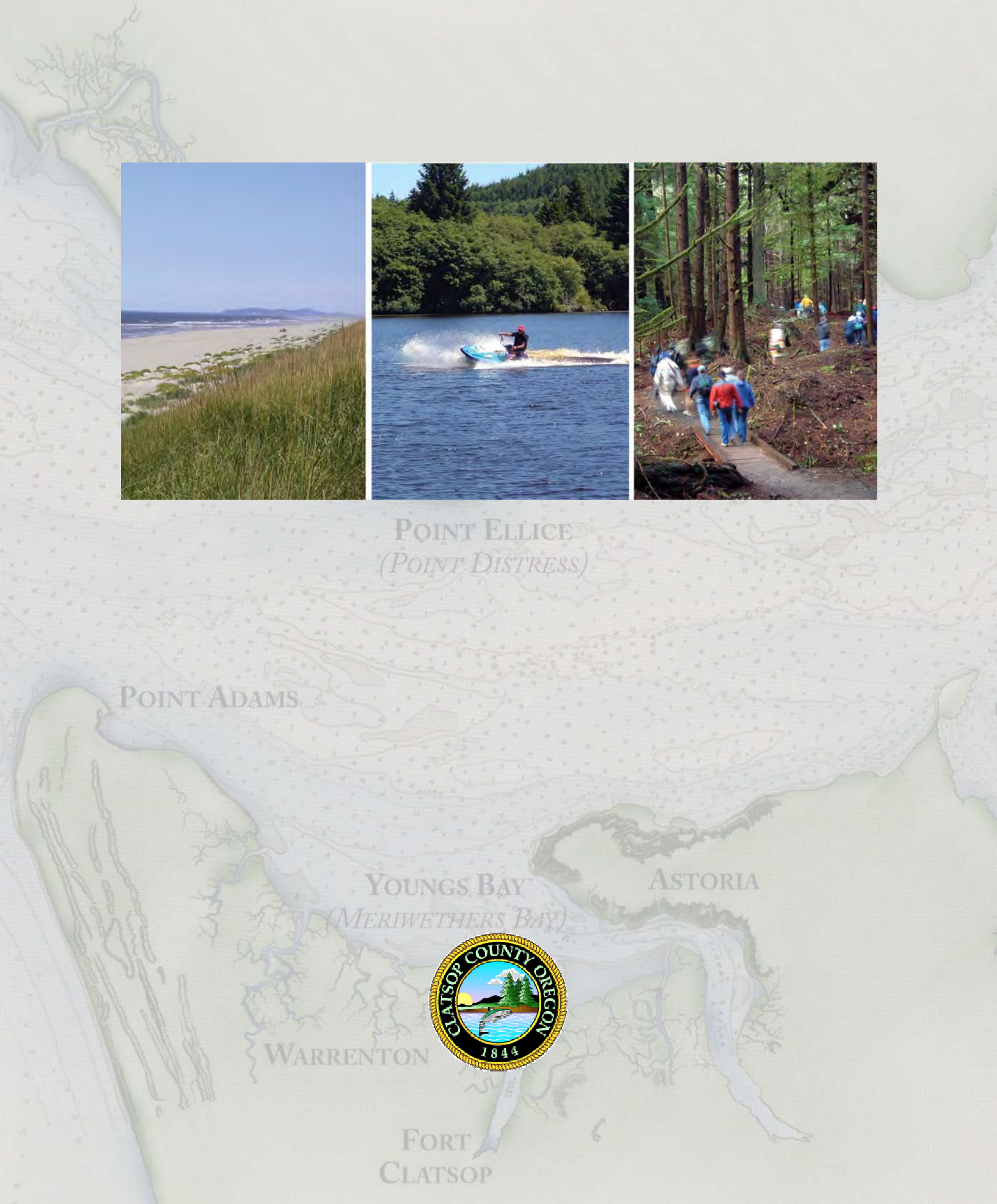
5.1.2 Create uniform land and water trail use guidelines and consistent signage to minimize use conflicts.

5.1.3 Identify opportunities to collaborate on recreational maps and other visitor information.

5.1.4 Identify the partnerships necessary to jointly manage recreational sites, such as Youngs River Falls.

5.1.5 Identify and investigate opportunities to secure public access to rivers, streams, and lands, as well as significant trails and natural or historic sites.

5.1.6 Incorporate inventories of all park and recreation facilities, including parks, sport fields, trails, recreational lands, historic sites and other relevant data, into the county's geographical information system (GIS).


Point Ellice
(Point Distress)
Point Adams
Youngs Bay
(Meriwethers Bay)
Astoria
Warrenton
Fort
Clatsop

As representatives of Clatsop County citizens, we are more convinced than ever that Clatsop County's diverse recreational holdings are among our most valuable assets. What we have discovered gives us a deeper appreciation for the privilege of living here and stronger commitment to pass this on as a legacy for future generations.

-Clatsop County Recreational Lands Master Plan Task Force

Thank you to the citizens of Clatsop County who attended public meetings, participated in the survey and symposium and reviewed the draft reports.

ACKNOWLEDGEMENTS

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INTRODUCTION

It is significant that the Clatsop County Recreational Lands Master Plan Task Force (the "Task Force") went about its work during 2005 and 2006 – 200 years after Lewis & Clark's Corps of Discovery reached the mouth of the Columbia River. The Corps set foot in this area November 26, 1805. They camped near the present-day John Day boat ramp after crossing the Columbia River at Aldrich Point. On December 9, the Corps started construction of Fort Clatsop to make their winter home. For three and one-half months they explored this area. Captain Lewis wrote more in his journal about what he discovered here than anywhere else on the journey.

The 12 Clatsop County citizens on this task force served as a latter-day Corps of Discovery, taking an inventory of existing parks and recreation sites, examining the many details of parks management and operation, and exploring ways to preserve some of our most valuable resources. The report that they produced is a comprehensive examination of the demand and supply of outdoor recreation in Clatsop County, including an in-depth examination of the county-owned resources. It is an update to the 1992 Clatsop County Recreational Lands Master Plan and, as such, is part of the county's Comprehensive Plan.

"We need to take seriously the evidence that open space counts in human lives and that places where we play can be places of hope."

Martin J. Rosen
Founding Member
and President
of the Trust for
Public Lands
1972-1977

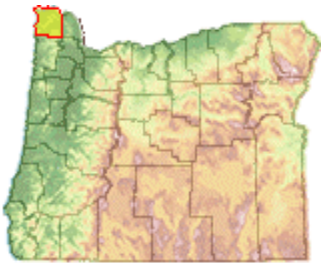
The Task Force's report is organized into nine chapters:

1. Planning Process *Key milestones in Oregon's long history of land-use planning.*

2. Public Involvement *Methods of outreach and results obtained through involvement of Clatsop County citizens in the planning process.*

3. Clatsop County Today and Projected: Demand for Outdoor Recreation *Examination and analysis of current trends, conditions and outdoor recreation needs and demand.*

4. Recreational Providers: Overview of Resources and Supply *The broad spectrum of recreational providers, types of resources and inventories of current supply.*



"Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and give strength to body and soul alike."

John Muir
Sierra Club Founder

"In the end, our society will be defined not only by what we create, but by what we refuse to destroy."

John Sawhill
President of the Nature Conservancy 1990-2000

5. Park System Goals, Objectives and Action Strategies *Five identified planning goals with subsequent objectives and action strategies for parks and recreational lands.*

6. Definitions and Standards *Proposed park classification system to better manage, plan for and promote county park resources.*

7. County Parks & Recreational Lands *Benchmark data obtained in on-site inventories at county-owned parks and recreation sites.*

8. Park System Financial Analysis *A review of funding mechanisms currently in use or available, and recommended ways to achieve more stable funding.*

9. Park System Summary Recommendations and Capital Projects List *Recommendations for meeting recreation needs of residents and visitors in the next ten years.*

Building A Legacy

We must remain aware of our role as land and water stewards of Clatsop County, with a responsibility to protect and preserve the quality of life we enjoy here today. Economic growth, housing development and jobs should be balanced with the need to protect our resources. Without a healthy environment we threaten our own health, water and food supplies, and the overall stability of natural systems that sustain us.

Partnerships, a coordinating council, innovative funding strategies and marketing tools recommended in this report serve as effective means by which to bring about greater recognition of our common cultural, ecological and recreational values. Above all, they reinforce the need to preserve and enhance these resources for future generations.

1 > PLANNING PROCESS

The update to the Clatsop County Parks and Recreational Lands Master Plan builds on Oregon's long history of land-use planning and policymaking at the state and local level. Key milestones are described here.

> Statewide Planning Goals

The State of Oregon has long maintained a strong statewide program for land-use planning. The foundation of the program is a set of 19 Statewide Planning Goals to which local governments are required to conform. In more than three decades since the goals were first established, there have been modifications in process, but the goals themselves have remained the same.

The 19 goals express the state's consistent policies on land use and related topics such as citizen involvement, housing, natural resources and recreational needs. Most of the goals are accompanied by "guidelines" that suggest ways in which a goal may be applied but (as noted in Goal 2) the use of the guidelines is not mandatory.

Local comprehensive planning is the means by which municipalities achieve the Statewide Planning Goals. State law requires each city and county to adopt a comprehensive plan, along with the zoning and land-division ordinances necessary to put the plan into effect.

Oregon's Land Conservation and Development Commission (LCDC) reviews local comprehensive plans to ensure consistency with the Statewide Planning Goals. When LCDC officially approves a local government's plan, the plan is said to be "acknowledged" and becomes the controlling document for land use in the area covered by the plan.

"There is a shameless threat to our environment and to the whole quality of life, an unfettered despoiling of the land. Sagebrush subdivisions, coastal 'condomania' and the ravenous rampage of suburbia in the Willamette Valley all threaten to mock Oregon's status as the environmental model for the nation …

"We are in dire need of a state land-use policy, new subdivision laws and new standards for planning and zoning by cities and counties. The interests of Oregon for today and in the future must be protected from grasping wastrels of the land ..."

From Gov. Tom McCall's opening address to the 1973 Legislative Assembly January 8, 1973

Later that year, the Legislature adopted Senate Bill 100, creating Oregon's Statewide Planning Goals.

Oregon's planning laws apply not only to local governments but also to special districts and state agencies. The laws strongly emphasize coordination – that is, the need to keep plans and programs consistent with each other, with the goals themselves, and with acknowledged local plans.

> Clatsop County Comprehensive Plan

Clatsop County's Comprehensive Plan is consistent with Oregon's Statewide Planning Goals. First adopted in 1983 and amended over the years, the plan represents literally thousands of hours of work by citizen advisory committees, the Clatsop County Planning Commission and staff of the Community Development Department, all supported by the active involvement of interested residents.

The Clatsop County Plan is a statement of public goals, policies, objectives, standards and maps used in making specific decisions about present and future land use. As a long-range policy guide it represents a public statement of the most desirable land conservation and development uses for the next ten to 20 years.

As a vital, living document, the Clatsop County Comprehensive Plan is flexible enough to change as long as goals and policies, once established, maintain their consistency and the integrity of commitment that underlies them.

Oregon Statewide Planning Goals

1: Citizen Involvement
2: Land Use Planning
3: Agricultural Lands
4: Forest Lands
5: Open Spaces, Scenic and Historic Areas, and Natural Resources
6. Air, Water and Land Resources Quality
7. Areas Subject to Natural Disasters and Hazards
8: Recreational Needs
9: Economic Development
10: Housing
11: Public Facilities and Services
12: Transportation
13: Energy Conservation
14: Urbanization
15: Willamette River Greenway
16: Estuarine Resources
17: Coastal Shorelands
18: Beaches and Dunes
19: Ocean Resources

> Goal 8

Oregon Statewide Planning Goal 8 requires local governments to inventory recreation needs based on public wants and desires. They are also required to inventory recreation opportunities that are available, based on adequate research and analysis. Goal 8 urges long-range plans, policies and action strategies.

Among issues addressed, it focuses attention on the need to:

- Meet recreational needs for high-density population centers and persons of limited mobility and finances.
- Provide maximum conservation of energy and minimize environmental impact and deterioration.
- Make services available to the public at nominal cost.
- Meet the needs of visitors to the state.

Oregon Goal 8 (www.co.clatsop.or.us) reads as follows: ***"To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities and destination resorts."***

Goal 8 works in synergy with other elements of the statewide plan. Goal 1, for example – the Citizen Involvement Goal – requires that the county develop and implement a program that provides an opportunity for citizen involvement in all phases of the land-use planning process.

Goal 9 – the Economy Goal – requires the county to plan for economic development. In Clatsop County, tourism plays a key role. Large shares of the county's recreational resources are provided for or are used extensively by tourists. Planning for these types of recreational facilities maintains the county's economic health both by encouraging tourism and providing opportunities to keep people healthy.

Goal 8 – Recreational Lands, Clatsop County Comprehensive Plan reads as follows: ***"Provide opportunities for Clatsop County residents and visitors to enjoy a variety of quality outdoor recreational activities through the development and maintenance of a well-balanced county-wide park system."*** *(Goal #2, page 3)*

> The 1992 Recreation Master Plan

Clatsop County's Recreational Lands Master Plan is a subset of Oregon Statewide Planning Goal 8. The original Recreational Lands Master Plan was adopted Dec. 23, 1992, representing the combination of two planning documents:

1. A recreational needs background report that inventoried existing recreational facilities; examined general recreational needs; and reviewed land-use controls relating to recreational uses.
2. A management tool for county-owned lands that inventoried county-owned sites; provided site-specific recommendations; and examined the county's park management structure.

Goals, Policies and Action Plans on behalf of Goal 8 (amended by Ordinance 05-04) were last updated and adopted by the Clatsop County Board of Commissioners in March 2005 (www.co.clatsop.or.us).

During the process of developing the master plan, the Clatsop County Recreational Lands Committee affirmed the following mission statement:

"As the rest of the world sees Oregonians able to mix economic prosperity with conservation, they will be encouraged to balance their communities, cities and counties in a healthier manner."

Boone Johnson
From SOLV's Oregon Owner's Manual

> ***"The mission of Clatsop County Recreation Resource Planning is to pursue adequate funding to support Park and Recreation staffing with the ability to implement the plans formulated in the Clatsop County Recreational Lands Master Plan and management policies."***

While the master plan served successfully as a tool for managing the county's recreational resources, even during times of great financial pressure, it is now out-of-date and does not address the future of recreational lands in Clatsop County. It does not provide the broad vision needed for park and trail systems, nor an approach for resolving funding issues.

> Recreational Lands Planning Advisory Committee

On Oct. 27, 2004, the Clatsop County Board of Commissioners ordered the preparation of an updated Clatsop County Recreational Lands Master Plan. The county's Recreational Lands Planning Advisory Committee, a group of citizens named by the county commissioners to guide the county on recreational land-use issues, was named to supervise the preparation of the plan update.

> Master Plan Task Force

The committee created a task force consisting of 12 citizen volunteers. Those who served included community residents, business and civic leaders, educators and recreation professionals. In updating the master plan, the Task Force set goals and priorities, recommended suitable projects for the county's parks and other recreational lands, and formulated recommendations.

The Task Force met at least once a month (Appendix A – Meeting Schedule). Members completed extensive on-site inventories of land managed for recreation in Clatsop County, as well as land not currently managed for recreation but *available* for that purpose. The new plan is expected to serve the county's recreational land-use planning needs for the next ten years.

"A child born today could conceivably live to see 2115. The planning done today will affect that child's sunset years as well as the childhood of that child's grand-children. We're really setting the tone, vision, the future of the quality of life for generations."

Mary Blake
Task Force member and general manager, Sunset Empire Parks

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2 > PUBLIC INVOLVEMENT

The Master Plan Task Force studied conditions, trends and attitudes in the county and solicited public input to establish a framework for the preservation, restoration and enhancement of recreational lands over the next ten years.

> Master Plan Task Force Meetings

The update to the 1992 Recreational Lands Master Plan is primarily the work of the Master Plan Task Force, which met monthly beginning in December 2004. The county retained the services of Illahee Group, a private consulting firm specializing in park planning and design, to assist in completing various component parts of the plan. Input from county and state staff, state and national parks representatives and local citizens was included in the team's deliberations.

Task Force Mission Statement:

The mission of Clatsop County Parks and Recreation resource planning is to improve the quality of life and environment in the county by creating a more healthful, desirable and prosperous urban and rural community.

The Task Force undertook a series of comprehensive, on-site inventories of designated county parks and other land used for recreation. Members assessed the current condition of each property and evaluated possibilities for future use.

Five goals were identified along with supporting objectives and action strategies that provide detailed guidelines of park standards, physical improvements, operations and maintenance, and administrative functions. These are reviewed in *Chapter 5: Park System Goals, Objectives and Action Strategies.*

A new park classification system was developed that will serve as a guide for the ongoing management and use of county parks and other county-owned holdings. It will also provide direction for the development of new facilities. The classification system recognizes the diversity and variety of uses within the park system and is described in *Chapter 6: Definitions and Standards.*

Trails were recognized as an important part of the Recreational Lands Master Plan because of their innate ability to connect people to parks, waterfront areas, businesses and neighborhoods. Terry Bergerson, an outdoor planner with the Oregon Parks and Recreation Department, made a presentation to the Task Force at the meeting on July 28, 2005. The popularity of walking as documented in our local survey also spurred development of recommendations regarding land and water trails as a key element of the Recreational Lands Master Plan.

Subcommittees were formed to address issues regarding public outreach, funding, policy recommendations and planning for the community symposium held Dec. 7, 2005.

The Oregon State Parks Statewide Trails Plan goes the extra mile by including three components: non-motorized trails, motorized trails, and water trails. Oregon is the first state in the United States to give water trails equal billing.

Read the plan at oregon.gov/OPRD/PLANS

The Parks and Recreational Lands Master Plan includes recommendations for the overall park system, financing strategies and the aforementioned trails report, along with extensive appendices with source documentation.

The full record of the Task Force including meeting minutes and supporting documents is retained in the county's public records file.

> Park Opinion Survey

A survey measuring public awareness and attitudes about Clatsop County Parks and recreation programs was conducted during August 2005. Surveys were handed out at key venues, mailed and made available online at the Clatsop County Web site. The objective was to obtain information that would be useful in preparing this report (Appendix B – Survey Form and Results).

"I think county parks are seriously under-advertised. I've lived in the county for 20 years and regularly use state parks … really had NO idea there were so many county parks!"

Survey respondent
Seaside

Sixty-five surveys were returned. Nine of these were submitted online. Of the remaining surveys, 26 were from a random mailing to households in Clatsop County.

The results of the survey process are contained in Appendix B. Key findings are highlighted here:

- When asked about favorite outdoor activities, walking/hiking received the largest percentage response of any item (83%). Beach activities and biking were mentioned by over half of the respondents, and fishing and wildlife viewing/bird watching by nearly half.

- Many survey respondents said they had no knowledge of many parks included in the survey or the breadth of recreation opportunities available. One Seaside resident said, "County parks are seriously under-advertised." Suggestions included better signage, brochures and maps of park facilities.

- The most heavily used county park was Cullaby Lake Park. 62% of all respondents visited the park at least once in the last 12 months. Sigfridson Park was the least-used county park and also scored lowest in name recognition.

Favorite outdoor activities identified in local survey
(ranked by percent who participate)

Walking/hiking	*83%*
Beach activities	*55%*
Biking	*54%*
Wildlife/bird watching	*49%*
Fishing	*49%*
Swimming	*39%*
Natural & open spaces	*37%*
Non-motorized boating	*31%*
Motorized boating	*26%*
Tent camping	*26%*
Playgrounds	*25%*
Golf	*19%*
Educational	*19%*
Hunting	*17%*
RV camping	*15%*
Target shooting	*15%*
ATV	*14%*
Sport fields	*14%*
Basketball	*11%*
Archery	*8%*
Horseback riding	*6%*
Skating	*5%*
Tennis	*5%*
Yurts	*3%*

- Survey participants were asked if they had enough information about specific recreation opportunities. Walking/hiking registered the largest response. Just 26% say they currently have enough information about walking/hiking. 51% say they want more.

Other comments referenced the need for more trails and ATV (all-terrain vehicle) ride areas, parking and other fees, lack of restroom maintenance, crowded campgrounds, and recreational impacts of LNG (liquefied natural gas) storage facilities.

> Public Workshops

Two public meetings were held in Clatsop County in October 2005. The objectives of these meetings were to gather public comment on preliminary master plan findings and to solicit additional opinions about parks and recreational lands in Clatsop County. Comparisons are made to state data in Chapter 3 of this report.

"County parks are not well distributed geographically."

"Link the trail system in Tillamook forest to trails in Clatsop forests. Include equestrians."

"Develop more shared-use trails."

"Parks need signs."

"Put in a bike trial from Fort Stevens to Seaside."

"I had no idea there were so many parks."

-- Comments by workshop participants

The first meeting was held on Oct. 6, 2005, at Astoria's Red Lion Inn. The second meeting was held on Oct. 13, 2005, in Seaside at the Bob Chisholm Community Center. Both meetings lasted approximately 90 minutes. Public notices, newspaper articles and radio play were used to publicize the events.

Fifteen participants, five in Astoria and ten in Seaside, attended the workshops. In addition, the meetings were staffed by Task Force members and attended by members of the Clatsop County Board of Commissioners.

Community comments were gathered from questionnaire forms, post-it note statements adhered to displays, and text written directly on maps. A summary of comments is contained in Appendix C.

The need for better awareness of county parks was reinforced, just as in the survey. Participants advised promoting a park or other recreational opportunity in each weekend section of *The Daily Astorian*. Better signage was requested.

"Everyone needs a place to enjoy. ATVs, bikes, horses and hikers."

Workshop participant

Participants made specific requests for:

- A shared-use trail and mountain bike system at Carnahan Park.
- A horse camp at Cullaby Lake.
- Parking for horse trailers and large trucks at DeLaura Beach.
- A bike trail from Fort Stevens to Seaside.
- An ATV park and campground on Nicolai Mountain.
- More mountain bike trails.
- Greater effort to limit dumping, vandalism and damage to the dunes being done by four-wheel drive vehicles at DeLaura Beach.

> Commissioner Presentation

The Recreational Lands Master Plan Task Force reported to the Clatsop County Board of Commissioners. Chair Carolyn Eady made a presentation on Sept. 28, 2005, to review progress on inventories, goals and priorities, and steps necessary to complete the work of the charter and finish the plan on schedule.

"Our parks offer a wealth of opportunities for health, fitness and wellness, social interactions, economic gains and environmental stewardship. We want to engage our residents in making this a working document that preserves our most precious and valuable resources now and for the next 100 years."

Mary Blake
The Daily Astorian
Dec. 1, 2005

> Symposium: *"Hidden Presence, Undiscovered Treasures"*

Seventy-eight people gathered on the evening of Dec. 7, 2005, to acknowledge and celebrate the recreational resources of Clatsop County, and to review work to date by the Recreational Lands Master Plan Task Force (Appendix D). The symposium was held at the Rilea Armed Forces Training Center, 200 years to the day after Lewis & Clark's Corps of Discovery arrived at the present-day location of Fort Clatsop.

It was an event of historic significance as guests took the opportunity to look closely at Clatsop County's recreational and natural resources, and at what the community will preserve and enhance as a legacy for future generations. Those attending included business leaders, elected officials, planners, parks and recreation advocates, history enthusiasts and interested citizens of all ages.

"Talk to everybody. When you give people a chance to buy into your plan, they'll support it."

Frank Jagodnik
Executive Director
Oregon Parks & Recreation Association
Dec. 7, 2005

Speakers included State Representative Debbie Boone; Clatsop County Commissioner Helen Westbrook; Chip Jenkins, superintendent of Lewis & Clark National Historical Park; Frank Jagodnik, executive director of the Oregon Parks & Recreation Association; and Carolyn Eady, chair of the Recreational Lands Master Plan Task Force.

Neal Maine, executive director of the North Coast Land Conservancy and member of the Task Force, presented a slide show featuring his original photographs. Testimonials from citizens Greta Passetti, Margo Lalich and Lujac Desautel spoke to the personal benefits of parks and recreation. Mary Blake, general manager of the Sunset Empire Park & Recreation District, served as master of ceremonies.

"Parks mean so much to someone like me."

Greta Passetti, Seaside, who made a daily exercise regime out of walking trails in Clatsop County as she recovered from a debilitating stroke, speaking at the Dec. 7, 2005 symposium

Harking back to 1805, lights in the mess hall were turned off and candles lit to summon guests to dinner. The meal included elk stew, salad greens with pine nuts and dried berries, homemade bread and freshly churned butter. Utensils were basic, appetites hearty.

In keeping with the spirit of Lewis and Clark, guests at each table were asked to engage in a discussion of the county's "undiscovered treasures" and provide a summary of their observations. Innovative ideas for parks and other recreation facilities came from people who use them on a regular basis or who are curious and want to know more.

Comments echoed those gathered in our community survey and centered on four key areas, suggesting the need to:

- **Raise awareness of parks and facilities.**

A number of guests said they did not know about some county-owned properties. They said there is an immediate need to install more signage as long as signs are aesthetically pleasing and "respectful" to visitors.

- **Build parks closer to major population centers.**

Interest centered on parks and facilities closest to incorporated areas. There was also a desire for trails connecting all parts of the county, with parks serving as trailheads.

- **Involve youth and volunteers.**

High school students suggested organizing a Youth Corps, and building on the theme of "making memories" that last a lifetime through organized events at parks and other play spaces. The students and many others embraced the concept of taking ownership of their local parks.

- **Strengthen connections.**

Guests expressed the need for better connections on many levels – for example, a single network of trails linking local communities to hiking and biking paths, and other attractions. Chip Jenkins said it would take just a few signs to direct users of the county's Lewis & Clark boat launch to the Lewis & Clark National Historical Park's Netul Landing canoe and kayak launch site just a mile away. From there they could follow a hiking trail to Fort Clatsop.

"Kudos to rec committee"

I attended the Rec Lands Symposium at Camp Rilea this week and I'd like to say good job to all the fine people who both organized and presented the program, but also those in attendance …

The year-long work put forth by the Rec Lands Master Plan Committee is producing big value and benefit for the entire region. We all owe them a large vote of confidence and appreciation for their fine work …

As a past member of the Rec Lands Advisory Committee, I am very proud of the terrific work being accomplished. You continue a fine tradition of advancing the interests of land stewardship and access and responsible use of our wonderful lands and recreational areas. You do us all proud. Quality of life in our region is being preserved by your continued service and unwavering commitment.

RICHARD JOHNSON
Warrenton
From a letter to
The Daily Astorian
Dec. 9, 2005

Others advised strengthening connections by partnering with schools, timber companies and other entities, and for purposes of education and outreach across jurisdictions. (Appendix D – Summary Comments.)

Figure 1 – Symposium Mapping Exercise

3 > CLATSOP COUNTY TODAY AND PROJECTED: DEMAND FOR OUTDOOR RECREATION

The active support and wise use of our underutilized recreational lands and facilities can play a key role in creating a community that encourages healthy growth – socially, physically and economically.

> Present Situation

Clatsop County is well-known for its rich history and wealth of natural resources. From the beaches of the Pacific Ocean and waters of the Columbia River to the lushly forested Coast Range, the spectrum of opportunities for outdoor recreation is among the finest in the state.

This is a keen advantage for residents and visitors, and is a major reason many choose to live here, including a higher-than-average number of retirees and people of middle age and beyond starting a second career or small business.

Traditionally, Clatsop County's economy was dependent on products and activities associated with its renewable natural resources. Although not as prominent as they once were, seafood, forest products and agriculture continue to be important industries.

A workforce analysis by the Oregon Employment Department for February 2003 showed approximately 24% percent of the total private employment in leisure and hospitality and about 12.8% percent in natural resources and mining, wood product manufacturing and paper manufacturing.

Large numbers of tourists visit during the summer months, fueling a significant portion of Clatsop County's economy. Highways 26 and 30 provide access to Portland and the

New homes swamp coastal communities to south …

"More than 5,300 units or building lots have been approved for development, according to a survey by *The Oregonian* …

"With it come daunting implications for coastal communities as they stare down the need to expand boundaries and build roads, sewer and water facilities while confronting a growing housing affordability problem and pondering how an influx of part-time residents might change the civic culture."

Sample numbers of residential lots or building permits approved in 2005 or planned for development in the near term:

Gearhart	***102***
Seaside	***29***
Cannon Beach	***26***
Manzanita	***30***
Rockaway Beach	***147***
Lincoln City	***1,918***
Depoe Bay	***91***
Florence	***249***
Bandon	***494***
Brookings	***1,061***

From The Oregonian
Oct. 23, 2005
Sources: County and city planning and building departments

Willamette Valley, while Highway 101 connects the county to the rest of the Oregon coast and southwest Washington.

"Next great Destination: Astoria"

Sunset Magazine
in a feature article
January 2006

While Cannon Beach and Seaside have long been vacation destinations, Astoria has achieved "destination" status. An increasing number of cruise ships stop in Astoria to enjoy its history, retail services and cultural attractions. The Lewis & Clark Bicentennial and creation of the Lewis & Clark National Historical Park are expected to significantly increase tourism long-term.

The area's recreational opportunities are likely to continue to attract a growing number of visitors. Balancing growth with livability issues is a challenge for many coastal communities. For example, Cannon Beach is considering whether to expand its urban growth boundary after years of limiting growth.

"The fastest growing epidemic in America is obesity. We're getting fatter as a nation, putting on an average of one pound a year …

"We need to apply some of the lessons learned from tobacco control to obesity control and prevention – especially the power of education and community-based approaches."

Susan Blumenthal
Former U.S. Assistant Surgeon General
March 8, 2004

Clatsop County's recreational assets are as important to the physical health of its residents as they are to a healthy, growing economy. Much has been made in the media, and deservedly so, of health issues related to sedentary lifestyles. It is especially disturbing to note that the most rapid rise in obesity nationally is occurring among children and adolescents. Not only does this threaten the lifelong health of individuals, many of its costs fall on taxpayers and the insurance-buying public.

"In the last 20 years, the percentage of adolescents who are obese has tripled and the percentage of overweight children between ages 6 and 11 has doubled."

Centers for Disease Control and Prevention

To Oregon's credit, it is the only state not to see gains from 2002-04 in the number of obese residents, holding steady at 21% in a new study out in 2005 from the Centers for Disease Prevention and Control. Interest in walking/hiking, bicycling, swimming and other activities, shown in our local survey, plays an important role in keeping our community healthy. With our higher-than-average population of aging baby boomers and retirees, lifelong fitness should be encouraged.

Adult obesity rankings at a glance:

1. Mississippi
2. Alabama
29. Washington
31. California
36. Oregon
37. Idaho
50. Colorado

Although the state as a whole did not show a rise in obesity, there is room for improvement. Oregon's obesity ranking falls just below the median compared to the rest of the nation. We

can and must do better, and our recreational resources are one of the best means by which to do it.

> Demographics

Clatsop County is home to an estimated 36,340 residents, according to figures released in 2004 by the U.S. Census Bureau. This represents an approximate 2% increase since the last U.S. Census in 2000.

The county's major population centers are along or near the coast. About one-third of the population resides in unincorporated areas. Growth rates have been greatest in the vacation destination, Cannon Beach, and the city of Warrenton, which has a large land area and annexed Hammond in 1991. Astoria had slight negative annual growth in the 1990s but that trend has reversed.

Clatsop County has a lower percentage of youth under 18 than the rest of Oregon, but more residents over 45. The number of persons 65 years and older moving to Clatsop County between 1990 and 2000 was nearly 3% greater than the state average.

Net personal income in Clatsop County gets a higher-than-average boost from transfer payments by government and businesses. Examples are social security, veterans benefits and pension plans. During the 1969-2003 period, earned income in Clatsop County grew by 94.2%. Property income increased by 191.8%, while transfer payments rose 301.4%. The share of Clatsop County's personal income from transfer payments is above both the national average and Oregon's average (see sidebar).

The population remains less diverse than the state as a whole, although minorities have increased since 1990. About 93% of the county's population identified themselves as white in Census 2000, compared with the statewide average of 86.6%. (As a caveat, note that racial data from the census is self-

Population of Clatsop County's five incorporated cities in Census 2000:

Astoria	*9,813*
Seaside	*5,900*
Warrenton	*4,096*
Cannon Beach	*1,588*
Gearhart	*995*

Annual Growth - Cities

	'90-'00
Astoria	*-0.3%*
Seaside	*1.0%*
Warrenton	*4.3%*
Cannon Bch.	*2.7%*
Gearhart	*-0.3%*

	'00-'03
Astoria	*0.3%*
Seaside	*0.8%*
Warrenton	*1.6%*
Cannon Bch.	*1.1%*
Gearhart	*1.5%*

Source: Portland State University Population Research Center

Transfer Payments as Percent of Total Personal Income in 2003:

United States-14.6%
Oregon-15.6%
Clatsop County-19.0%

Source: U.S. Department of Commerce, Bureau of Economic Analysis

reported. Respondents decide with which racial and ethnic group they want to be identified.)

Since 1970, the county has gained over 7,800 residents. However, growth between 1990 and 2000 was 13.4% less than the state of Oregon as a whole according to Census 2000.

Finally, it should be noted that population figures represent permanent residents. The population swells to in excess of 80,000 on summer weekends with vacationers drawn by the scenery, mild weather, small-town atmosphere and wealth of recreational opportunities. The number of visitors can be many times more than that on special-event weekends such as the August Hood to Coast Relay, the largest relay event in North America, which ends in Seaside.

> Planning Area

According to the U.S. Census Bureau, Clatsop County has a total area of 1,085 square miles – 827 square miles of land and 258 square miles of water. The latter represents 23.74% of the county's total area. This includes a large area within the Columbia River.

Land ownership in Clatsop County

Private	*88.1%*
State	*9.8%*
Federal	*1.3%*
County	*0.8%*

Land ownership within Clatsop County is primarily private. More than 80% of the land is forested, and much of this is privately owned industrial forest land. At present, the major private timber landowners are Weyerhaeuser Company, Longview Fibre and Hampton Affiliates.

> Natural Features

Clatsop County's location in the northwest corner of Oregon offers a spectacular mix of physical features. The terrain is mostly mountainous timberland, bounded on the west by the Pacific Ocean and on the north by the lower Columbia River.

Douglas-fir, Sitka spruce, hemlock and red alder are the primary tree species in the forests. The silt loam bottomlands of the Columbia and its tributary rivers, the adjoining hills and coastal plain with its dunes and bog lands are home to most of the population and offer rich agricultural lands. While harvesting on small woodlots makes up 40% of agricultural sales, dairy and beef are also major-revenue agricultural resources.

Coastal weather patterns supply ample rainfall for agricultural production and forest vegetation, and for feeding numerous coastal foothill streams. Clatsop County has a temperate, marine climate, with rainy winters and moderate summers. Precipitation occurs mainly from October through April.

"Each of us needs to withdraw from the cares which will not withdraw from us. We need hours of aimless wandering or spates of time sitting on park benches, observing the mysterious works of ants and the canopy of treetops."

Maya Angelou

> Benefits of Recreation and Open Space

National Recreation and Park Association: "The benefits are endless."

More than a popular slogan, this has become the rallying cry throughout the U.S. and Canada for the transformation in thinking about parks and recreation that has taken place since the early 90s.

The benefits "movement" was born largely out of competition for scarce public funds – a stress that has increased over the years. It became obvious to the National Recreation and Park Association (NRPA) that there was a need professionally to move beyond "fun and games" and make it clear that parks and recreation play a vital role in the health and well-being of individuals, families, neighborhoods, communities and the environment.

"Active recreation travelers average $442 per party per trip, passive travelers spend $342 and other travelers spend $245 per party per trip; as a whole travelers spend close to $123 per day."

Travel Industry Association of America (TIAA), General Tourism Trends in Oregon, 2000.

Recreational lands and open space offer a wealth of benefits that can be enjoyed by people of all ages and from all walks of life.

Health and Wellness. Recreational lands provide excellent opportunities for walkers, joggers, bicyclists and equestrians; many are accessible to people with disabilities. Almost everybody can enjoy the healthful benefits of fresh air, exercise, reduced stress and potential weight loss.

Safe, Clean Transportation. Trails are an essential component of recreation, providing safe, scenic routes to and from work, school, shops, parks and other community facilities. Trails in and around urban areas have the potential to reduce dependence on cars and relieve congestion on highways and streets.

Plant and Animal Habitat. Recreational lands and open space host native plants and animals, including some endangered species. Mushroom picking, hunting, clamming and birdwatching are popular activities among residents and visitors, requiring habitat to be protected and preserved. Travel corridors for breeding and foraging are needed to keep flora and fauna populations healthy.

Economic Development. Recreational lands are attractive to companies seeking to do business in Clatsop County. Employers today recognize the economic benefits that recreational activity provides, such as greater productivity and potentially lower health care costs. For homeowners, the presence of nearby parks, trails and open space increases property values.

Tourism. Recreational opportunities encourage tourism and give visitors reason to stay in our area longer, bringing more dollars into the local economy. Unspoiled beaches, natural forests, hiking trails, camping facilities and waters for fishing and boating are a magnet to visitors. See Appendix S for an estimate of the economic impact of visitors to the county according to the Oregon Tourism Commission.

"Nature-based tourism (travel and recreation for the appreciation of nature and the outdoors) is…growing at 30% annually and involving non-consumptive activities such as bird and other wildlife watching, hiking and backpacking, nature study and photography, boating, biking, camping and picnicking, and allied activities"

Travel Industry Association of America (TIAA), General Tourism Trends in Oregon, 2000.

Water Quality and Flood Control. Recreational lands managed as natural areas can function as a buffer for wetlands and rivers, leading to improved water quality. They also act as a sponge, absorbing and reducing storm water runoff to minimize flooding. This reduces the need for costly flood control measures.

Cultural and Historic Preservation. Cultural resources located on recreational lands – such as historic buildings (the Lindgren cabin) and heritage trees (the largest Sitka spruce) – provide the community with a sense of place and cultural continuity. People become more aware of their roots and take pride in their heritage when they can visit archaeologically and historically significant sites.

"The four (Oregon) counties where travel-generated earnings comprise more than ten percent of the total earnings are Clatsop, Curry, Lincoln, and Tillamook"

Oregon Travel Impacts, 1991-2005p, Oregon Tourism Commission

Oregon Travel Spending for Clatsop County by year:
2000: $306
2001: $320
2002 : $326
2003 : $324
2004 : $338
($Millions)

Oregon Travel Impacts, 1991-2005p, Oregon Tourism Commission

Clatsop County Travel Impacts 1991-2004, see Appendix S

> Statewide Comprehensive Outdoor Recreation Plan

In 2002, the Oregon Parks and Recreation Department completed a Statewide Comprehensive Outdoor Recreation Plan (SCORP) 2003-2007 for Oregon. The outdoor recreation habits of 4,400 Oregonians and 800 residents from California, Washington and Idaho were surveyed in this study.

The plan constitutes Oregon´s basic five-year strategy for outdoor recreation. It provides the state with an up-to-date regional information and planning tool serving as the basis by which all Oregon recreation providers (state, federal, local and private) are able to:

- Catalogue and rank their recreation needs.
- Obtain funding through partnerships and grants.
- Clarify their respective roles.

The guidance provided by the SCORP report influenced the process followed by the Task Force and the presentation of its findings.

The completion of the SCORP report allowed the state to maintain its eligibility to participate in the federal Land and Water Conservation Fund (LWCF). (The state has received approximately $235 million from the fund during the last 40 years.)

To allocate LWCF monies in an objective manner, a set of *Open Project Selection Process* criteria were developed during the 2003-2007 Oregon SCORP planning process (See 2003-2006 Oregon SCORP, Appendix J). The Oregon Parks & Recreation Department uses these criteria to evaluate statewide LWCF grant proposals.

Regional recreational trends and issues reported by recreational providers in SCORP have implications for Clatsop County. For example:

- Recreational providers consistently report that the recreational infrastructure in Oregon is aging and needs rehabilitation. Recommendation was made to focus rehabilitation priorities on sites and facilities that satisfy current recreational need and ensure long-term performance.
- The public is asking land managers to place more emphasis on preserving existing vegetative communities and wildlife habitat systems. People want quiet, natural places where they can go to recreate and renew.
- Information and education are in greater demand.
- People are taking shorter trips closer to home due to less disposable leisure time. The increase in gas prices since SCORP was adopted has also reinforced the desire to limit travel by visiting nearby destinations.
- There is an increased emphasis on regional recreation planning. Rural communities are becoming more interested in collaborating with managers and recreation providers with the aim of diversifying their economies, while maintaining their quality-of-life values.
- Recreation providers report a significant increase in water-based recreation activities. The latest non-motorized boating numbers for Oregon state show a 138% increase from 1987 to 2002.
- Recreational trails are important to Oregonians. The growing number of diverse land and water trail users requires planning to provide additional trail facilities including inter-connected opportunities where appropriate.

Nationally, there are significant recreational trends that are a match for Oregon.

For example:

- *Camping is the number one outdoor vacation in America.*
- *Biking vacations rank as the third most popular outdoor vacation activity, following camping and hiking.*

SCORP examined and presented the recreation utilization data collected in a variety of ways:

Recreation Activity: Statewide

Table 1 below shows the percent of Oregon's population that participates in various recreational activities. Nearly three out of four Oregon households surveyed participate in some type of outdoor activity:

Table 1 – Participation Rate by Activity

Activity	% of Pop. that Participates**	Total Annual Trips (OR)
Trail & off-trail activities	39.0%	14,744,923
Motorized recreation activities	12.8%	4,751,472
Road or street activities	58.5%	103,903,728
Snow-related activities	7.5%	2,212,796
Fishing, crabbing and clamming	27.9%	9,550,422
Boating activities	20.4%	4,734,151
Swimming or beach activities	34.9%	10,850,854
Nature study activities	31.2%	37,595,297
Hunting or shooting activities	13.7%	5,976,196
Camping activities	27.6%	4,834,071
Picnicking and sightseeing activities	45.5%	12,412,549
Outdoor sports and games	40.1%	36,056,353
All outdoor activities	**73.7%**	**247,622,813**

** From The Research Group (TRG) calculations

Table 2 below lists the ten most popular recreational activities of Oregon residents.

Table 2 – Top 10 Outdoor Activities – State Residents

Activity	Estimated Annual User Days* (Millions)
1. Running/Walking for Exercise	49.2
2. Walking for Pleasure	47.7
3. Birdwatching	18.7
4. Nature/Wildlife Observation	17.6
5. Sightseeing/Driving for Pleasure	12.3
6. RV/Trailer Camping	11.0
7. Golf	9.6
8. Using Park Playground Equipment	8.8
9. Bicycling	7.4
10. Ocean Beach Activities	6.0

* A user day is one instance of participation in a single outdoor recreation activity by one person.

Recreational Activity: Residents Within the Region

In its study of recreation trends, SCORP divided the state into 11 planning regions. Region 1 consists of Clatsop, Tillamook and Lincoln counties, and approximately 1/5 of Lane County (the coastal portion). While it includes an area larger than Clatsop County, the Region 1 findings provide insight into types of recreation taking place in the north coastal region.

SCORP Region 1: *Clatsop, Tillamook and Lincoln counties, and approximately 1/5 of Lane County (the coastal portion).*

Table 3 below shows the percentage of Region 1 residents who participate in the 11 most popular recreational activities. Both these data and the data collected by the Task Force in its survey (see sidebar, page 11) show the popularity of walking/hiking, beach activities, nature/wildlife observation and fishing among area residents.

Table 3 – Percentage of Region 1 Participating in Recreational Activities (11 most popular)

Sightseeing/driving for pleasure	44%
Walking for pleasure	41%
Beach activities	36%
Visiting cultural/historic sites	31%
Running/walking for exercise	30%
Nature/wildlife observation	29%
Collecting (rocks, plants, mushrooms, etc.)	28%
Picnicking	24%
Fishing from a boat	24%
Bird watching	22%
Fishing from shore	21%

Data extracted from SCORP Table 3.5

Recreational Activity Trends: Estimated Demand by Destination Region

SCORP estimated the demand for 30 recreational activities in 2002 compared to demand in 1987. These data are expressed as user occasions for the **destination regions**, in contrast to the home regions of the respondents reported above. Table 4 gives these data for Region 1:

Table 4 – Changes in Recreation Participation in Region 1 (1987-2002)

Recreation Activity Types	1987 User Occas.	2002 User Occas.	Change 1987-2002	% Change 1987-2002
Trail & Off-Trail Activities				
Day Hiking	550,399	993,897	443,498	80.6%
Horseback Riding	107,989	150,428	42,439	39.3%
Backpacking	179,571	56,301	-123,270	-68.6%
Motorized Activities				
Four Wheel Driving	340,808	353,381	12,573	3.7%
ATV Riding (3 & 4 Wheeler)	474,464	578,267	103,803	21.9%
Motorcycling	144,948	163,630*	18,682	12.9%
Snowmobiling	0	0	0	0.0%
Dune Buggy Driving	9,676	48,964*	39,288	406.0%
Snow Related Activities				
Downhill Skiing	0	0	0	-
Sledding or General Snowplay	0	5,388	5,388	-
Fishing Activities				
Fishing From a Boat	1,189,028	1,198,193	9,165	0.8%
Boating Activities				
Power Boating (Ocean, Lake & River)	917,262	461,059	-456,203	-49.7%
Water Skiing or other Towing Sports	68,162	8,379*	-59,783	-87.7%
Non-Motorized Boating (Ocean, Lake & River)	549,767	298,694	-251,073	-45.7%
Sailing	20,254	0	-20,254	-100.0%
Windsurfing	8,310	64,647*	56,337	677.9%
Swimming & Beach Activities				
Swimming in an Outdoor Pool	398,602	630,151	231,549	58.1%
Beach Activities Including Swimming (Fresh & Salt)	3,306,923	6,041,082	2,734,159	82.7%
Nature Study Activities				
Nature/Wildlife Observation	1,417,282	1,797,447	380,165	26.8%
Outdoor Photography	1,297,541	460,141	-837,400	-64.5%
Hunting Activities				
Big Game Hunting (Rifle)	475,203	250,611	-224,592	-47.3%
Hunting: Waterfowl, upland birds & small game	19,958	70,142	50,184	251.4%
Big Game Hunting (Bow)	25,402	25,144	-258	-1.0%
Camping Activities				
RV/Trailer Camping	1,994,422	3,728,795	1,734,373	87.0%
Car Camping with a Tent	729,796	348,762	-381,034	-52.2%
Boat Camping	44,672	190,546	145,874	326.5%
Horseback Camping	47,862	42,899*	-4,963	-10.4%
Picnicking & Sightseeing Activities				
Sightseeing/Driving for Pleasure	3,119,456	2,410,370	-709,086	-22.7%
Picnicking	1,358,640	637,321	-721,319	-53.1%
Train or Bus Touring	38,058	10,350	-27,708	-72.8%

*Fewer than 10 observations

SCORP Table 4.6

The Task Force had concerns about a few of the levels of change reported in this table, specifically "Fishing from a Boat" (0.8% increase) and "Non-motorized Boating" (45.7% decrease). After consultation with OPRD staff, the Task Force decided that the statewide figures for these activities (44.3% increase and 137.9% increase) were more representative of these activities in Clatsop County.

In addition, no mention was made of surfing, which is a popular activity but was not represented in the survey.

SCORP combined the demand estimates with an outdoor supply capacity for each region to develop facility needs. Based on this analysis, SCORP states that the most significant growth in recreation in our region (1987-2002) has been as follows:

Table 5 – Most Significant Participation Growth Activities in Region 1

Rank	Growth Activity	Growth in User Occasions 1987 - 2002	% Growth in User Occasions 1987 - 2002
1	Beach Activities Including Swimming (Fresh & Salt)	+2,734,159	+83%
2	RV/Trailer Camping	+1,734,374	+87%
3	Golf	+670,115	+129%
4	Day Hiking	+443,897	+81%
5	Using Playground Equipment	+219,386	+95%

SCORP Table 4.7

ROLE OF THE COUNTY…

CURRENT ROLE:
Counties acquire and develop parks serving citizens of an area larger than a single municipality but less than statewide. Counties provide a substantial amount of the public sector boating access, and RV and camping related facilities around the state. …Most county programs would fall in the mid-range of the recreation opportunity spectrum providing developed and semi- developed outdoor recreation opportunities for people in the urban/rural interface. Counties provide a significant amount of the facilities for access to natural resource orientated activities such as camping, hiking, fishing, picnicking, motorized and non-motorized boating, water-skiing, swimming, ATV riding, bicycling, nature study and interpretation.

HOW ROLE MAY CHANGE IN THE NEXT 5 YEARS:
…more urban areas there will be pressure from community and environmental groups to acquire more open space, especially along the urban fringe. This fringe area, more often than not, falls under the jurisdiction of the counties.

…The county's role of providing solely traditional forms of parks will need to evolve. Some counties are already evolving to meet this new role. Benton, Lane and Marion Counties are currently making an effort in this direction.

(Source: SCORP. See Appendix G)

Based on the Demand and Need Analysis, Region 1 is said to have current peak use exceeding supply in golf, hiking trails and fishing from a dock or pier (SCORP, p. J-9). This demand exceeding supply is projected to continue for the same activities in 2007.

LWCF Priorities

Statewide SCORP issues were identified (SCORP p. J-5):

- Major rehabilitation of existing outdoor facilities
- Recreational trails/trail connectivity
- Land acquisition
- Ball fields
- Water-based recreational resources and facilities

SCORP has set the top three Region 1 priorities for LWCF funds (Appendix E – Funding Priorities):

- Funding for additional camping facilities
- Funding for new and rehabilitated river access facilities
- Funding for additional recreation trails (non-motorized)

Projects that address these regional and statewide issues will be given additional priority points in LWCF funding requests. [Note: Later in the report, it will be shown that the Task Force recommendations address all three of the regional issues and all but one of the state issues (i.e., ball fields).]

Other SCORP Guidelines

<u>Disability information</u>

598 of the 3,741 households surveyed by phone had a household member with a disability. SCORP provides valuable information regarding the type of disability and the type of accommodation that would be helpful. These results and respondents' suggestions are listed in Appendix F.

Role of County Park and Recreation Departments

SCORP carefully delineates the roles of the various public providers of recreation. It describes its current role and how the role may change by 2007 due to a variety of pressures. The county role is described in Appendix G.

> Demand for Trails Today and Projected

Trails are an important component of any recreational plan. They are the physical manifestation of the "connectivity" we envision for our parks and adjacent areas. The demand for trails in Clatsop County and the state is intense and worthy of special attention. One need only look at the miles of user-created trails, often crossing ownership boundaries, to recognize that the public is serious about blazing new trails and taking ownership of its trails. (See sidebar on pages 32-33 for recent trail developments and Appendix H for local area trail maps.)

In its publication (*Creating Connections: The Oregon Recreational Trails How-To Manual, May 2004*), the Oregon Parks and Recreation Department (OPRD) reviews some of the many benefits of trails and greenways (see sidebar).

The state's *"How-To Manual"* divides its discussion between land trails, both motorized and non-motorized, and water trails. Demand and utilization data for each category of trail are addressed below along with critical state and regional trail issues.

Non-Motorized Land Trails

According to the recent county Task Force survey, over 40% of respondents listed hiking/walking as their favorite form of recreation. This corresponds well with 2002 SCORP results that showed "running/walking for exercise" and "walking for pleasure" ranked number one and two in the statewide user days survey, far ahead of their nearest competitor, "birdwatching" (SCORP Table 3-3, pp. 3-7 through 3-9).

Benefits of Trails and Greenways

RECREATIONAL VALUE AN HEALTH BENEFITS
There is a significant health and fitness benefit as most recreational activities on trails involve exercise. This health benefit accrues to the individua and, in the form of reduced health-care costs, to society as well.

TRANSPORTATION ENHANCEMENT AND SAFETY BENEFITS
Trails encourage pedestrian and bicycle commuting, thus reducing traffic and congestior on roads, and reducing fuel consumption and its associate pollution. Designated trails strive to define a designated space for human-powered commuters.

ECONOMIC BENEFITS
Trails attract tourists that bring a direct economic benefit to local businesses.

EDUCATIONAL BENEFITS
Trail corridors can become outdoor classrooms where children can observe and learr about their natural and cultural environment.

ENVIRONMENTAL BENEFIT
By preserving critical open space that provides natural buffer zones that protect streams, rivers and lakes, trail and greenways can play an important role in improving water quality.

PRESERVING OUR HISTOR AND CULTURE
Trails have the power to connect us to our heritage by preserving historic places and providing access to them. They can give people a sense of place and draw people to historic and cultural sites.

Also according to the state survey, day hiking in our region has experienced an 80.6% increase in user occasions between 1987 and 2002. Horseback riding has increased 39.3% in our region; approximately 6.2% of the population participates in this recreational activity.

As cited on page 31, SCORP 2003-2007 gives one of its top three Region 1 funding priorities to additional non-motorized recreation trails. SCORP (p. 5-4) cites the need for:

- Additional recreation trails near populated areas. This includes acquisition of land or easements for trails and trail connections.
- Off-road bicycle trails in the Coast Range and along the coast, and opportunities for equestrian use.
- Longer trails for multiple-night backpacking trips.

In addition, OPRD has also identified the following top statewide non-motorized trail issues:

A. Need for trail connectivity within the region providing access from urban to rural trails, connections between public facilities, parks and open space and connections from state and regional trails to community trails.
B. Need for additional non-motorized trails (for all user types) – especially in close proximity to where people live.
C. Need for additional funding for non-motorized trail acquisition and development. Potential strategies include allocating a certain portion of state lottery funds; acquisitions of fee title, easements and land exchanges; and ways to allow users to pay for trail facilities and services.
(*Oregon Trails 2005-2014: Non-Motorized Trails*, OPRD, February 2005)

It is important to recognize that OPRD staff use compliance with the above issues and priorities when evaluating grant applications.

Blazing New Trails
To meet user demand, there has been a significant increase in trail creation in Clatsop County. Table 13 lists the county's major recognized trails. Noteworthy trail developments over the past few years include the following:

Warrenton Trails Association.
This non-profit organization has been working on a 25-mile loop trail connecting important historical and cultural sites in the Warrenton area (Appendix H – Map). Most of the proposed route is accessible, but not well signed or advertised.

Astoria Urban Trail Project.
The city recently received a grant to map all of the trails within the Astoria area and has identified many miles of shared-use trails that cross multiple ownerships, including the county and ODF. The Astoria Parks Department has gained state recognition for the 1.5-mile Cathedral Tree Trail, the 0.25-mile Column Trail, the 1.5-mile James Street Trail, the 0.5-mile Middle School Trail and the 1-mile Shively Park Trail.

Continued …

Motorized Land Trails

The recent Task Force survey elicited one response regarding motorized trail activity. According to SCORP 2002 survey data, Region 1 had a slight (3.7%) increase in four-wheel driving since 1988, and a 22% increase in ATV (all-terrain vehicle) riding. When user occasions for these two activities are combined, they almost equal user occasions for day hiking. One can conclude that this recreational activity was under-represented in our local survey; however, it should be noted that our region includes Tillamook County, which has a very large off-road driving constituency on ODF trails.

In OPRD's *Oregon Trails 2005-2014: Motorized Trails Plan*, three major statewide issues are identified:

A. Need for new trails/managed riding areas, including:
   - Additional public and privately owned OHV (off-highway vehicle) recreational areas.
   - Greater emphasis on developing OHV riding opportunities on private and local government land.
   - Additional OHV opportunities in reasonably close proximity to communities and urban areas
   - Increased diversity of OHV opportunities.

B. Need for regional interagency coordination/cooperation in trail planning and management, including:
   - Development of a regional approach to motorized trail planning.
   - Standardized statewide OHV management practices.

C. Need for user education/training (regulatory and safety information) as a means of reducing the number of personal injury accidents involving recreational OHV use.

[Note: These goals and objectives are developed in greater detail on pages 47-54 in the above-mentioned publication.]

Blazing New Trails, Continued

Astoria Riverwalk/River Trai
This 3.5-mile shared-use trail next to the rails on the Astoria waterfront has proven extremely popular with visitors and residents alike.

Oregon Department of Forestry, Astoria District.
ODF is also actively engaged i identifying the many user-created trials that have been created in the Astoria basin, and deciding which should be designated as "authorized." They have also created a hors camp and riding trail in the eastern part of the county.

Lewis and Clark National an State Historical Parks.
Several new trails have been created including the 6.5-mile Fort to Sea Trail, the 2.5-mile Clatsop Loop Trail at Ecola State Park, and the 1.5-mile Netul River Trail along the Lewis and Clark River at Fort Clatsop.

The Gateway to Discovery. *A trail through a 10-acre coastal forest in Seaside, along with a natural history center, showcases the region's natura cultural and historic resources.*

County Parks Department.
The 1.5-mile Cullaby Lake Interpretive Trail along a coastal wetlands was dedicate in July 2005. An equestrian group has unofficially adopted the DeLaura Beach site. Several miles of trails have been created that are shared with bicyclists and hikers. [Note: Other improvements in trails on county park and recreational lands will be discussed later in this report.]

Water Trails

Benefits of Water Trails

A water trail can help people become acquainted with their river heritage.

People along the river can discover a whole new perspective of both their community and the aquatic environment.

A water trail system with identified launch and landing sites, resting places, maps and safety information can help people traveling on the river find the best places to paddle based on their experience and available time.

An identified trail can help protect natural and cultural resources from degradation by dispersing use and limiting access to sensitive areas. Trail information can provide guidelines for low-impact use.

Trail maps and guidebooks can direct paddlers to local communities for camping facilities, grocery stores, B&Bs and other amenities, helping enhance local economies.

A sense of stewardship can be nurtured through public education and coordinated volunteer activities such as cleanups and water quality monitoring.

An officially recognized water trail can be eligible for regional and national resources and funding.

Source: Lower Columbia Water Trail brochure, Lower Columbia River Estuary Partnership (Appendix H)

The publication, *Oregon Trails 2005-2014: Water Trails Plan* (OPRD, February 2005), provides this description of water trails:

> *Water trails (like other recreational trails) are corridors between specific locations on a lake, river or ocean. Water trails are primarily designed for small watercraft such as canoes, sea and whitewater kayaks, rafts and drift boats. Necessary water trail facilities include a safe place for the public to put in, parking, restrooms, a safe place to take out, and in some cases day-use sites and overnight campsites. Water trails …. emphasize low-impact use and encourage stewardship of the resource.*

This same report noted the growing interest in water trails throughout the state. According to SCORP, power boating has remained at a relatively static level between 1987 and 2002, whereas, non-motorized boating activities have increased 138% during the same period.

The previous Clatsop County Recreational Lands Master Plan listed 19 public and quasi-public boat ramps on the Columbia, Necanicum, Nehalem and other sites (p. 22). The tables on pages 47 and 48 identify boat ramps and water access points in the county.

The SCORP report also established the following Region 1 funding priority:

<u>Funding priority for new river access facilities and rehabilitation of existing river access facilities</u>

- *There is a lack of developed river access facilities for angling, swimming, kayaking and canoeing. In addition, there is a need for rehabilitation of existing river access facilities. (SCORP, 5-4)*

Oregon Trails 2005-2014: Water Trails Plan lists the following statewide water trail issues:

A. Need to address conflicts between non-motorized boaters and waterfront property owners.
B. Need for public access to waterways.
C. Need for adequate and consistent information resources including signs, maps, level of difficulty and water level information, and available paddling information.
D. Need for safety-related information, user education and outreach.
E. Need for a dedicated funding source for water trail development.
F. Need for information describing the social and economic benefits of water trails (pp. 10-11).

Oregon Trails 2005-2014 Water Trails Plan (p. 37) lists the top water trail issues in our region:

1
Need for more public access to waterways.

2
Need for a designated funding source for non-motorized watercraft facility development.

3
Need to clearly address the navigability issue and clearly define to users where they can and cannot exit their watercraft.

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4 > RECREATIONAL PROVIDERS: OVERVIEW OF RESOURCES AND SUPPLY

Lands managed or available for recreation comprise nearly 80% of Clatsop County's total land base, representing a broad spectrum of recreational providers and wide range of uses.

> Diverse Recreational Lands

The ownership and management of recreational resources in Clatsop County involve a large number of public and private parties, including governmental agencies, businesses, non-profit groups and individuals. The range of providers of land managed for recreation in Clatsop County is shown in Table 6. Examples demonstrate the diversity of recreational facilities, such as picnic areas, trails, campgrounds, boat ramps and fishing sites, golf courses and natural areas.

This is, however, only part of the recreational picture in the county. In addition, there are hundreds of thousands of additional acres open to the public for recreation as shown in Table 7. These include wildlife refuges, county sites not officially recognized as parks, multi-resource state timberland and privately owned commercial timberland. In total, other land open to the public for recreation constitutes 421,672 acres of the total 539,520 within the county, which represents nearly 80% of the county's land base.

Table 6 – Land Managed for Recreation: Examples by Provider

PROVIDER	TYPE OF RECREATION RESOURCE	EXAMPLES
The Public	Public Lands	Sunset Lake Park
Federal U.S. Department of the Interior National Park Service	National Historical Park	Lewis & Clark National Historical Park
State of Oregon Oregon Parks and Recreation Department*	Ocean Beach Access Highway Wayside Day-use Park Destination Campground Historic Site Fishing/Boat Access	Del Rey Beach Bradley Viewpoint Ecola Ft. Stevens Park Ft. Stevens Reserve
Oregon Department of Forestry**	Destination Campground Primitive Campground Equestrian Camp Trail	Spruce Run Gnat Creek Northrup Creek Bloom Lake
Cities	Active Sports Fields Swimming Pools Outdoor Courts Day-use Picnic Boat Ramp/Marine Park Multi-use Recreation Area	Warrenton – Softball Astoria – Aquatic Center Cannon Beach – Tennis Hammond – Basin Seaside Quatat Park Astoria - Tapiola
County	Passive Natural Site Fishing/Boating Access Day-use Picnic	Nehalem Park John Day Boat Ramp Cullaby Lake Park
School Districts	Active Sports Fields Gymnasiums Playgrounds	Warren Field-Astoria Knappa High School Astoria Middle School
Parks Districts	Public Swimming Pools Organized Rec Programs	Sunset Pool-Seaside Misc Activities
Private	Golf Courses RV Campgrounds	Gearhart Golf Course Circle Creek Campground

*See Table 9 for complete listing of recreational sites in Clatsop County
**See Table 10 for complete listing of recreational sites in Clatsop County
Note: In January 2006, the Port of Astoria announced plans for a seven acre public park on the west side of Pier 3.

Table 7 – Other Land in Clatsop County
Open to the Public for Recreation

AVAILABLE LAND / OWNER	NO. OF ACRES
Federal Land	
U.S. Department of Fish and Wildlife	
Lewis & Clark National Wildlife Refuge	34,000
Julia Butler Hansen National Wildlife Refuge	6,873
Haystack Rock, Oregon Islands National Wildlife Refuge	NA
State Land*	
Oregon Department of Forestry	
*Astoria District***	134,351
Forest Grove District	8,592
Tillamook District	2,562
Oregon Department of Fish and Wildlife	
Jewell Meadows Wildlife Area	962
Big Creek (north of Hwy 30)	14
Nehalem River (one mile north of Spruce Run Park)	35
*These holdings are described on pages 46-48.	
**See Appendix I for map and recreation rules.	
County Lands* **	
DeLaura Beach	370
Knappa Dock	<1
Claremont Parcel	2
Twilight Eagle Sanctuary	15
Williamsport Properties	~ 180
***These holdings are described in Chapter 7.	
Private Land	
Commercially-Owned Timberland	
Weyerhaeuser****	160,000+
Longview Fibre	43,912
Hampton Affiliates	30,000
****See Appendix J for map and rules.	

TOTAL ACRES: ~421,869

The SCORP 2003-2007 Report gives a general review of outdoor recreation resources and facilities by major suppliers. Data from Region 1 were used to extract provider data for Clatsop County, as shown below:

Table 8 – Supply of Outdoor Recreation Resources and Facilities By Major Suppliers in Clatsop County - 2001

Resource / Facility	Units	County	Federal	State	Municipal	Other Public	Schools	Private	Utilities	Totals
Backcountry Roads - Unpaved	Linear Miles			904	2					906
Baseball/Softball	Fields	1			15		17			33
Bicycle Trails - Surfaced	Linear Miles			19						19
Bicycle Trails - Unsurfaced	Linear Miles				2					2
Boat Ramps	Lanes	7		2	10					19
Community Walking Trails/Paths - Surfaced	Linear Miles				2					2
Community Walking Trails/Paths - Unsurfaced	Linear Miles				4					4
Cultural Historic Sites	Sites	1	1	5	9			2		18
Day Use Picnic Tables	Tables	24		184	49					257
Designated Hunting Area	Acres		40,873	149,540						190,413
Dump Stations	Stations			1	3					4
Equipped Play Areas	Acres	1		1	3		6	1		12
Fishing Piers	Linear Feet	30		60	50					140
Football/Rugby/Soccer	Fields				6		13			19
Freshwater Beach Area Total	Square Feet			924,000	160,000					1,084,000
Freshwater Beach Areas	Areas			4	3					7
Freshwater Beach Length	Miles			4	1					4
Golf Course Areas	Acres							178		178
Golf Course Holes	Number of Holes							36		36
Hiking Trails	Linear Miles			38	2					39
Indoor Swimming Pools	Number of Pools				4					4
Jogging Trails - Surfaced	Linear Miles			9						9
Jogging Trails - Unsurfaced	Linear Miles			5	2					7
Museum/Interpretive Building Sites	Sites		1	2	3	1		8		15
Nature/Interpretive Trails - Surfaced	Linear Miles			9			3			12
Nature/Interpretive Trails - Unsurfaced	Linear Miles		2	5						7
Non-Motorized Boat Launches -	Sites	2		8	1					11
Outdoor Basketball	Goals				9		11	2		22
Outdoor Recreational Land	Acres	1,300	7,755	162,376	233		59	33		171,755
Outdoor Recreational Water	Acres			600	7					607
Outdoor Tennis	Number of Courts				10		9			19
RV/Trailer Campsites	Sites	8		474	200			998		1,680
Shooting Ranges - Archery	Ranges			1						1
Tent Campsites	Sites	32		53	30			77		192
Windsurfing Access Sites	Sites			2	2					4

Data extracted from SCORP Table G.1

Providers other than the county are described briefly below and specific inventory information is presented in a series of tables on pages 45-51. County parks and recreational lands are discussed in Chapter 7.

> Public Lands

Certain properties or resources are considered to be owned by "the public." Examples are the waters of the Columbia River and the Pacific Ocean or a dedicated public park area within a residential area. The public is deemed to have the right to freely access such properties.

> Federal Lands

Unlike the state as a whole, there is virtually no federal timberland in Clatsop County. Federal holdings include the following national park and wildlife refuge lands:

- **The National Park Service** operates Lewis & Clark National Historical Park. This is America's newest national park (as of 2005) and incorporates units in both Oregon and Washington including Fort Clatsop, the Corps of Discovery's winter quarters in 1805-06.

- **The U.S. Department of Fish and Wildlife** owns and manages the 38,000-acre Lewis & Clark National Wildlife Refuge and 6,873 acres of Julia Butler Hansen National Wildlife Refuge established for the conservation of the Columbian white-tailed deer.

> State of Oregon

State land offers an assortment of recreational opportunities throughout Clatsop County:

The Fort-to-Sea Trail
A 50-year vision becomes a reality

Dedicated on Nov. 14, 2005, the Fort-to-Sea Trail was the dream of the same group of dedicated community volunteers who constructed the replica of Fort Clatsop in 1954 and 1955. They had yet another idea: to build a trail connecting the fort to the sea. The concept would be to recreate the experience that Lewis & Clark encountered as they traveled between the temporary fort and the Pacific Ocean (Appendix H – Map).

The challenges were daunting given the terrain and cost. The actual building of the trail did not start until 2004, when an extraordinary alliance of generous Oregon companies – along with federal, state and local agencies – was able to make the project happen.

The $10 million needed to build the trail included $5 million for acquiring a 920-acre addition to Fort Clatsop and a 249-acre state park. Monies included federal and state grants, private donations and donations in-kind from citizens, groups and agencies offering labor, materials and engineering expertise.

Scott Stonum, the chief of resource management at Lewis & Clark National Historical Park and member of the Recreational Lands Master Plan Task Force, commented on the completion of the project:

"I was anticipating more of a struggle getting it done," he said. "We had an unfunded project that was pretty monumental. But the community involvement and community spirit has been an incredible, wonderful surprise."

- **The Oregon Parks and Recreation Department** operates sites managed specifically for recreational purposes, including campsites, day use areas, beach access, waysides and forest preserves (Table 9).

- **The Oregon Department of Forestry** owns and manages a diverse group of recreation facilities in the Astoria District of Clatsop State Forest (Table 10).

  ODF has designated recreational activity zones across the Clatsop State Forest as shown in Appendix I.

- **The Oregon Department of Fish and Wildlife** manages over 1,000 acres of wildlife habitat in Clatsop County, including the 962-acre Jewell Meadows Wildlife Area.

> Cities

The incorporated municipalities in Clatsop County provide recreational sites and activity programs. The city of Astoria through its parks and recreation department has an extensive inventory of park sites and offers a wide range of recreational programs. Although other municipalities do not have sole-purpose parks and recreation departments, all own public park properties and provide recreational opportunities to their residents, people living in adjoining unincorporated areas and visitors to Clatsop County.

> Clatsop County

Clatsop County's parks system consists of 13 parks totaling 574 acres of land and six recreation sites totaling 443 acres of land. Six of the parks and recreation land sites include public boat ramps. County park properties offer active recreational opportunities including camping, day use and passive natural sites. See Chapter 7 for specific details.

> Public School Districts

The local school districts in Clatsop County provide certain recreational facilities to the public. School facilities such as gymnasiums and ball fields are often made available for general public use during after-school hours and the summer months (Table 15, page 50).

> Park and Recreation District

The Sunset Empire Park and Recreation District with facilities located in Seaside includes all properties within Seaside School District #10 except the incorporated cities of Gearhart and Cannon Beach. It is a tax-levying recreation district serving an area roughly between Cullaby Lake on the north, Tolovana Park on the south, and Hamlet on the east. It has an annual operating budget of approximately $2 million, with roughly half of this amount coming from its tax base.

The district's indoor pool and therapy pool are open to the public on a year-round basis. Aquatic offerings include instruction, fitness, recreation, competition and special event programs. A variety of non-aquatic recreation and leisure-time activity programs include competitive team sport leagues, children's and teen activities, arts and crafts and performing arts. The district's varied recreational offerings are enjoyed by a large number of county residents; estimated participant uses are about 100,000 per year.

> Private Providers

Private sector recreational providers include:

- Non-profit organizations such as youth soccer and baseball groups.
- Private commercial operators, such as golf courses, RV parks and campgrounds.

> Industrial Forest Lands

By total acres, private industrial forest lands provide the largest land base for recreation in Clatsop County. Private resource land managers allow limited public recreational access to their lands for activities such as hunting, hiking, fishing, biking and horseback riding. (See Appendix J for Weyerhaeuser Company recreational map and rules.)

> Recreation Inventories

During the master plan update, the recreational inventories for various facilities and recreational providers in Clatsop County were generated. Tables for the following are given on pages 45 through 51:

- Oregon Parks and Recreation Department
- Clatsop State Forest Recreation Facilities
- Public Water Access: Rivers and Streams
- Public Water Access: Boat Ramps
- Designated Area Trails
- Golf Courses
- School District Facilities
- Other Tennis Courts
- RV and Camping Facilities

Table 9 – Oregon Parks and Recreation Department Lands in Clatsop County

SITE & LOCATION	PICNIC	BEACH ACCESS	CAMPING	BIKE/HIKE/ TRAILS	COMMENTS
Arcadia Beach State Recreation Site US 101, 3 mi. south of Cannon Beach; 25 acres	X	X			Restrooms, parking lot
Bradley State Scenic Viewpoint, US 30, 22 mi. east of Astoria; 18 acres	X				Columbia River viewpoint, restroom, parking lot
Del Rey Beach State Recreation Site, US 101, 2 mi. north of Gearhart; 18 acres		X			Vehicle beach access and parking lot
Ecola State Park, off US 101, 2 mi. north of Cannon Beach	X	X	X	X	Ocean viewpoints, hike-in camp at Indian Creek. Elmer Feldenheimer Forest
Fort Stevens State Park, Ridge Road, Warrenton; 3762 acres	X	X	X	X	Historic museum, Coffenbury Lake
Hug Point State Recreation Site, US 101, 3 mi. south of Cannon Beach; 42 acres	X	X			Restrooms, parking lot
Oswald West State Park, US 101, 10 mi. south of Cannon Beach 2,474 total acres, 281 acres in Clatsop	X	X	X	X	36 primitive campsites, developed portion in Tillamook County
Saddle Mountain State Natural Area, off US 26, 10 mi. east of Seaside 2,921 acres	X		X	X	9 primitive campsites, 2 1/2 mi. hiking trail to summit viewpoints
Sunset Beach, Sunset Beach Road; 157 total acres		X		X	Part of the Lewis and Clark Nat. & State Hist. Parks, restroom, parking lot, trails
Sunset Highway Forest Wayside, US 26; South county line; 1,084 total acres, 530 in Clatsop County	X				Restroom, Steam Donkey Interpretive Trail
Tolovana Beach State Recreation Site, US 101, 1 mi. south of Cannon Beach; 3 acres	X	X			Restrooms, parking lot
For additional information, see OPRD website at: http://egov.oregon.gov/OPRD/					

Table 10 – Clatsop State Forest Recreation Facilities

SITE	LOCATION	COMMENTS	FEES
Gnat Creek Campground	Just east of Knappa (milepost 78 on US 30) on the Gnat Creek Forest Road	Primitive campground on Gnat Creek with six walk-in campsites; several salmon and steelhead runs throughout the year.	$5 for walk-in tent sites; $2 for each extra vehicle
Henry Rierson Spruce Run Campground	Five miles south of Elsie (milepost 20 on US 26) on the Lower Nehalem Road	Amenities include 32 vehicle sites, five walk-in sites, restrooms, drinking water, picnic tables and fire pits; garbage service and firewood sales in summer.	$10 for vehicle sites; $2 for each extra vehicle; $5 for walk-in tent sites.
Northrup Creek Horse Camp	Lowland meadows of Northrup Creek north of Hwy 202	Eight horse camp sites with truck and horse trailer parking, tent sites and horse corrals; vaulted restrooms, manure bins, day use area, trails and well also available.	$10 for vehicle and equestrian sites; $2 for each extra vehicle
Lost Lake	Just east of Henry Rierson Spruce Run Campground, accessible by trail	Only developed facility at lake is a primitive boat launching area; information kiosk available. Lake is periodically stocked with trout by ODFW.	None
4 dispersed camping sites	Lower Nehalem River	Sites include gravel parking areas, tent sites, picnic tables and fire rings.	None
Bloom Lake Trail	Bloom Lake Trail On US 26 about milepost 25	Trail offers easy to moderate hiking, leading from an information kiosk at the trailhead for 1.25 miles to Bloom Lake.	None
Soapstone Lake Trail	Between mileposts 4 and 5 on Hwy 53 in Hamlet, about 0.5 mile down the road to trailhead.	Two-mile trail offers moderate hiking opportunities with several bridges, sets of steps, a stream crossing and an elevated walk along the trail.	None
Archery range	Just east of Hwy 202 between Astoria and Olney	Unique archery range wandering along a forested trail with various targets to shoot at.	None
Demonstration forest	ODF office in Astoria on Hwy 202	Seven-acre self-guided demonstration forest with interpretive exhibits explaining benefits of forest management; school field trips encouraged.	None

All facilities open year-round. For more information, call or visit Astoria District Office, 92219 Hwy 202. Phone: (503) 325-5451 or see ODF website at: http://egov.oregon.gov/ODF/

Table 11 – Public Water Access: Rivers and Streams*

WATERWAY	SITE	FRONTAGE	OWNERSHIP
Big Creek	Big Creek County Park	1500 LF	Clatsop County
Big Creek	Frontage North of US 30	1500 LF	ODFW
Big Creek	Frontage near mouth	1200 LF	ODFW access lease
Columbia River	South Jetty & River Beach	2 miles	State Parks
Columbia River	Wauna River Beach		Georgia Pacific
Columbia River	Westport River Beach		
Columbia River	Clatsop Spit		
Columbia River	Jetty Sands		
Columbia River	Knappa Dock		Clatsop County
Columbia River	Blind Slough		North Coast Land Conservancy
Gnat Creek	Frontage below hatchery	1500 LF	ODFW access lease
Gnat Creek	Below hatchery	3 miles	ODF open land policy
Gnat Creek	Above hatchery	all lands	ODF open land policy
Klaskanine, N. Fork	Sigfridson County Park	4000 LF	Clatsop County
Klaskanine, N. Fork	Frontage above hatchery	600 LF	ODF open land policy
Klaskanine, N. Fork	Nehalem County Park	300 LF	Clatsop County
Lewis & Clark River	Frontage above 400 line		Weyerhaeuser
Lewis & Clark River	Lewis and Clark NHP	1.5 miles	
Necanicum River	Klootchy Creek County Park	3000 LF	Clatsop County
Necanicum River	Frontage above Black Bridge	1950 LF	ODFW ownership
Necanicum River	Beerman Creek	1830 LF	
Nehalem River	Charney Site (below Elsie)	7000 LF	ODFW ownership
Nehalem River	Spruce Run Park		ODF Campground
Nehalem River	varied large stretches		ODF open land policy
Nehalem River, N. Fork	Foss site below county parcel	1520	ODFW access easement
Nehalem River, N. Fork	Frontage below hatchery	1500 LF	ODFW ownership
Youngs River	Youngs River Falls		City of Astoria
Youngs River	Frontage above Falls	9 miles	Weyerhaeuser

*Partial list of public access points, additional private and public access points exist throughout the county

Table 12 – Public Water Access: Boat Ramps*

LOCATION	OWNERSHIP	MAINTENANCE
	COLUMBIA RIVER	
Hammond Basin	Town of Hammond	Town of Hammond
Warrenton Basin (Skipanon River)	City of Warrenton	City of Warrenton
Astoria Yacht Club (Youngs River)	City of Astoria	City of Astoria
East End Basin	Port of Astoria	Port of Astoria
John Day River	Clatsop County	Clatsop County
Aldrich Point	Private	Clatsop County
Westport Slough	Georgia Pacific	Clatsop County
East End Pier	Port of Astoria	-
	NECANICUM RIVER	
Quatat Park	City of Seaside	City of Seaside
Franklin Street	City of Seaside	City of Seaside
Beerman Creek	ODFW	ODFW
Howard Johnson Rock	Private	Private
Klootchy Creek Park	Clatsop County	Clatsop County
	NEAWANNA CREEK	
Broadway Park	Seaside	Seaside
	NEHALEM RIVER	
Pope/Meeker Road	ODFW	ODFW
	OTHER SITES	
Klaskanine River	Gindroz/Nygaard	Private
Cullaby Lake	Clatsop County	Clatsop County
Sunset Lake	Public	Neighborhood Group
Coffenbury Lake	State Parks	State Parks
Creep & Crawl Lake	State Parks	State Parks
Skipanon River 2nd Street	City of Warrenton	City of Warrenton
Lewis & Clark River Boat Ramp	Clatsop County	Clatsop County
Lewis & Clark River Netul Landing	National Park Service	National Park Service
Mill Pond	Seaside	Seaside
Lost Lake	ODF	ODF

*Partial list, additional private and public access points may exist throughout the county

Table 13 – Designated Area Trails

TRAIL NAME	TYPE	LENGTH	OWNERSHIP/DEVELOPER
Fort to Sea	National Historic	6.5	Lewis & Clark National/State Park
Netul River	National Historic	1.5	Lewis & Clark National Park
Clatsop Loop	National Historic	2.5	Lewis & Clark National/State Park
Gnat Creek	Hiking	1.5	Oregon Department of Forestry
Northrup Creek Horse Camp/Trail	Shared-use	5	Oregon Department of Forestry
Soapstone Lake	Shared-use	2	Oregon Department of Forestry
Bloom Creek	Shared-use	1.3	Oregon Department of Forestry
Steam Donkey	Shared-use	0.8	Oregon Department of Forestry
Fort Stevens	Shared-use	9	Oregon State Parks
Tillamook	Hiking	4.5	Oregon State Parks
Saddle Mountain	Hiking	2.5	Oregon State Parks
Cullaby Lake Wetland Trail	Shared-use	1.5	Clatsop County
DeLaura Beach	Shared-use	~10	Clatsop County
Urban Trails	Shared-use	~50	City of Astoria
River Walk	Rail with Trail	3.9	City of Astoria
Middle School	Hiking	-	City of Astoria
Warrenton Waterfront	Shared-use	4	Warrenton Trails Association
Airport Dike Trail	Shared-use	2	Warrenton Trails Association
Oregon Coast Trail	Hiking	25	Oregon Coast Trail
Gateway to Discovery	Hiking	-	City of Seaside

Table 14 – Golf Courses

Site	Telephone #	Location	Type	# Holes	Length
Astoria Golf & Country Club	503-861-2211	Off US 101, 5 mi. S. of Warrenton	Private	18 Holes	6,488 yd
Highlands Golf Course	503-738-5248	Off US 101, Del Rey Beach Road (N. of Gearhart UGB)	Public	9 Holes	1,740 yd
Gearhart Golf Links	503-738-3538	Off US 101, Gearhart	Public	18 Holes	6,218 yd
Seaside Golf Club	503-738-5261	US 101, Avenue U in Seaside	Public	9 Holes	2,610 yd
Alberston Golf Range	503-717-0623	33575 Toyas Ln, Seaside	Public	Range	N/A
Lewis & Clark Country Golf	503-338-3386	92319 Youngs River Road, Astoria	Public	9 Holes	2,738
Youngs Bay Driving Range	503-325-2220	92621 Wireless Road, Astoria	Public	Range	N/A

Table 15 – School District Facilities

SCHOOL DISTRICT	GYMS	BASEBALL	FOOTBALL	TRACK	OTHER
Astoria #1C					
Astoria High School	2	2 [1]	1	1	
Astoria Middle School	2	2 [1]	1	1	
Astor Elementary	2	2 [1]			2 Tennis [1]
Gray Elementary	1				
Lewis & Clark Elementary	1	1			
Warrenton #30					
Warrenton High School	1	1	1		
Warrenton Grade School	1		1	1	
Seaside #10					
Seaside High School	1	1	1	1	1 Tennis
Broadway Middle School	2	1	1		1 Tennis
Seaside Elementary School	1				
Gearhart Elementary School	1	1			
Cannon Beach Elementary	1				
Jewell #8					
High/Grade Schools	1	1 [2]	1	1	Tennis [2]
Knappa Columbia County #5J					
Knappa High School	1	1 (Soft)	1	1	
Hilda Lahti School	1	1			

[1] Owned City of Astoria

[2] Under construction at time of publication

Table 16 – Other Tennis Courts

CITY	LOCATION	COURTS	MAINTENANCE
Astoria	Niagara Park	2	City
Warrenton	City Park	4	City
Gearhart	City Park	2	City
Gearhart	Highlands	2	Private
Cannon Beach	City Park	2	City

Table 17 – Camping and RV Facilities in Clatsop County

Clatsop County RV Parks & Campgrounds	Phone	E-mail / Website	RV (hookup)	Tent	Cabin / Yurt	Notes
Lower Columbia River						
Astoria / Seaside KOA 1100 NW Ridge Rd	503-861-2606	astoriakoa@aol.com www.astoriakoa.com	311(222)	26	54+ 2 lodges	Mini golf, indoor pool and hot tub, volleyball.
Clatsop County Fairgrounds Walluski Loop, hwy 202 2 mi east of Astoria	503 325-4600		110(110)	0	0	Showers, 109 acres
Fort Stevens State Park Ridge Road, Warrenton	503-861-1671 800-452 5687 800-551-6949	www.oregonstateparks.org/park_179.php	479(177)	19	15	3762 acres
Gnat Creek Campground Just east of Knappa (milepost 78 on US 30) on the Gnat Creek Forest Road			0/0	6	0	Primitive campground on Gnat Creek with six walk-in campsites; several salmon and steelhead runs throughout the year.
Hammond Marina RV Park 320 Lake St., Hammond	503-861-0547		50(50)	0	0	Laundry, shower, cable TV
Kampers West Good Sampark 1140 NW Warrenton Dr.	503-861-1814 800-880-5267	info@kamperswest.com www.kamperswest.com	160(160)	0	3	2 club rooms, fish cleaning, crab cooking.
Klatskanine River RV Park 88590 Hwy. 202, 11 miles east of Astoria	503-325-8595	KlatskanineRiverRVPark@msn.com	15(15)	10	0	On the river, 11 miles east of Astoria, bath room and showers.
Sunset Lake Resort & RV Park 33242 Sunset Beach Lane	503-861-1760	sunsetlake@sunsetlake.faithweb.com www.sunsetlake.faithweb.com	22(2)	6	0	Store, bath and laundry
Interior						
Henry Rierson Spruce Run Campground Five miles south of Elsie (milepost 20 on US 26) on the Lower Nehalem Road			32(0)		5	Amenities include 32 vehicle sites, five walk-in sites, restrooms, drinking water, picnic tables and fire pits; garbage service and firewood sales in summer.
Northrup Creek Horse Camp Milepost 35 on Hwy 202, 4 miles west of Birkenfeld.			0/0	0	8*	*8 horse camp sites with truck and horse trailer parking, tent sites and horse corrals; vaulted restrooms, manure bins, day use area, trails and well also available.
Cannon Beach						
Ecola State Park Off US 101, 2 mi. north of Cannon Beach	800-452 5687 800-551-6949	www.oregonstateparks.org	0	0	3	Hike in
RV Resort at Cannon Beach 345 Elk Creek Road	503-436-2231 800-847-2231	info@cbrvresort.com www.cbrvresort.com	100(100)	0	0	Cable TV, indoor Pool, spa, playground, basketball, convenience store, shuttle
Oswald West State Park US 101, 10 mi. south of Cannon Beach	800 452 5687 800 551-6949	www.oregonstateparks.org/park_195.php	0	30	0	Hike in, 2,474 acres
Sea Ranch RV Park & Stables 415 Fir St.	503-436-2815	searanch@seasurf.net www.searanchrv.com www.campingfriends.com/searanchrvpark	38(14)	41	7	Restrooms, May to Sept beach horse rides. Children and animal friendly.
Wright's For Camping	503-436-2347	wrights@seasurf.net www.wrightsforcamping.com	7(0)	19	0	Showers laundry, wooded area.
Seaside						
Bud's Campground & Grocery 4412 Hwy 101	503-738-6855 800-730–6855		26(26)	10	0	Restrooms, showers, laundry, groceries
Circle Creek RV Park & Campground 85658 Highway 101	503-738-6070	circlecreek101@hotmail.com	44(44)	28	0	Restrooms, showers, laundry, Necanicum river fishing.
Forest Lakes Resort 85203 Hwy 101	503-738-0100					
Pine Cove Motel & Trailer Court 2481 Highway 101 N	503-738-5243		25(25)	6	0	12 motel rooms
Saddle Mountain State Natural Area, off US 26, 10 mi. east of Seaside	800-452-5687 800-551-6949	www.oregonstateparks.org/park_197.php	0	10	0	Drive in, 2,921 acres
Thousand Trails / Leisure Time Resorts 1703 12th Ave. ½ east of 101	503-738-0626	www.1000trails.com	219(219)	25+	26 trailers, 6 cabins	Private, membership required. Indoor pool, tennis, sauna, laundry, RC-cars, basketball.
Truckes Necanicum River RV Park 1921 S Hwy. 101	503-738-8863		15(0)	0	0	Convenience store and gas
Venice RV Park 1032 24 Ave, 1.25 miles N Seaside hwy 101	503-738-8851	www.shopseaside.com/vrv	30(30)	6	0	Cable TV, laundry, showers

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5 > PARK SYSTEM GOALS, OBJECTIVES AND ACTION STRATEGIES

Five goals were identified along with objectives and actions needed to support our vision of a vital, prosperous parks and recreation system that contributes to the quality of life in Clatsop County.

> Planning Goals

Oregon Statewide Planning Goal 8 requires local governments to inventory recreation needs based on adequate research and analysis of public wants and desires and to inventory available recreation opportunities.

Extensive time and energy were dedicated to the development of planning goals and subsequent objectives and action strategies for Clatsop County parks and recreational lands. The intent of these goals has been reviewed during the public involvement process and has been narrowed down to five broad planning goals. The goals listed in this section apply to the general implementation and management of the county park system and are directed toward the vision of the mission statement.

Master Plan Task Force Vision Statement:

"By 2015, Clatsop County will be a contributor to a county-wide recreational system of parks and trails that are well known, maintained and supported. This recreational system will add significantly to the area's growing reputation as a good, healthy place to live, work and visit."

Goal 1 – Parks Management
Goal 2 – Funding and Operation
Goal 3 – Community Health and Social and Economic Benefits
Goal 4 – Environmental Stewardship
Goal 5 – Regional Recreational Connections

> Objectives and Action Strategies

The strategic actions in this section identify the steps necessary to achieve the various goals and objectives outlined. Also shown are the individuals or groups with lead responsibility for carrying out each objective or action and the time frame in which it is to be accomplished.

Table 18 – Goals, Objectives and Action Strategies

Goals, Objectives, and Actions	Lead Responsibility	Time Frame
GOAL 1 - PARKS MANAGEMENT: Maintain and improve the county's park and recreational resources.	**PM**	**M**
1.1 OBJECTIVE: Provide a consistent, high quality, park and recreation experience.	**PM**	**S**
ACTIONS:		
1.1.1 Establish consistent, high quality and recognizable identity for Clatsop County parks and recreational lands, including signage.	**PM/RLPAC**	**S**
1.1.2 Display information about the entire park system at each developed county park.	**PM/RLPAC**	**S**
1.1.3 Work with producers of area recreational maps and brochures to include county parks.	**PM**	**S**
1.1.4 Provide more restroom facilities.	**PM/RLPAC**	**S**
1.1.5 Coordinate with other law enforcement and security personnel to share patrolling of county parks as appropriate.	**PM/CCAP**	**O**
1.1.6 Strive to increase connectivity between parks and adjacent recreation areas.	**PM/RLPAC**	**M**
1.1.7 Consider establishing "quiet zones" within the parks or consider identifying entire parks as "quiet parks." Exceptions could be made for special events, concerts or other permitted activities.	**PM/RLPAC**	**M**
1.1.8 Ensure adjacent land uses, especially industrial uses, are compatible with future park acquisitions and development projects.	**PM/RLPAC**	**O**
1.2 OBJECTIVE: Manage each park to preserve and enhance the natural and cultural resources within the park system.	**PM**	**O**
ACTIONS:		
1.2.1 Provide staff training on issues of resource management and protection.	**PM**	**S**
1.2.2 Implement a noxious weed control program.	**PM**	**0**

Key
Lead Responsibility: PM=Parks Management. RLPAC=Recreational Lands Planning Advisory Committee.; CCAP= Clatsop County Administration.; RRC=Regional Recreation Council*; BOC=Clatsop County Board of Commissioners
Time Frame: O=Ongoing; S=Short-term (1-3 yrs); M=Mid-Term (4-7 years); L=Long-term (8-10+ yrs.)

Goals, Objectives, and Actions	Lead Responsibility	Time Frame
1.3 OBJECTIVE: Identify additional county-owned land that could be used for recreational activity and educational purposes.	**RLPAC/PM/CCAP**	**O**
ACTIONS:		
1.3.1 Maintain a parks classification system to guide current and future management.	**PM**	**O**
1.3.2 Strive to locate parks close to population centers.	**RLPAC/PM/CCAP**	**M**
1.3.3 Create a policy for the acquisition, development and disposal of parks and recreational lands that addresses long term county needs.	**RLPAC/CCAP/BOC**	**S**
1.3.4 Establish the exact boundaries and ownerships of all county owned parks and recreational lands.	**PM/CCAP**	**M**
1.4 OBJECTIVE: Provide park facilities that are safe and accessible for their designated uses.	**PM**	**O**
ACTIONS:		
1.4.1 Contact recreational user groups to ascertain their needs and gain their cooperation.	**RLPAC**	**S**
1.4.2 Minimize user conflicts by separating uses or through special use agreements.	**PM/RLPAC**	**M**
1.4.3 Increase the number of maintained trails in each park.	**PM**	**M**
1.4.4 Increase the number of designated fishing locations.	**PM**	**M**
1.4.5 Create or adopt trail building guidelines.	**PM/RLPAC**	**S**
1.4.6 Consider implementing ADA (Americans with Disabilities Act) accessibility standards within existing facilities, i.e. new handicapped-accessible fishing platforms at existing park sites.	**PM**	**S**
1.4.7 Establish county-wide development, building and maintenance standards.	**PM/RLPAC**	**S**
1.4.8 Decommission underused and derelict facilities that do not have heritage significance, including the removal of excess parking areas, roads, picnic shelters and parks buildings.	**PM**	**O**

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Time Frame: O=Ongoing; S=Short-term (1-3 yrs); M=Mid-Term (4-7 years); L=Long-term (8-10+ yrs.)

Goals, Objectives, and Actions	Lead Responsibility	Time Frame
GOAL 2 – FUNDING AND OPERATION: Ensure a sustainable, high quality and cost effective park operation.		
2.1 OBJECTIVE: Make the parks operation increasingly self-sustaining, including developing partnerships when possible.	**RLPAC**	**S**
ACTIONS:		
2.1.1 Implement appropriate revenue generating potential of the county parks; consider a graduated fee schedule for county/non-county residents.	**RLPAC/BOC**	**S**
2.1.2 Investigate the establishment of a "Friends of the Parks" foundation to establish fundraising.	**RLPAC/BOC**	**S**
2.1.3 Pursue grants from state, federal and private sources.	**PM**	**O**
2.1.4 Consider the formation of a restricted fund as a source of stable, supplemental funding for parks.	**RLPAC/BOC**	**S**
2.2 OBJECTIVE: Utilize advanced and improved technologies in parks and facilities management to improve efficiencies.	**PM**	**O**
ACTIONS:		
2.2.1 Establish a reservations system for special facilities.	**PM**	**M**
2.2.2 Evaluate operations for potential cost savings.	**PM**	**O**
2.2.3 Annually evaluate prior year's performance and prioritize activities for the coming year.	**RLPAC/PM/BOC**	**O**
2.2.4 Utilize resident park hosts, volunteers and work crews where appropriate.	**PM**	**O**
2.2.5 Acknowledge and reward volunteers with recognition.	**CCAP**	**O**

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Time Frame: O=Ongoing; S=Short-term (1-3 yrs); M=Mid-Term (4-7 years); L=Long-term (8-10+ yrs.)

Goals, Objectives, and Actions	Lead Responsibility	Time Frame
GOAL 3 – COMMUNITY HEALTH & ECONOMIC/SOCIAL BENEFITS: Promote the community health and regional economic benefits of the park system.		
3.1 OBJECTIVE: Raise public awareness of the health and economic benefits of the park system.	**PM/CCAP**	**O**
ACTIONS:		
3.1.1 Determine the economic advantages to the county of current and potential parks and recreational lands, including future development projects.	**RLPAC/CCAP**	**S**
3.1.2 Develop a marketing plan, including cross-marketing opportunities with other recreational providers, to highlight the county's scenic, recreational and cultural qualities as an important part of a desirable, healthy lifestyle.	**PM/CCAP**	**S**
GOAL 4– ENVIRONMENTAL STEWARDSHIP: Promote volunteerism and a greater sense of land stewardship among county residents of all ages.		
4.1 OBJECTIVE: Build an effective outreach strategy to engage the public.	**RLPAC/CCAP**	**S**
ACTIONS:		
4.1.1 Expand the Adopt-A-Park program, encouraging area schools, businesses and other community organizations to enlist volunteers in the development and maintenance within parks.	**CCAP/PM**	**S**
4.2 OBJECTIVE: Practice environmentally responsible park management.	**PM**	**O**
ACTIONS:		
4.2.1 Complete a system-wide Natural Resources Inventory to be used to protect and enhance the environment.	**PM**	**M**
4.2.2 Develop and implement a "green purchasing" program for park maintenance and operations.	**PM**	**S**
4.2.3 Minimize tree cutting in parks with priority given to dead or identified hazard trees.	**PM**	**O**

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Time Frame: O=Ongoing; S=Short-term (1-3 yrs); M=Mid-Term (4-7 years); L=Long-term (8-10+ yrs.)

Goals, Objectives, and Actions	Lead Responsibility	Time Frame
4.3 OBJECTIVE: Increase public awareness of the county parks' natural and cultural resources.	**PM/CCAP**	**S**
ACTIONS:		
4.3.1 Install interpretive signage at park locations where feasible.	**PM/RLPAC**	**M**
4.3.2 Sponsor public events that highlight the county's unique natural and cultural features.	**RLPAC/PM**	**O**
4.3.3 Use various media, such as newsletters, interpretive panels and the county's website, to highlight the parks' natural and cultural resources.	**PM/CCAP**	**S**
GOAL 5 – REGIONAL RECREATIONAL CONNECTIONS: Establish a more integrated and connected system of parks and recreational resources both within the county park system and between the county and other public and private recreation providers.		
5.1 OBJECTIVE: Establish a permanent recreation council* of local, county, state, federal and private recreation providers in Clatsop County to improve and integrate regional park and trail developments.	**RLPAC/BOC**	**S**
ACTIONS:		
5.1.1 Create a Land and Water Trails Plan.	**PM/RRC**	**S**
5.1.2 Create uniform land and water trail use guidelines and consistent signage to minimize user conflicts.	**PM/RRC**	**S**
5.1.3 Identify opportunities to collaborate on recreational maps and other visitor information.	**PM/RRC**	**S**
5.1.4 Identify the partnerships necessary to jointly manage recreational sites, such as Youngs River Falls.	**RRC/RLPAC/BOC**	**M**
5.1.5 Identify and investigate opportunities to secure public access to rivers, streams and lakes, as well as significant trails and natural or historic sites.	**PM/RRC**	**S**
5.1.6 Incorporate inventories of all park and recreation facilities, including parks, sport fields, trails, recreational lands, historic sites and other relevant data, into the county's geographical information system (GIS).	**PM/RRC**	**L**
****See Appendix N – Regional Recreation Council – Proposed Charter***		

Key

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Time Frame: O=Ongoing; S=Short-term (1-3 yrs); M=Mid-Term (4-7 years); L=Long-term (8-10+ yrs.)

6 > DEFINITIONS AND STANDARDS

Park classification systems have been used successfully elsewhere in the country to manage park resources, market to the public, and plan for future development. A system based on existing park inventories is proposed in this report, along with recommendations for park and facility standards.

> Park Classifications

Recognizing the diversity of the resources and variety of uses within the county parks, we recommend a park classification system. The classifications will serve as a guide to the ongoing management and use of the existing parks and open space lands, and the future development of new ones. Each park will be assigned a classification based on its dominant feature, recognizing that parks may share some of the characteristics of other park categories.

The following park and recreational lands classifications are proposed:

- **Shared-use Parks**
- **Special Use Area**
- **Natural Areas**

In addition, park and recreational lands that meet certain criteria may be assigned a special designation overlay. The following overlays are proposed:

- **Gateway Designation**
- **Leased Park Designation**

Recommendation:

Park Designation Process:

Consider lease, trade or sale of park lands that have been identified as not fitting the overall mission of the Parks Master Plan in order to fund other aspects of the park system.

Perform periodic reviews to evaluate whether the individual parks designation is still valid.

"I am from the local area and have not heard of some sites: need more signage and communication to public."

Survey respondent, Hammond
August 2005

> Shared-use Parks

Definition

Sites that provide a range of park, recreation and open space opportunities.

Role and Function

Meet a variety of community-based, shared-use park and recreational needs.

Facilities

Examples of facilities deemed necessary to fulfill the recreational needs of the particular park: boat docks, built restroom facilities, water systems, covered picnic areas, playgrounds, volleyball courts, horseshoe pits, baseball fields, barbecue pits, trails, parking, fee boxes, camp hosts, fishing docks, signage, etc.

"Unfortunately there is a lack of unvandalized toilet facilities."

Survey respondent
August 2005

Management Focus

- Maintain all facilities and grounds in attractive, clean, safe and working order.
- Identify park management zones: active areas, passive areas and natural environment areas.
- Install an interpretive signage and educational program that will highlight the wonderful natural features of the area.
- Develop trails, viewing areas and other waterfront and wetland-related amenities, subject to environmental considerations (e.g., boat launch, fishing pier, viewing platforms or beach access).
- Collect fees where feasible.

"All the parks need to be more publicized. Nobody knows about all these parks. Put out more information about the parks and put big signs on them!"

Survey respondent
August 2005

> Special Use Area

Definition

Parks and recreation facilities oriented toward a single use or purpose.

"Dog parks! We have well behaved springers that love to run."

Survey respondent
Astoria
August 2005

Role and Function

Serve specific users and activities, including residents and visitors. Examples include boat ramps, docks, camping facilities, etc.

Facilities

All facilities support the primary use.

Management Focus

- Maintain all facilities and grounds in good, safe and working order.
- Identify park management zones: active areas, passive areas and natural environment areas.
- Establish an interpretive signage and educational program that can highlight the wonderful natural features of the area.
- Facilitate public access and views to natural features.
- Establish fee collection where feasible.

> Natural Areas (Low-Impact Recreation)

Definition

The primary purpose of these sites is to conserve the natural environment while allowing for low-impact, nature-based recreational activities.

Role and Function

Self-directed, resource-oriented outdoor recreation that complements the unique and natural features of each site without harming the environment. Natural areas are typically less developed and managed to preserve natural processes.

Facilities

Low-impact facilities including trails, trailheads, modest comfort facilities (restrooms), informal parking areas, information/interpretive kiosks, and directional/way finding signage.

Management Focus

"We have lived here all our lives and I have never seen any information out on county parks."

Survey respondent, Youngs River area August 2005

- Protect important natural and cultural heritage features.
- Manage and enhance environmental resources; examples include forest land, fisheries and other wildlife.
- Identify appropriate use of areas and trail routes.
- Encourage shared-use trails wherever possible and appropriate to serve the greatest number of users; separate trail uses where necessary if conflict is unavoidable.
- Install an interpretive signage and educational program that will highlight the unique natural and historic features throughout these parks; examples include bird watching, nature enjoyment and trails use.
- Establish a "Carry-in / Carry-out" trash policy within these scenic and natural park settings.

> Gateway Designation

Definition

Gateway parks are likely points of first contact with the larger park system.

Role and Function

Serve as a gateway to the parks system with information about other parks that visitors might like to see.

Facilities

Kiosks, information centers, fee payment systems.

Management Focus

Maintain the information booths, fee collection.

> Leased Park Designation

Definition

Parks that are leased to a third party that manages the park for a specific purpose.

Role and Function

Provide a needed, popular or historic public service.

Facilities

As needed by the leasing entity and consistent with the lease agreement, but consistent with returning the land to its underlying designated use at the conclusion of the lease.

Management Focus

Ensure that the terms of the lease are followed.

Table 19 – Park & Recreational Lands Classification Matrix

Parks

	A. Shared-Use	B. Special Use	C. Natural (Low Impact Rec)	D. Gateway	E. Leased Parks
Aldrich Point		◆			
Big Creek	◆				
Carnahan	◆				
Cullaby Lake	◆			◆*	
David Douglas			◆		
Lee Wooden			◆		
John Day		◆		◆*	
Klootchy Creek	◆			◆*	
North Fork Nehalem Park (Hwy 53)			◆		
Nehalem Park (Red Bluff)			◆		
Sigfridson			◆		
Smith Lake			◆		
Westport		◆		◆*	

Recreational Areas

	A. Shared-use	B. Special Use	C. Natural (Low Impact Rec)	D. Gateway	E. Leased Parks
Camp Cullaby (BSA)		◆			◆
DeLaura Beach			◆		
Lewis & Clark		◆			
Camp Kiwanilong	◆				◆
Twilight Eagle		◆			
Lower Co. Soccer		◆			◆

*Proposed designations

> Zoning

Existing zoning does not fully account for current uses or future plans for county parks. Based review by the Task Force, county parks and recreational lands are inconsistently zoned. In the opinion of the Task Force, the RM (Recreation Management) zone is the closest match.

We recommend defining all county parks and recreational lands as county-owned land zoned RM. The parks master plan (or specific, individual park master plans) would become the document controlling use or conditional uses. The parks classification document described in this chapter provides an effective guideline for current use and future plans.

Recommendation:
We recommend defining all county parks and recreational lands as county-owned land zoned RM.

Table 20 – County Zoning Relevant to Parks and Recreation Lands

Use/Zone	Park Master Plan Zone (Section 3.900)	Open Space, Parks, and Recreation Zone (Section 3.580)	Recreation Management Zone (Section 3.594)
Purpose	The purpose of this zone is to provide for the long term protection, management and enjoyment of natural, cultural, scenic, open space and recreational resources within publicly-owned or managed parks.	The OPR zone is intended to provide for the conservation of open space; the protection and development of areas uniquely suited for outdoor recreation and the protection of designated scenic, natural and cultural resource areas.	This zone is intended to be applied to existing public and private parks particularly those that contain significant natural values. These areas are intended to accommodate the type of recreational development that insures the maintenance of the site's natural values.
Applicability	This zone will be applied only to public parks which have master plans adopted by Clatsop County pursuant to OAR 660 Division 34		
Development & Use	Park uses and facilities that are consistent with a park master plan adopted pursuant to OAR 660 Division 34, and with applicable development standards, are allowed through the review procedures...	Farm use. Forest use. Wildlife refuge or management area. Public regional park or recreation area excluding campgrounds. Historical or archaeological site/area. Golf courses except in areas identified as Coastal Shorelands. R.V. Park subject to Section S3.550-S3.552 except in the Clatsop Plains Planning Area. Other watersheds. Public or private neighborhood park or playground. Golf driving range. Municipally owned watersheds. Accessory development customarily provided in conjunction with the above developments. Property line adjustment. Low intensity recreation.	General maintenance and operation of existing recreation facilities. Recreational improvements and additions necessary to serve the same visitor capacity served by the existing facilities, provided that off-site impacts are not disturbed. Property line adjustments. Low intensity recreation.

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7 > COUNTY PARKS AND RECREATIONAL LANDS

On-site inventories conducted by Task Force members reveal a number of opportunities for better utilizing county-owned park properties. The data can serve as a benchmark for future planning.

> Parks and Recreational Lands

Clatsop County benefits from an array of natural resources and habitats. Lands within the county range from coastal shorelines and wetlands to freshwater streams and estuaries; from lowland meadows and dunes to the forested mountains of the Coast Range. These diverse environments can be experienced in the county's park system.

This chapter provides inventory information and site-specific recommendations for parks and other recreational sites owned and managed by Clatsop County. Potential recreational sites and camping facilities are addressed later in the chapter

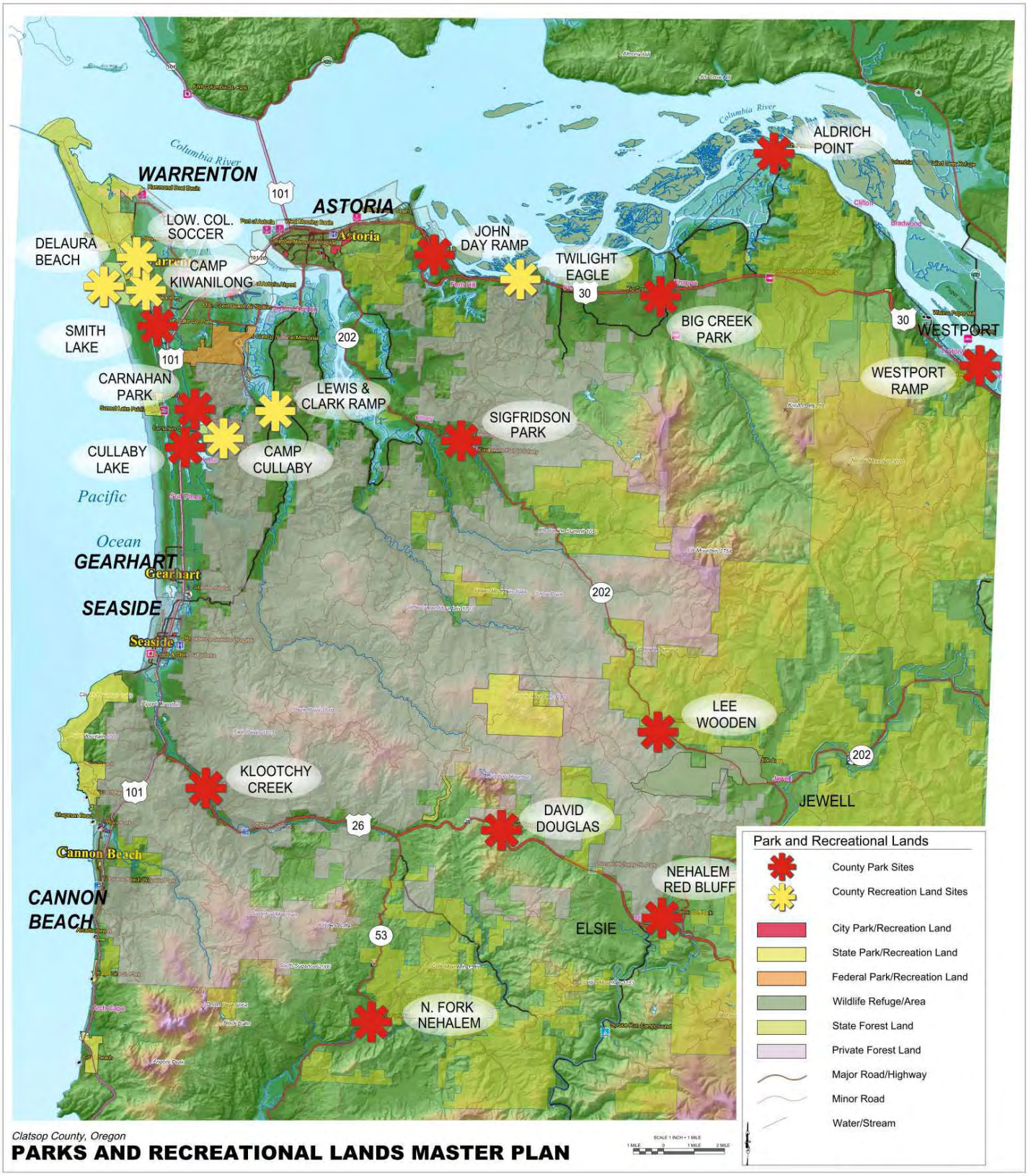
Table 21 lists Clatsop County's 13 designated parks and six recreational sites and their size. This is followed by Figure 2 on which their locations are identified.

Table 21 – Parks and Recreation Lands

County Parks	***Acres***
Aldrich Point Boat Ramp	4
Big Creek Park	36
Carnahan Park	31
Cullaby Lake Park	165
David Douglas Park	64
Lee Wooden/Fishhawk Falls Park.	47
John Day Park/Boat Ramp	58
Klootchy Creek Park	25
Nehalem Park (Red Bluff)	49
North Fork Nehalem Park	3
Sigfridson Park	64
Smith Lake Park	3
Westport Boat Ramp	27
Total Acreage	**577**

Recreation Lands	***Acres***
Camp Cullaby (Camp Royce-Finel)	62
Camp Kiwanilong	191
DeLaura Beach	164
Lewis and Clark Boat Ramp	3
Lower Columbia Youth Soccer Assoc.	4
Twilight Eagle Sanctuary	15
Total Acreage	**443**

Figure 2 – Park and Recreational Lands Map



> Habitat Summary

Opportunities and Constraints Analysis: *We recommend that further habitat analysis and a thorough opportunities and constraints study accompany future planning and development of county parklands.*

Earlier planning efforts by the county have yielded an overview of general habitat classifications that are common to the park and recreation lands. Table 22 summarizes the types of habitat areas that are typical of each of the park and recreation land sites and provides an overview of the sensitive habitat areas, unusual species and development pressures.

Table 22 – Habitat Summary

	Aquatic	*Riparian*	*Wetland*	*Shrub*	*Forest*	*Meadow*	*Sensitive Habitat/Development Pressures*
County Parks							
Aldrich Point Boat Ramp	X	X	X			X	Columbia River shoreline, isolated
Big Creek Park	X	X	X	X	X	X	Big Creek shoreline, bank erosion and wetlands
Carnahan Park	X	X	X	X	X		Cullaby Lake shoreline
Cullaby Lake Park	X	X	X	X	X		Adjacent development and wetlands
David Douglas Park					X		Old growth trees, high habitat value
Lee Wooden/Fishhawk Falls Pk.	X	X	X	X	X	X	Falls are unique landscape feature, diverse site
John Day Park/Boat Ramp	X	X	X				Diverse wetlands
Klootchy Creek Park	X	X	X	X	X		Unique tree stand, Nacanicum shoreline
Nehalem Park (Red Bluff)					X		Old growth trees, high habitat value
North Fork Nehalem Park	X	X			X		Nehalem River shoreline
Sigfridson Park	X	X	X	X	X	X	Open meadows, Klaskanine River shoreline
Smith Lake Park	X	X	X				Lake frontage
Westport Boat Ramp	X	X	X	X		X	Slough and riparian habitat
	Aquatic	*Riparian*	*Wetland*	*Shrub*	*Forest*	*Meadow*	*Sensitive Habitat/Development Pressures*
Recreation Lands							
Camp Cullaby (Camp Royce-Finel)	X	X	X	X	X		Wetlands and mature forested areas
Camp Kiwanilong	X	X	X	X	X	X	Diverse dune habitat, wetlands, and lakes
DeLaura Beach			X	X	X		Coastal site with rare deflation plain wetlands
Lewis and Clark Boat Ramp	X	X	X				Lewis & Clark River shoreline
Twilight Eagle Sanctuary	X	X	X		X		Columbia River shoreline, isolated
Lower Columbia Youth Soccer			X	X		X	

> Designated County Parks

Clatsop County's 13 designated parks are described in detail on pages 72-103. Considerable effort was taken by Task Force members to collect and verify these data; they represent an important repository of historic, legal, management and marketing data.

Many issues arose during the process of collecting park data. These are described in the "Management Opportunities & Challenges" and "Recommendations & Comments" section for each park. Chapter 5 contains *Goals, Objectives and Action Strategies* that relate to county parks. Current park rules and regulations are listed in Appendix O.

An overview of current facilities is shown below.

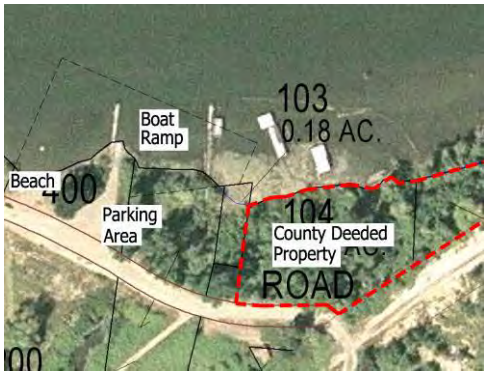
Recommendation:
Park inventory data collected during the process of producing this report shall be:

1. *preserved in a database*
2. *updated regularly, and*
3. *available to the public on the county's Web site.*

Table 23– Facility Inventory by Site

	Day Use Fee Required	Paved Parking Area	Primitive Parking Area	Restrooms (Flush)	Vault Toilet/Chemical Toilet	Campsites	Reservable Picnic Shelters	BBQ/Cooking Facilities	Boat Launch Facilities	Fishing/Transit Dock	Swimming Area	Fishing Area	Walking/Hiking	Equestrian Trails	Playground	Picnic Tables	Baseball/Softball/Soccer	Volleyball Courts	Open Play Area	Natural Area/Wetlands	Interpretive/Education Signage	Historic Structures
County Parks																						
Aldrich Point Boat Ramp			X		X				X	X		X								X		
Big Creek Park			X									X	X				X			X		
Carnahan Park			X						X	X	X	X	X			X			X	X		
Cullaby Lake Park	X	X		X			X	X	X	X	X	X	X		X	X		X	X	X	X	X
David Douglas Park																				X		
Lee Wooden/Fishhawk Falls Pk.			X										X							X		
John Day Park/Boat Ramp	X	X		X					X	X		X				X				X		
Klootchy Creek Park					X															X		
Nehalem Park (Red Bluff)																				X		
North Fork Nehalem Park			X									X	X							X		
Sigfridson Park			X									X	X							X		
Smith Lake Park																				X		
Westport Boat Ramp			X		X				X	X		X	X							X		
Recreation Lands																						
Camp Cullaby (Camp Royce-Finel)		X			X	X							X			X				X		
Camp Kiwanilong				X		X							X			X	X	X	X	X		
DeLaura Beach													X	X						X		X
Lewis and Clark Boat Ramp			X						X	X		X								X		
Lower Columbia Youth Soccer			X														X					
Twilight Eagle Sanctuary			X																	X	X	

ALDRICH POINT BOAT RAMP



Location: End of Aldrich Point Road, 5.4 miles north of Hwy. 30 between milepost 79-80, Brownsmead area

Map: 9N 7W Section 26 – #104, #100

Size: 3.73 acres

Ownership Status: County

Land-use zone: Aquatic Natural (AN)

Classification: Special Use

History:

n/a

Acquisition by County:

n/a

Description / Natural Features:

The Aldrich Point Boat Ramp is located at the end of Aldrich Point Road in the Brownsmead area in eastern Clatsop County. This narrow, one lane improved boat ramp and transit dock offers access to the Columbia River at river mile 29. It provides access to the Lewis and Clark Wildlife Refuge that is located north of the boat ramp. This site is popular throughout the year and provides excellent water access opportunities for canoeing, kayaking, boating, waterfowl hunting and Columbia River fishing.

Cultural / Historical Significance:

n/a

Geological Significance:

Aldrich Point is the northernmost point in the State of Oregon. This facility is located on the broad floodplain along the south shore of the Columbia River.

Recreation Utilization:

The primary users year-round are fishermen and waterfowl hunters launching watercraft to access the Columbia River and Refuge. During the warmer summer months, use by non-motorized boaters increases. Non-boating uses are limited due to poor beach access and primitive facilities.

Facility Inventory:

- Single lane boat launch
- Transit dock
- Informal gravel parking area
- Chemical toilet

Development History:

- (2004) Installation of new rock fill along the edges of boat ramp and in between the existing cement boat ramp blocks for cost: of $10,500.
- (1999) Removal of deteriorated boarding floats/docks.
- (1999) $5,000 approved by BCC for construction by locals of new boarding floats: no activity to date.

Management Opportunities/Challenges:

- Oregon State Marine Board (OSMB) provides $3,000 annually for limited maintenance and operations of this site.
- At this time, county maintenance and operations costs are limited to staff time only.
- Current property boundary issues prevent the county from pursuing OSMB improvement grants.
- OSMB grants and other funding sources could be utilized to provide continued public access to this section of the Columbia River for boaters, bird watchers, nature enthusiasts, fishermen and hunters.

ALDRICH POINT RAMP

Recommendations & Comments:

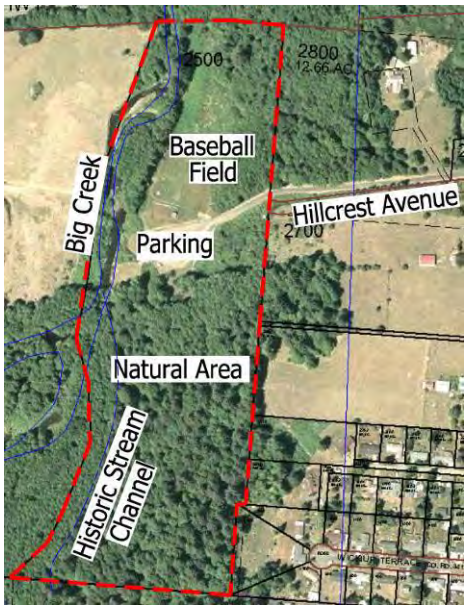
Operations and Maintenance

- Resolve the property boundary issue to allow for improvement of this site.
- Secure OSMB (Oregon State Marine Board) grants for park improvements.
- Establish a day-use fee and collection system for this site.

Capital Improvements

- Consider park improvements, including:
  - Improved parking facility
  - Enhanced boat launch and dock facilities
  - Vault toilet

BIG CREEK COUNTY PARK



Location: Big Creek Lane off of Hillcrest Loop, ½ mile south of Hwy. 30 at milepost 82, Knappa area

Map: 8N 7W Section 19 – #25

Size: 36 acres, including 1,500 linear feet Big Creek

Ownership Status: County

Land-use zone: Recreational Management (RM)

Classification: Shared-use

History:

n/a

Acquisition by County:

The property was acquired from the Knappa Development Company on April 4, 1969 for the sum of $17,000.

Description / Natural Features:

This county park site, which adjoins Big Creek, provides an attractive, secluded, natural setting for stream fishing and day-use activities. The vegetation communities on-site are diverse and include riparian areas along Big Creek, open field and flat forested areas, wetlands and forested foothills. The vegetation found within the boundaries of the park is typical of native plant communities found in Clatsop County. This park provides direct access to Big Creek salmon, steelhead and trout fisheries.

Cultural / Historical Significance:

n/a

Geological Significance:

Big Creek is a coastal foothills stream that flows from the west slope of Nicolai Mountain in a northerly direction for a distance of about ten miles to the confluence with the Columbia River. Upstream mining activities during the 1990s caused the stream channel of Big Creak to re-route.

Recreation Utilization:

Use of the site is relatively light and includes fishing, open space and picnicking. The existing baseball field is used periodically.

Facility Inventory:

- Single baseball field, backstop, benches and concession stand located north of the entrance road. It is currently being partially maintained by local residents, and is used as a practice field.
- Primitive walking paths throughout site and along banks of creek.
- A graveled cul-de-sac turnaround area and informal parking area at terminus of entrance road. Vehicle barriers have been installed to define parking area.
- Vehicular access provided over a county-maintained, paved 16-foot wide entrance road that connects to Hillcrest Loop.

Development History:

- (1991) Master plan completed.
- (1986) Youth baseball field constructed by County Parks in partnership with local community group. Recreation facility formerly managed by community group via cooperative agreement.
- Log vehicle barricades have been recently added at perimeter of parking area.

BIG CREEK PARK

Recommendations & Comments:

Operations and Maintenance

- Limit improvements within riparian corridor and respond to stream bank erosion through bioengineering or armoring to prevent loss of riparian habitat and fishing access.
- Review long-term value of baseball field and consider removal to accommodate new park amenities.
- Establish a management plan to provide minimum level of maintenance, sanitation and security.
- Consider temporary picnic tables and chemical toilet facilities during summer months to accommodate usage.
- Review the costs and revenue benefits of developing primitive overnight camping at this site.

...continued

BIG CREEK PARK

Recommendations & Comments:

Capital Improvements

- Consider park improvements, including:
  - Day-use fee station
  - Permanent vehicle barriers and/or improved parking area
  - Picnic tables and shelters
  - Paved and soft surface trails
  - Vault toilet facilities and utilities
  - Site furnishings including benches and trash receptacles
  - Playgrounds
  - Enhanced ADA accessibility including parking, fishing platforms, etc.

Management Opportunities/Challenges:

- Vegetation management including controlling invasive species and restoration of riparian habitat.
- Stream bank erosion from park user activities.
- Underutilized forested flat area between stream bed and bluff could accommodate additional recreation and site amenities.
- Large flat meadow area currently occupied by baseball field could accommodate additional recreation and site amenities.
- Acquisition of adjacent river frontage could expand public fishing access.
- Underdeveloped and underutilized trails.
- Site and water access is currently not ADA accessible.
- Likely presence of on-site wetlands.
- Various park improvements have been considered, but have been postponed due to limited budgets.

CARNAHAN COUNTY PARK

Location: Cullaby Lake Lane, ½ mile east of Hwy. 101 between milepost 13-14, south of Warrenton

Map: 7N 10W Section 15 – #500

Size: 31.4 acres

Ownership Status: County

Land-use zone: Open Space Parks and Rec (OPR)

Classification: Shared-use

History:
The acreage for Carnahan Park was donated by the heirs of the Carnahan estate for the purpose of open space and recreation.

Acquisition by County:
Donated to Clatsop County in 1938.

Description / Natural Features:
This is an established day-use waterfront county park site located on the north end of Cullaby Lake. 1,600 linear feet of lake shoreline, forested uplands and open meadows dominate this low intensity park site.

Geological Significance:
Cullaby Creek feeds Cullaby Lake and outlets into the Skipanon River and eventually the Columbia River at Warrenton. See Cullaby Lake inventory.

Cultural / Historical Significance:
Carnahan County Park was established in 1939 by Nell Carnahan to "promote the public welfare of the citizens of Clatsop County, and as a memorial to the Carnahan family." The Carnahan family was prominent among the early settlers to Clatsop Plains.

CARNAHAN PARK

Recommendations & Comments:

Operations and Maintenance

- County recommends that State monitor water quality and implement aquatic plant removal as needed.
- Monitor docks and repair or replace to maintain safe park access.
- Maintain existing day-use facilities as outlined in the park master plan.

Capital Improvements

- Consider park improvements, including:
  - Expanded trail system
  - Interpretive signage at key locations
  - Off-leash pet area, with water access
  - Enhanced ADA accessible amenities including parking, pathways and fishing docks
  - Enhanced boat ramp facilities to broaden appeal to boaters
  - Vault toilet

Recreation Utilization:

Public boat launch access area to Cullaby Lake (speed restricted area for boats), passive lake sports and fishing boats.

Facility Inventory:

- Small gravel boat ramp for non-motorized and small power boats
- Fishing and water access from wooden dock with four fixed benches
- Steep primitive trails into wooded uplands, including a path crossing private land connecting to Boy Scouts of America leased camp
- Informal wildlife and waterfowl viewing
- Six wooden picnic tables
- Trash receptacles
- Informal parking areas and gated access roads
- Seasonal fee collection facility
- Seasonal chemical toilet

Development History:

- (1995) Wood dock was rebuilt.
- (1988) Master plan completed.
- Boy Scouts of America and County partnered on the development of a potable water system.

Management Opportunities/Challenges:

- The ODFW has identified this site as an excellent area for the development of ADA accessible fishing facilities.
- Ongoing maintenance of wood docks.
- Water quality, invasive aquatic plant growth and shoreline erosion issues associated with natural and manmade impacts.

CULLABY LAKE COUNTY PARK

Location: End of Hawkins Road off of Cullaby Lake Lane, ½ mile east of Hwy. 101 between milepost 13-14, south of Warrenton

Map: 7N 10W Section 15 – 2400, Section 22 -#300, #400, #500, #600, #601, #4100, #4111, #2800, #2001

Size: 165 acres

Ownership Status: County

Land-use zone: Recreation Management (RM) Lake and Wetlands (LW)

Classification: Shared-use, Gateway

History:

Around the late 1800s or 1900, a ditch was created between Cullaby Lake and the old Skipanon Creek for the purpose of logging transport and wetland drainage. In addition to logging, cranberry bogs on the west side of the lake were productive for residents in the 1900s. Around 1960, a Soil and Water Conservation project resulted in a water control structure at Cullaby Lake's north outflow, which created the Cullaby Lake recreation area, with a parking lot, picnic areas, restrooms, boat ramps and a boat basin. In 1966 the annual Astoria Regatta was held on Cullaby Lake, and in March of 1968 the Board of County Commissioners designated the 165-acre site as the "Cullaby Lake County Park and Recreation Area."

Acquisition by County:

Cullaby Lake County Park was created from several parcels acquired by the county due to delinquent property taxes. The lake's waterfront has been used for recreation for many years, but was officially designated a county park in 1968.

Description / Natural Features:

Cullaby Lake County Park is a popular day-use waterfront park with natural and developed recreation facilities. Features include access to the 219-acre Cullaby Lake with 4,400 linear feet of shoreline, beaches, natural areas and community park amenities dominate this high intensity park site.

Cultural / Historical Significance:

The Clatsop people had summer camps at Cullaby Lake, and Lewis and Clark reference this site in their writings. As many as 50 cedar dugout canoes, whose purpose may have been ceremonial burial by the native Clatsop people, were exposed when lake levels were artificially lowered.

Cullaby was the name of a son and grandson of a sailor who washed ashore near Tillamook after a shipwreck. The sailor and his wife moved north to live with the Clatsop people making the lake their home for part of each year. The son was mentioned in the diaries of Lewis and Clark and is the origin of the lake's name. The grandson was living by the lake when settlers began arriving in the area.

The historic Lindgren Cabin, an example of early pioneer home construction, was moved from its original site near Soapstone Lake to Cullaby Lake County Park. This building is owned by the Finnish American Cultural Society and is opened periodically for tours.

Geological Significance:

Between 4,000 and 5,000 years ago, the eastern side of Cullaby Lake was the ocean shore, as evidenced by the unearthing of non-native species of logs buried in the area that had been washed ashore by the ocean that many years ago. The gradual development of sand dunes on what is now the western side of Cullaby Lake was the precursor to bogs, estuarine sloughs, streams and lakes.

Cullaby Creek feeds Cullaby Lake and outlets into the Skipanon River and eventually the Columbia River at Warrenton.

Recreation Utilization:

Public boat launches, docks, swimming beaches, fishing areas, and diverse recreation and park amenities. This park is the only developed public lake waterskiing and power boating facility in the county.

Facility Inventory:

- Two concrete motorized and non-motorized boat launch ramp facilities
- Two docks for transient moorage and fishing access
- Paved automobile and trailer parking areas
  - Play equipment located at north picnic area
  - Three horseshoe pits
  - Two swim beaches (one at north picnic area, one at south picnic area)
  - Sandy bottom; mowed grassy bank; roped designated swim area; no lifeguard provided by county
  - Bank access fishing areas
  - Two volleyball courts
  - North picnic area: picnic shelter, one large covered grill, four pedestal grills and 29 picnic tables.
  - South picnic area: picnic shelter, five pedestal grills and 19 picnic tables
  - Restrooms: one accessible restroom at north picnic area and boat launch, one restroom at south picnic area
  - Drinking fountains: two in north picnic area, one in south picnic area
  - Trash receptacles: 10 at north picnic area, six at south picnic area
  - Primitive and developed trails with signage and wetlands viewing platform
  - Historic Lindgren Cabin
  - Park caretaker and maintenance facility
  - Fee collection site

CULLABY LAKE PARK

Recommendations & Comments:

Operations and Maintenance

- County recommends that State monitor water quality and implement aquatic plant removal as needed.
- Map existing trail system and develop walking maps for park.
- Maintain existing day-use facilities as outlined in the park master plan.
- Update park master plan.
- Explore state supported campground concept as a revenue generating development.

Capital Improvements

- Consider park improvements, including:
  - Enhanced ADA amenities including playground and fishing areas
  - Expanded trail systen
  - "Gateway" improvements including camping, special event space, etc.

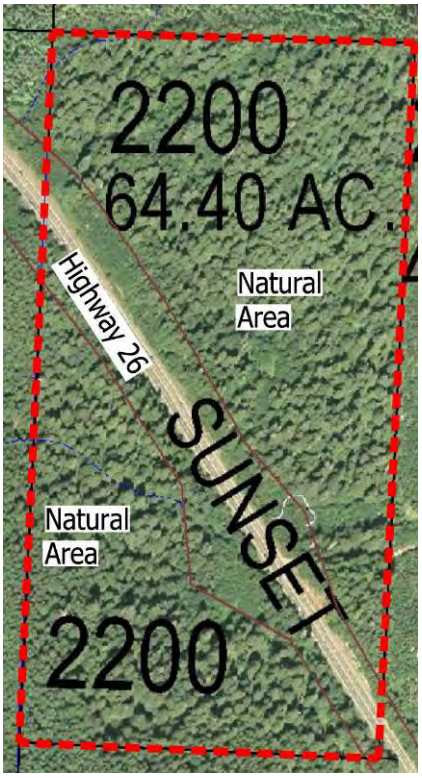
Development History:

- (2005) Wetlands Trail development
- (2001) North parking lot paved for cost of $81,520.
- (2000-2001) Construction of beach shoreline project.
- (2000) Grant reconstructed boat launch for cost of $86,220.
- (2000) Re-roof of playground picnic shelter.
- (2000) Re-roof of Lindgren Cabin facilities.
- (1999-2000) Campground Feasibility Study grant ($19,000) by OSPRD, Phase II declined by county.
- (1997-1998) Grant construction of new restroom for cost of $151,000.
- (1997-1998) Campground Feasibility Study grant ($25,000) by OSPRD, Phase I.
- (1995) Agreement increased law enforcement presence between OSMB and County.
- (1988) Master plan completed.
- Replacement of play structure planned, awaiting grant approval.
- Mooring dock near north parking lot was installed in the 1960s.

Management Opportunities/Challenges:

- Water quality, invasive aquatic plant growth and shoreline erosion issues associated with natural and manmade actions could impact recreation experience.
- Extensive large mature trees and on-site wetlands need mapping.
- Management of invasive plant species.
- Insect management: consider bat boxes, swallow boxes.
- Potential opportunities for recreation activities on existing paved areas.
- Play equipment located at north picnic area needs to be upgraded for safety and access.
- Multiple trails throughout site provide walking opportunities and need mapping.
- Central location and access to Highway 101.

DAVID DOUGLAS COUNTY PARK



Location: Located between milepost 13-14 on Hwy 26, Saddle Mountain area of US 26.
Map: 5N 8W Section 21 – #2200
Size: 64.4 acres
Ownership Status: County
Land-use zone: Recreation Management (RM)
Classification: Natural Area

History:
Site was designated as park land in 1936 by County Board of Commissioners for public benefit and preservation for future generations.

Acquisition by County:
Property was held by the county through delinquent tax sales. The Northwest Discount Corporation deeded the property to the county for the sum of $50.

Description / Natural Features:
This is a forest tract which has not been developed for any active recreational uses. Access to much of the site is difficult due to topography, brush and downed trees. This is an authentic old-growth forest site. The property contains a variety of large trees including:

- Western hemlock 180-200 years old
- Douglas fir 400-500 years old
- Western red cedar 400-500 years old
- Pacific silver or Grand Fir 200+ years old

A dense understory of western hemlock, about 30 years old, covers much of the site. Other species represented include Sitka spruce, red alder, red elderberry, salal, salmonberry and Oregon grape. Invasive species, such as Scotch broom, English holly and evergreen blackberries, are also present on site.

A wide variety of fungus species are present including impressive conks growing on snags and downed trees. A variety of birds are present, including pileated woodpeckers. There is evidence of deer, elk and beaver. Small ponds are used by newts and other amphibians.

Cultural/Historical Significance:
This site has been minimally impacted by humans. It offers a glimpse of what much of Clatsop County may have looked like prior to the "tree farming" era.

Geological Significance:
Elevation ranges from 1150 feet to 1400 feet. There are several springs and small creeks which feed into the Little North Fork of the Nehalem River. There are small beaver dams at the southeast corner of the property.

Recreation Utilization:
Undeveloped

Facility Inventory:

- Undeveloped
- Location signs on both sides of Highway 26
- Weyerhaeuser timber access road lies at the southeast corner of this parcel. This road does not give good access to most of this property, however. Across the ravine northwest of the Weyerhaeuser road is an old roadbed extending to a clearing about 400 feet from the highway. This is blocked by numerous small downed trees. This would require widening and other improvements were it to be put into use.

Development History:
Undeveloped

Management Opportunities/Challenges:

- Access to this parcel may be a challenge to development of this property. There is limited parking on wide portions of highway shoulder.
- Opportunities for hiking trail development throughout site to showcase significant trees. Because of steep topography, providing ADA accessibility would be challenging.
- Interpretive signage could link Klootchy, David Douglas and Nehalem Parks. Signage could cover nature, history and economics of our forest environment.
- Site is bisected by Highway 26 and on-grade road crossings are not feasible due to speed of traffic.
- Development of a safe and secure parking area and access at this location will be challenging. Opportunities for a parking lot along the highway are limited by slope, site distances and numerous springs in the area. Limited shoulder parking is available. ODOT right-of-way extends a significant distance from the roadway.
- Visibility and acceleration and deceleration lanes lacking.
- Highway noise is fairly loud on most of this property.

DAVID DOUGLAS PARK

Recommendations & Comments:

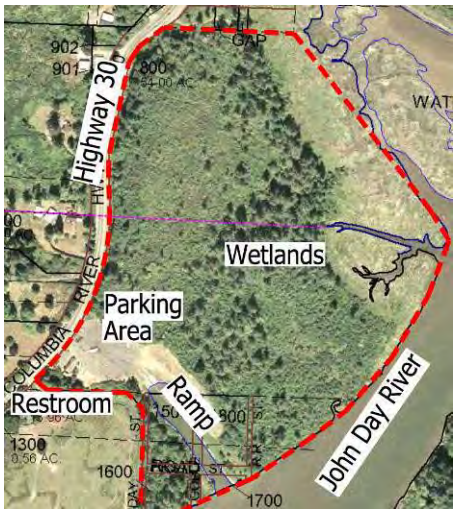
Operations and Maintenance

- Complete a more thorough biological inventory, including mapping of significant trees.
- Explore with ODOT feasibility of developing parking facilities and vehicle access for this site.

Capital Improvements

- Consider limited park improvements, including:
  - Primitive trails
  - Parking and access utilizing old roadbed

JOHN DAY COUNTY PARK



Location:	Located on Hwy. 30 between milepost 93-94, 4 miles east of Astoria
Map:	8N 9W Section 13 – #800, #1500, #1600, #1700, #1800
Size:	58 acres
Ownership Status:	County
Land-use zone:	Recreation Management (RM) Aquatic Natural (AN)
Classification:	Special Use, Gateway

History:

This park is near the site where the Lewis and Clark expedition camped overnight on November 26, 1805, while in route to their winter camp and Fort Clatsop. This site was declared a County Park and Recreation Area in 1962 and since that time multiple improvements have been made to the site, including a two lane concrete boat ramp, paved parking and a restroom facility. This is a heavily used site, with plans to expand the parking area being currently considered.

Acquisition by County:

This popular boat ramp site was formed from various properties gained by the county through tax foreclosures during the years 1928 through 1940. Each of the five properties that comprise the John Day Boat Ramp Facility was acquired through tax foreclosure. Tax lot 800 (54.0 acres) was acquired in 1936, Tax lot 1500 (1.4 acres) was acquired in 1932, Tax lot 1600 (0.80 acres) was acquired in 1936, Tax lot 1700 (0.40 acres) was acquired in 1928, and Tax lot 1800 (1.4 acres) was acquired in 1940.

Description / Natural Features:

The John Day County Park is a 58-acre site with river frontage providing access to the John Day River and the lower Columbia River for general boating, fishing and hunting.

The John Day Boat Ramp is adjacent to the Lewis and Clark National Wildlife Refuge with frontage on the John Day River. The undeveloped portion of this site consists of large diverse freshwater wetlands with varied plant species.

Cultural / Historical Significance:
The John Day River was named after John Day, a hunter and voyager who was an employee of The Northern Fur Company in 1812. He crossed the plains along with his employer Mr. Crook and the first voyagers. He was a favorite among his peers and all who met him. Day left Fort Astoria in June of 1812 with a small party to carry dispatches to New York. He became seriously ill a couple of days into their journey and his companions commissioned Indians to return him to Fort Astoria, where he died shortly thereafter.

Two rivers in the state are named after him: the John Day River in eastern Oregon, which starts in the Blue Mountains and empties into the Columbia 40 miles above The Dalles, and the John Day River in Clatsop County, near Astoria.

Geological Significance:
n/a

Recreation Utilization:
This is an established, heavily used boat ramp that provides access to the John Day River and the lower Columbia River for general boating, fishing and hunting. The existing parking lot is filled to near-capacity during periods of peak summer use.

Facility Inventory:

- A two-lane concrete plank boat ramp with transient docks giving access to the John Day River and the Columbia River
- Paved parking for 58 vehicles with trailers and six additional 15-minute, single-vehicle parking spaces near the restroom structure
- Restroom with two flush restrooms and drinking fountain
- Fee collection site
- One garbage receptacle
- One picnic table

Development History:

- (2002) Fish sculpture installed near entryway
- (1996) Grant: funded launch slip dredging of 4,123 CY for a cost of $58,500
- (1996) Landscape upgrade project completed at entryway
- (1995) Grant: Reconstructed boat launch facilities and added fee collection site
- (1988) Boat ramp improvements and bathrooms
- (1979) Dredging and bank protection improvements
- (1962) Park designation: John Day Park and Recreational Area

Management Opportunities/Challenges:

- Parking is at capacity and vehicles are parking on US 30.
- The highway approach onto US 30 has limited site/distance visibility due to road grades and curves. Safety could be improved with the addition of an eastbound left-turn refuge and a westbound shoulder acceleration lane. The county may propose these changes to ODOT.

JOHN DAY COUNTY PARK

Recommendations & Comments:

Operations and Maintenance

- The Oregon State Marine Board is currently planning to expand parking at this heavily used boat ramp facility and construction will be completed by next year (2006).
- Review the costs and revenue benefits of developing self-contained overnight camping at this site.

Klootchy Creek County Park

Location: Located north of Hwy. 26 at milepost two
Map: T5N, R10W, Section 14, #50
Size: 25 total acres
Ownership Status: County owned
Land-use zone: Recreation Management (RM)
Classification: Shared-use, Gateway

History:
Klootchy Creek Park has been in existence since the 1940s when it was under private ownership. Crown Zellerbach Corporation developed the park as a campground and picnic area to take advantage of the "Big Spruce Tree" and access to the Necanicum River for a boat launch site and for fishing. Campsites, restroom facilities, water and garbage receptacles were available for visitors. When Crown Zellerbach was sold to a foreign investor in 1986, the new company became Cavenham Forest Industries. Klootchy Creek Park soon became surplus property and Cavenham sold the land to the county.

Acquisition by County:
Clatsop County purchased four parcels of land, known as Klootchy Creek Park, and totaling 25 acres, from Cavenham Forest Industries on August 12, 1988. Purchase price was $36,700. At the time of purchase, the park had 19 campsites, nine picnic tables, 13 fireplaces and four outdoor toilets. This became TL 501.

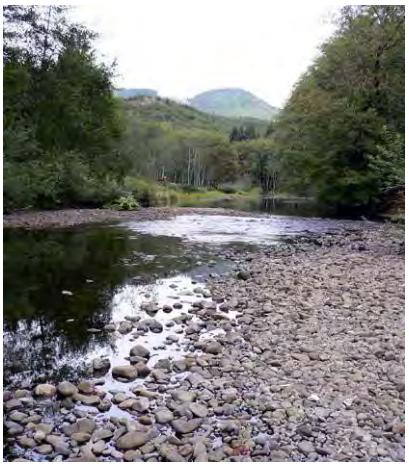
To enhance the size of the park, Clatsop County purchased 16.33 acres from the Carl W. Salser Trust on July 8, 1996 for $80,000. This is TL 400 in Section 11 and TL 1700 in Section 14. It is unclear if a Resolution and Order has been given to this property by the Board to declare this as a county park.

Description / Natural Features:

The park area is composed of a remnant coastal temperate rainforest. The largest Sitka spruce tree in Oregon and the U.S., as registered by American Forests' *National Register of Big Trees*, is located in the park:

- Species: Picea Sitchensis
- Circumference: 56'
- Height: 206'
- Crown Spread: 93'
- Age: 750+ years

In 1997, the Heritage Tree Committee, Oregon Travel Council, dedicated this tree as the state's first Tree Site.



Cultural / Historical Significance:

The largest Sitka spruce tree in Oregon.

Geological Significance:

The park area is located along the Necanicum River flood plain and does partially flood in the winter during periods of very high tides and heavy storms.

Recreation Utilization:

This is a popular day-use facility located north of Highway 26. The main attraction at this site is the Big Spruce Tree, trails and the observation platform. Picnicking is available. There are approximately 3,000 linear feet of river frontage along the Necanicum River for fishing. There is a small boat launch site for non-motorized boats.

Facility Inventory:

- Observation platform
- Garbage receptacle
- Four chemical toilets
- Rock and log barricades to restrict vehicle parking
- A 75' long concrete and steel stringer bridge over the Necanicum River from Highway 26 to the park
- A five-foot fence line along the east side of the park, between County and Weyerhaeuser Company property
- Two picnic tables

Development History:

- (1997) $55,000 grant offered from ODFW and USFWS for $100,000 to construct a flush restroom. Was originally approved by the county, but was declined by the subsequent board.
- (1995) construction of an ADA compatible observation deck around the Big Spruce to protect the ground and roots at the base of the tree. The cost was $52,500.
- (1991) Master plan completed.

Management Opportunities/Challenges:

- Potential Clatsop County Welcome/Visitors Center or a "gateway park" concept.
- Seasonal interpretive/information personnel, or camp host.
- Road surface in the park is crushed rock, and needs periodic maintenance.
- Weyerhaeuser has a permanent easement for road access from Hwy. 26 through the park to reach their Necanicum mainline hauling road east of the park. This mainline road is the eastern boundary of the park.
- There is a Weyerhaeuser maintained gate on the east side of the parking lot to control public vehicle access onto company property.
- The condition of the Big Spruce Tree and other over-mature western hemlock and red alder trees needs to be assessed for safety reasons. Danger trees and snags need to be removed when deemed necessary.
- Invasive plant species, e.g., Japanese knotweed, have been spotted along the Necanicum River bank within the park's boundary.

KLOOTCHY CREEK PARK

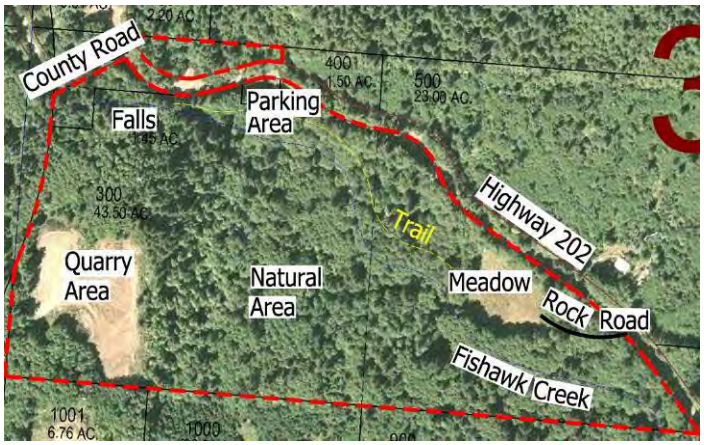
Recommendations & Comments:

Operations and Maintenance

- Continue the Adopt-A-Park program. In November 2001, and most recently in 2005, Weyerhaeuser Company has entered into an agreement with Clatsop County as part of this program. Weyerhaeuser has done park clean-ups, trail maintenance and fence brushing, and has cooperated with the county in road maintenance projects through the parking lot.
- Monitor health of Big Tree and manage invasive plant materials.
- Designate the 16.33 acres from the Salser purchase to park status and develop the 16.33 acres of the Salser purchase with nature trails, primitive campsites and fishing access down to the river.
- Consider transition to a State Wayside.
- Consider designating entry road and bridge as "County" road to bring into road maintenance jurisdiction.

Capital Improvements

- Consider park improvements, including:
  - Fee collection system
  - Expanded trail system with interpretive signage
  - Improved boat ramp facility
  - Improved restroom facilities



LEE WOODEN / FISHHAWK FALLS PARK

Location: Located on Hwy. 202 at milepost 25, 5 miles west of Jewell
Map: 6N 7W Section 32 – #100, #200, #300
Size: 47.15 acres
Ownership Status: County
Land-use zone: Open Space Parks and Rec. (OPR)
Classification: Natural Area

History:
n/a

Acquisition by County:
This property was acquired by the county in 1962 through property tax foreclosure. It was named after Lee Wooden, a homesteader from the Jewell area.

Description / Natural Features:
A rural day use park that features a maintained trail from a parking area near Fishhawk Creek to the base of Fishhawk Falls, and approximately 2000 feet of frontage on Fishhawk Creek. An abandoned stone road in the southeast corner leads to a natural meadow area. A stone quarry, located on the southwest section of the property, is currently used by the County Road Department.

Lee Wooden Park is truly one of the hidden jewels in the county park system.

Cultural/Historical Significance:
Area residents have used the meadow area in the past for weddings and Boy Scout campouts.

Geological Significance:
The stacked basalt columns of a dike exposed at Fishhawk Falls is identical to Columbia River basalt further east. This basalt flow, like those at Otter Rock and Hug Point, ranks among the longest on earth, i.e., 300 miles from eastern Oregon and Washington.

Recreation Utilization:
The falls are the main attraction for day visitors. There has been some unauthorized primitive camping.

Facility Inventory:

- Two picnic tables
- Primitive trail with bridge
- Informal parking area

Development History:

- Cantilever bridge installed along low point on footpath – late 90s.
- Footpath from parking area to base of falls – early 90s.
- Gravel road off Hwy. 202 (NE corner) is not maintained and is partially overgrown, as is the meadow area.

Management Opportunities/Challenges:

- Current design and location of parking area is resulting in stream bank erosion.
- Determine the "life expectancy" of the stone quarry, i.e., how much more rock can be extracted before the integrity of the hill visible from the falls is compromised.
- Determine compatibility of surface mining (quarry activities) with current OPR land use zone.

LEE WOODEN/ FISHHAWK FALLS PARK

Recommendations & Comments:

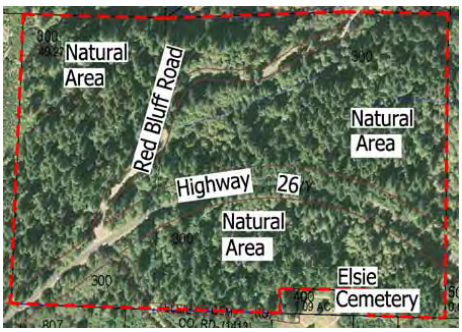
Operations and Maintenance

- Explore Jewell School's interest in "adopting" Lee Wooden Park for scientific learning and community service.
- Build volunteer network to manage restoration and construction of trails and restoration of degraded areas, including deactivated road and parking areas.
- Discourage negative activities by engaging local youth, increasing overall public awareness of park, and encouraging stewardship.
- Review costs and revenue benefits of utilizing special use permits for group events, picnics and overnight camping.

Capital Improvements

- Consider limited park improvements, including:
  - Reopened access road at the east end of the park and deactivated and restored (to a natural state) west road and current parking area.
  - Expanded trail system and viewing platform
  - Install vehicle entry gates at park entry road and close park to public during nighttime hours.

NEHALEM COUNTY PARK (RED BLUFF)



Location:	Red Bluff Road off of Hwy. 26, between milepost 20-21, Elsie area
Map:	5N 7W Section 32 - #300
Size:	49.27 acres
Ownership Status:	County
Land-use zone:	Recreation Management (RM)
Classification:	Forest Area

History:
Site was designated as park land in 1937 by County Board of Commissioners for public benefit and preservation for future generations.

Acquisition by County:
Property was held by the county through delinquent tax sales.

Description / Natural Features:
The tract is mostly an even-aged stand of 175 to 250-year-old Douglas fir trees. Many specimens are four to five feet in diameter and approximately 190 feet tall. Density is not uniform. There are younger Douglas fir, red cedar, western hemlock and spruce of mixed ages, and snags are present. The understory consists of red alder, big leaf maple, vine maple, cascara, salmonberry, thimbleberry, huckleberry, elderberry, wild rose, ferns and Indian plum. The presence of devil's club in several locations indicates springs or wet areas. Numerous shade-tolerating wildflowers such as trilliums are present. A complete botanic inventory has not been completed.

The site is near but not contiguous to the South Fork of the Nehalem River. The site is relatively flat with some drop-off on the eastern side.

Cultural/Historical Significance:
There are no known archaeological sites on this property, but attention should be paid to the possibility during any trail building. This is one of the most significant, intact stands of Douglas fir in the county.

Geological Significance:
The site is near but not contiguous to the South Fork of the Nehalem River. The site is relatively flat with some drop-off on the eastern side.

Recreation Utilization:
None

Facility Inventory:

- Undeveloped
- U.S. Highway 26 runs through the bottom third of this parcel.
- Elsie Cemetery Road runs along the southern edge of the parcel.
- Red Bluff County Road runs diagonally through the northern portion of the parcel.

Development History:
Undeveloped

Management Opportunities/Challenges:

- Off-road vehicle users have built a trail around the Weyerhaeuser gate to gain access to their property.
- An adjoining property owner has cut trees from county property. This is not a visually attractive property to have next to a county park.
- Some invasive species such as Scotch broom and evergreen blackberries are present, especially along the south side of the property.
- Since this is a populated area a very long distance from a garbage transfer station, illegal dumping is a risk for any development.
- There are two very wide spots on Red Bluff County Road which could accommodate parking.

NEHALEM COUNTY PARK (RED BLUFF)

Recommendations & Comments:

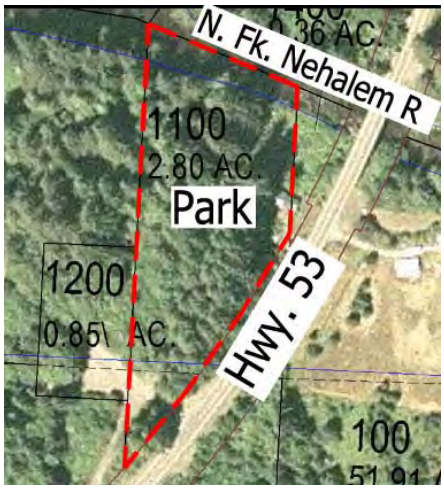
Operations and Maintenance

- Local residents should be consulted on what, if any improvements are to be made to this parcel and to seek local volunteers to help with maintenance.
- The property is flat enough that handicapped access should be feasible.
- Access onto Highway 26 is hazardous because of poor visibility. Trails crossing the highway are not feasible.
- Complete a more thorough biological inventory of this site.

Capital Improvements

- Consider limited park improvements, including:
  - Primitive park areas and interpretive trails in the south part of the property
  - Primitive trails
  - Explore with ODOT the feasibility of developing parking facilities and vehicle access for this site.

NORTH FORK NEHALEM COUNTY PARK



Location:	Located between milepost 7-8 on Hwy. 53, next to the North Fork Fish Hatchery
Map:	4N 9W Section 22 – #1100
Size:	2.8 acres
Ownership Status:	County
Land-use zone:	Open Space Parks and Rec. (OPR)
Classification:	Natural Area

History:
n/a

Acquisition by County:
n/a

Description / Natural Features:
This is an undeveloped, isolated property that includes 300 linear feet of stream access and is adjacent to the state fish hatchery. There is fishing access on the north boundary of the North Fork Nehalem River.

Cultural / Historical Significance:
n/a

Geological Significance:
Located along the North Fork Nehalem River

Recreation Utilization:
This site provides bank fishing access for steelhead and trout fishermen.

Facility Inventory:

- Informal parking for approximately 12 vehicles
- Paved fishing access path leads to river
- Mature Douglas fir and spruce with lush vegetative understory

Development History:

Undeveloped

Management Opportunities/Challenges:

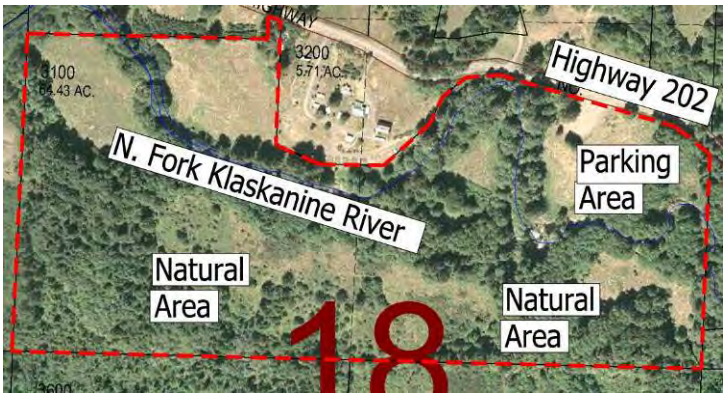
- The site is not suitable for boat launch due to downstream weirs and obstacles.
- Public parking at site for stream access.
- Potential day-use facility with dispersed picnic sites and connecting trail with fishing access, interpretive site with associated instructional signage for picnicking.

NORTH FORK NEHALEM COUNTY PARK

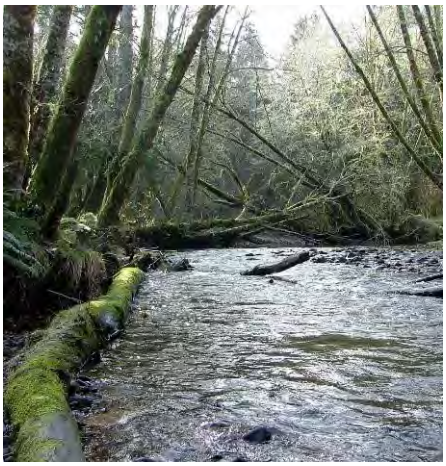
Recommendations & Comments:

Operations and Maintenance

- Due to its location adjoining state lands, the county should pursue a partnership arrangement with Oregon Department of Fish and Wildlife, including sale or trade of land, or development of limited day-use facilities.



SIGFRIDSON COUNTY PARK



Location:	Located on Hwy 202 at milepost 11, Olney Area
Map:	7N 8W Section 18 – #3100
Size:	64.43 Acres
Ownership Status:	County
Land-use zone:	Open Space Parks and Rec (OPR)
Classification:	Natural Area

History:

In 1969, the community based "Save Klaskanine" group began seeking financial donations to purchase an option on 72 acres of land known as the Sigfridson Farm. The "Save Klaskanine" group recognized the rare opportunity to purchase nearly 3,000 linear feet of river frontage to maintain public access and high quality fishing opportunities for county residents and visitors. By the middle of 1969, the group had raised nearly $300 of the $700 cost for the option, and the county and the Game Commission were solicited for financial assistance. By the end of the year, Clatsop County purchased the property for park purposes. A science class at Star of the Sea School in Astoria has adopted this park (see Appendix P).

In the mid-1980s, the county leased 5.7 acres of the park, including the residence and farm buildings. A subsequent land sale of the leased parcel reduced the park from its original 72 acres to its current 64 acres

Acquisition by County:
According to county record, the property was purchased in December 1969 as park land by the county for $45,000.

Description/Natural Features:
This county property provides stream bank access to fishermen along a stretch of the North Fork Klaskanine River downstream from the state fish hatchery.

Cultural/Historical Significance:
n/a

Geological Significance:
n/a

Recreation Utilization:
This is a heavily used public fishing area during the winter steelhead season and also used by summer trout fishermen. This park is just downstream from an active fish hatchery and is known locally for fantastic fishing. The site receives light usage as a day-use picnic area during the summer months.

Facility Inventory:
- Informal parking area
- Primitive trails

Development History:
Undeveloped

Management Opportunities/Challenges:
- Day-use facilities could be upgraded to increase summer recreational use.
- Invasive vegetation exists on site.
- Primitive trails and erosion.
- Southern section of site may have value for sale or tree harvest.
- Portions of the park land, including a large open meadow, are inaccessible because of no river crossing.

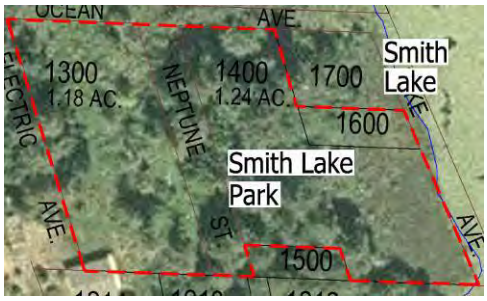
SIGFRIDSON COUNTY PARK

Recommendations & Comments:

Operations and Maintenance
- Maintain park property for public fishing access and day-use area.
- Prepare master plan for site.
- Address knotweed and other invasive vegetation in partnership with the local watershed council.
- Review the costs and revenue benefits of developing primitive overnight camping at this site, including low impact tent camping south of the river.

Capital Improvements
- Consider park improvements, including:
  - Pedestrian/maintenance bridge to access property south of river.
  - Expanded foot trail system, including spurs to river edge.
  - Improved entry and regulation signage.
  - Day-use facilities, including parking and vault toilet.

SMITH LAKE COUNTY PARK



Location: Smith Lake/Ridge Road, west of Warrenton

Map: 8N 10W Section 33 – #1300, #1400, #1600

Size: 2.56 acres

Ownership Status: County

Land-use zone: 1400 & 1600: Lakes and Wetlands (LW) 1300: Single Family Residential (SFR-1) All three parcels are subject to BDO zoning overlay (Beaches and Dunes Overlay)

Classification: Natural Area

History:
Designated as a county park June 14, 1995.

Acquisition by County:
Lots 1300 (1.18 acres) and 1400 (1.24 acres) were acquired by the county in a tax foreclosure on 8/7/36. Lot 1600 (.14 acres) was acquired in a tax foreclosure on 4/23/80.

Description/Natural Features:
Waterfront parcel providing potential public access to densely vegetated Smith Lake and unique Sitka spruce wetlands.

Cultural/Historical Significance:
n/a

Geological Significance:
Lake located within the dunes west of Warrenton with unique Sitka spruce wetlands.

Recreation Utilization:
Undeveloped

Facility Inventory:

Undeveloped

Development History:
Undeveloped

Management Opportunities/Challenges:

- Public access to Smith Lake and Sitka spruce wetlands
- Lake is nearly non-navigable due to dense aquatic vegetation
- Dune management and onsite wetlands
- Potential interpretive site
- Potential non-motorized watercraft launch site

SMITH LAKE COUNTY PARK

Recommendations & Comments:

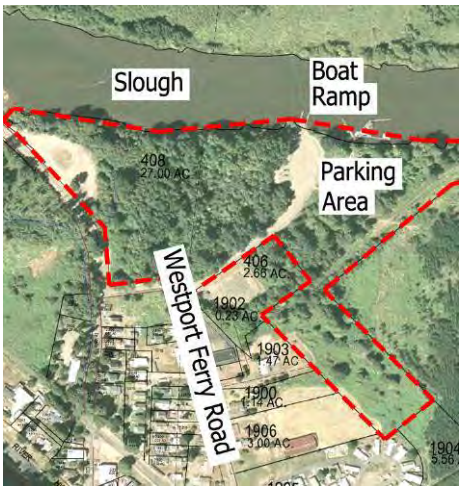
Operations and Maintenance

- Prepare master plan for site.

Capital Improvements

- Consider limited park improvements, including:
  - Nature trail
  - Interpretive signage
  - Boardwalks and wetland observation areas

WESTPORT BOAT RAMP



Location: Westport Ferry Road, ½ mile north of Hwy. 30, between milepost 70-71 on Hwy. 30, Westport area

Map: 8N 6W Section 36 – #408

Size: 27 acres

Ownership Status: Leased

Land-use zone: Lakes and Wetlands (LW)
Heavy Industrial (HI)

Classification: Special Use

History:

This site was developed as a large mill site in 1910 and operated until its closing in 1956 due to the low supply of large logs. The mill then burned down in 1957. The site was left and slowly has overgrown with plant life to its present state. Wood storage areas, docks and railroad loading areas were planked and some of the piers that supported the dock are still visible in the north section of property along the slough and Plympton creek.

Acquisition by County:

The county obtained an easement in 1972 to operate the existing boat dock/ramp and parking lot to provide public access to the Columbia River.

The county is currently working on a land donation agreement with Georgia-Pacific for the donation of this 27-acre site. There are concerns with contaminated soil around the old mill site as noted from site surveys completed by a hired contractor for the county. This land donation is on hold until these issues have been addressed. Site is currently leased.

Description / Natural Features:

This 27-acre site located in the town of Westport on the eastern edge of the county provides access to the Westport Slough that is a tributary of the Columbia River. The site

consists of a two-lane improved boat ramp, graveled parking lot, and one chemical toilet. This site provides access to the Columbia River for boaters, fishermen and hunters. The site is located on the eastern end of the Lewis and Clark Wildlife Refuge. It is primarily a wooded property next to the slough that offers access to the river as well as a place for bird watchers and nature enthusiasts. Plympton Creek is a small creek that runs through the western edge of the property and provides an excellent fall Chinook fishery to the local population and visitors to the area.

Cultural/Historical Significance:
Site of Westport Mill from 1910-1957.

Geological Significance:
n/a

Recreation Utilization:
Site is currently used for access by boaters, non-motorized boaters, fishermen and hunters to the Columbia River. Limited fishing occurs on Plympton Creek as it runs through the western edge of the site.

Facility Inventory:

- Two-lane boat ramp to Westport Slough
- Gravel parking lot
- Chemical toilet
- Stream bank access to Plympton Creek

Development History:

- (February 2004) Improvements to the boat ramp by installation of more base rock on the boat ramp for cost of $11,985.

Management Opportunities/Challenges:

- Property acquisition issues with Georgia-Pacific Company.
- Site remediation and clean-up.
- Potential “gateway park” status for Clatsop County.

WESTPORT BOAT RAMP

Recommendations & Comments:

Operations and Maintenance

- Complete land acquisition.
- Complete remediation and clean-up agreement with Georgia-Pacific Company.
- Complete site master plan.
- Review the costs and revenue benefits of overnight camping at this site.

Capital Improvements

- Consider park improvements, including:
  - Day-use fee site
  - Improved ramp and transient docks
  - Improved parking areas
  - Vault toilets
  - ADA fishing access and platforms
  - Expanded nature trails

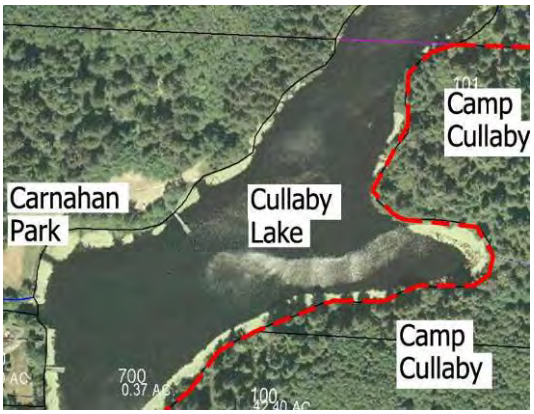
> County-Owned Recreation Sites

Pages 105-110 provide a detailed description of the county's six recreational sites, their location and size. Two of these sites – Camp Cullaby and Camp Kiwanilong – are leased by the county to organizations that provide camping experiences for youth; a third site is leased to the Lower Columbia Youth Soccer Association. The fourth, the Twilight Eagle Sanctuary, is on county-owned land, but is managed by the Oregon Bald Eagle Foundation.

The other two sites, DeLaura Beach and the Lewis and Clark boat ramp, are well known and heavily used recreational sites that have not been given official park status.

The DeLaura site, covering 164 acres of land along the ocean, has important historical, recreational and ecological values. The North Coast Chapter of Oregon Equestrian Trails, a statewide service organization, has adopted the DeLaura Beach property. Its members provide ongoing trail maintenance and garbage removal on the property.

CAMP CULLABY (CAMP ROYCE-FINEL)



Location: Across from Carnahan Lake Park, Cullaby Lake Lane, ½ mile east of Hwy. 101 between milepost 13-14, south of Warrenton

Map: 7N 10W Section 15 – #101, #100

Size: 61.60

Ownership Status: Leased to Boy Scouts of America (BSA)

Land-use zone: Open Space Parks and Rec (OPR)

Classification: Leased

Description/Natural Features:

Semi-primitive overnight camp located on Cullaby Lake across from Carnahan County Park. BSA refer to this site as Camp Royce-Finel.

Recreation Utilization:

Leased for private seasonal use.

Development History:

- Primitive site development to accommodate limited uses.
- BSA and County partnered on the development of a potable water system.

Management Opportunities/Challenges:

- No county-approved master plan or management plan for future uses.
- Ten-year lease signed with Boy Scouts of America in September 2002 for a cost of $1 per year.

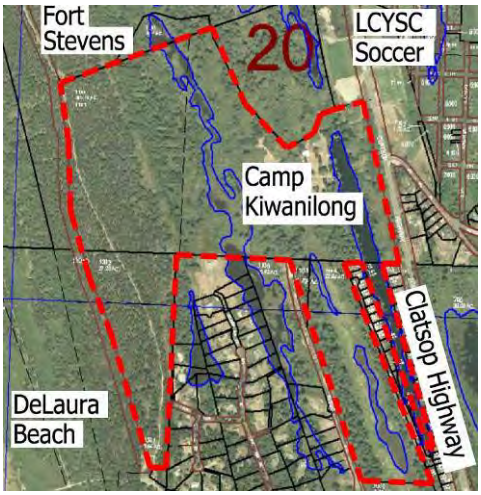
CAMP CULLABY

Recommendations & Comments:

<u>Operations and Maintenance</u>

- Review lease terms with BSA at expiration of existing lease.
- Develop long term lease with BSA or prepare master plan for site upon expiration of lease.

CAMP KIWANILONG



Location: West of Ridge Road, north of DeLaura Beach Road, Warrenton area
Map: 8N 10W Section 20 - #1710
Size: 190.57 acres
Ownership Status: Leased to Camp K Board
Land-use zone: OSI & A-5 (City of Warrenton Zoning)
Classification: Share-use, Leased

Description/Natural Features:
Day-use and overnight camping, cabins and meeting facilities, leased to non-profit management. The camp is located in coastal dunes east of DeLaura Beach and includes several small lakes.

Cultural/Historical Significance:
Contains tree arboretum where the U.S. Soil Conservation Service conducted dune stabilization testing. The Camp Board signed a 99-year lease with the county in January 2004. The Camp Board is to present a plan for improvements, maintenance and programming of the camp to the county every five years. In addition, the Camp is to provide an annual report. See Appendix Q for article about camp's 70th anniversary.

Recreation Utilization:
Camping facility for large groups and is heavily used during summer.

Facility Inventory:
- Camping and Cabins
- Lodge facilities

Management Opportunities/Challenges:
- No county-approved master plan or management plan for future uses.
- Review trail connection opportunities with DeLaura Beach and Fort Stevens.

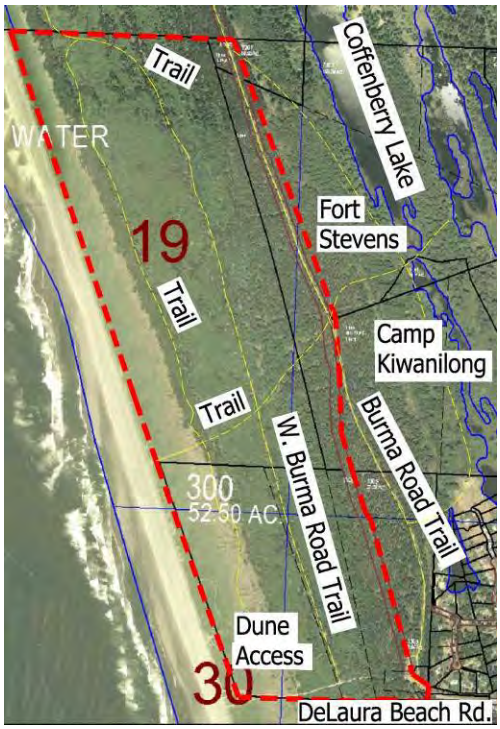
CAMP KIWANILONG

Recommendations & Comments:

Operations and Maintenance
- RLPAC be asked to review the Camp's annual and 5-year reports.

DELAURA BEACH

Location	End of DeLaura Beach Road, 2 miles west of Hwy. 101, southwest of Warrenton
Map	8N 10W Section 30 – #300
Size	164.48 acres
Ownership Status:	County-owned recreation lands site
Land-use zone:	OSI & A-5 (City of Warrenton)
Classification:	Natural Area



History:
In 1935, the Civilian Conservation Corps (CCC) planted beach pine, Scotch broom and European beach grass and installed fences to stop the movement of sand which was encroaching on lakes and pastures. The development of the Warrenton Dune Soil and Water Conservation District in 1941 continued the CCC efforts. The stabilization of the dunes significantly altered the landscape and made possible the development of Fort Stevens State Park.

Acquisition by County:
Beginning in 1932, a variety of land purchases and trades occurred, resulting in the acquisition of DeLaura Beach.

Description / Natural Features:
This 164-acre county-owned recreation land provides ocean access and dune recreation opportunities for pedestrians, equestrians and bicycles. This landscape consists of sand, beach grasses, wetlands, pioneer plant species and pine and spruce forests.

Geological Significance:
Relatively young landscape is created by the Columbia River south jetty and dune stabilization efforts. This area includes an active sand fore dune running parallel to the Pacific Ocean, an interdunal valley that is seasonally flooded, an inland stabilized sand dune, and localized wetlands and forests.

Cultural/Historical Significance:

In 1882, a British ship – the "Cairnsmore" – beached on the Clatsop Spit. The ship lies on county-owned land and is buried under the sand. The ship was visible as late as 1914 before being completely covered by moving sand dunes. The construction of the south jetty at the mouth of the Columbia River caused the shoreline to move several hundred yards west. The area where the Cairnsmore beached is now a forest of shore pine and spruce.

In 1942, an artillery shell fired from a Japanese submarine landed near DeLaura Beach Road. A monument was erected at this location.

Recreation Utilization:

Currently, any recreational use taking place in the DeLaura Beach area is dispersed and not managed. There are no facilities or developments. DeLaura Beach Road does provide access to the beach; however, the beach is only accessible by high clearance vehicles.

Current recreational uses include hiking, horseback riding, bicycling, mushroom picking, paintball and beach activities. Fort Stevens State Park is the main supplier of designated recreational opportunities in the coastal dune land and shore pine settings. While these areas will continue to supply designated recreational facilities, there is a lack of free or low cost primitive recreational areas near the coast.

Facility Inventory:

- Undeveloped
- Extensive primitive and equestrian trail system connects with trails in Fort Stevens State Park and Camp Kiwanilong.

Development History:

- (1995) Master plan completed.
- (1991) Road improvements to reroute road and improve surface.

Management Opportunities/Challenges:

- Large undeveloped ocean front dune landscape.
- High quantities of wetlands.
- This area receives extensive use of the trail system by local horseback riders and many from out of the area. For the past nine years the local Oregon Equestrian Trails Chapter has held a Poker Ride that brings approximately 300 riders and horses to use these trails.
- Most of these trails are maintained by local equestrians who also spend many hours every year cleaning up garbage in the area.
- Adjacent to Fort Stevens, Camp Rilea and Camp Kiwanilong.
- Nuisance activities including dumping and vandalism.
- High impact vehicular activities damaging fragile dunes and wetlands.

DELAURA BEACH

Recommendations & Comments:

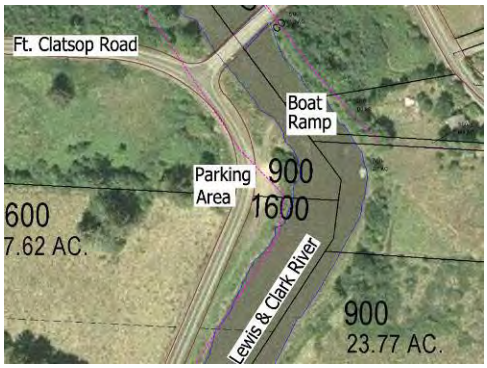
Operations and Maintenance

- Update master plan.
- Clarify boundaries of this site.
- Designate site as a "county park."

Capital Improvements

- Consider limited park improvements, including:
  - Developed horse trailer parking facilities at the south end of Burma Road.

LEWIS & CLARK RIVER BOAT RAMP



Location: South of Netel Bridge, between Logan Road and Lewis & Clark River.

Map: 7N 10W Section 12 - #900

Size: 2.8 acres

Ownership Status: State License to operate a boat ramp on submersible lands of the Lewis and Clark River.

Land-use Zone: Zoned AC-2

Classification: Special Use

Acquisition by County:

Per a 1996 Oregon Department of State Lands license, the county has permission to operate a boat ramp on the submersible lands of the Lewis and Clark River.

Description/Natural Features:

Public boat ramp on the Lewis and Clark River.

Facility Inventory:

- Boat launch ramp
- Primitive parking area

Development History:

- (1997) Boat launch ramp constructed

Management Opportunities/Challenges:

- The current license is for a boat ramp only.
- The county does not have a written deed or other document giving it an interest in the uplands between the road and the submersible land.
- Improvements to the uplands will require acquisition, easement or long-term lease from the land owners.
- Potential OSMB grant site

LEWIS & CLARK RIVER BOAT RAMP

Recommendations & Comments:

Operations and Maintenance

- Acquire or secure use of uplands between road and submersible lands.

Capital Improvements

- Potential OSMB grant

TWILIGHT CREEK EAGLE SANCTUARY

Location:	On Highway 30 east of Astoria between milepost 87-88. Turn North onto Burnside Loop Road and go .5 miles to viewing platform
Map:	8N 8W Section 20 – 2000
Size:	15.3 acres
Ownership Status:	County
Land-use zone:	Recreational management, Aquatic Natural
Classification:	Special Use

History:

The purpose of the Twilight Eagle Sanctuary was to protect the area from eminent logging and future development. This effort was to provide habitat for use by the Twilight Creek eagles, including use by other wintering eagles and eagles from the Mary's Creek roost.

Acquisition by County:

Land was purchased in 1990 from Cavenham Forest Industries for the purpose of the Twilight Eagle Sanctuary. The funding was from the North Coast Land Conservancy and the Oregon Eagle Foundation through fundraising events and grants.

Description / Natural Features:

This site has a viewing platform located along Burnside Loop Road that views Twilight Creek Eagle Sanctuary. The viewpoint is located east of the actual sanctuary where you can view tidal marshes, open water and islands, and view hundreds of plant and animal species and thousands of waterfowl in the winter. The Twilight Eagle Sanctuary consists of 15.3 acres of upland forested area with wetland edges.

Twilight Creek Eagle Sanctuary

Recommendations & Comments:

Operations and Maintenance
- Establish a management plan to provide minimum level of maintenance, sanitation and security.

Capital Improvements
- Consider park improvements, including:
  - Permanent vehicle barriers and/or improved parking area.
  - Updating of the interpretive signs.
  - Enhanced ADA accessibility including parking and platform.

Recreation Utilization:
Bird watchers and sightseers use this site to observe the bald eagles and many other species of birds, wildlife and the beauty of the lower Columbia River estuary.

Facility Inventory:
This site consists of one viewing platform with interpretive signs located along Burnside Loop Road east of the 15.3 acres.

Development History:
The viewing platform was constructed in 1990.

Management Opportunities/Challenges:
- Ongoing maintenance around viewing platform.

LOWER COLUMBIA YOUTH SOCCER FIELDS

Location:	East of DeLaura Beach and Camp Kiwanilong, 2 miles west of Hwy. 101, southwest of Warrenton
Map:	8N 10W Section 20
Size:	3.8 acres
Ownership Status:	Leased to Lower Columbia Youth Soccer Association
Land-use Zone:	R-10
Classification:	Special Use, Leased

Summary:
The Lower Columbia Youth Soccer Association signed a 10-year lease with the county on October 1, 2003. The lease requires an annual report regarding the use of the property the previous year.

> Other County-Owned Actual or Potential Recreational Sites

The Task Force collaborated with the county's property management specialist to determine if other county-owned land is currently being used for recreation or has the potential to be designated and developed for this purpose. Sites in this category are shown below and on the next two pages with their management recommendation.

Following are the parcels identified that provide water access and the disposition recommended by the Task Force:

Table 24– Undeveloped County-Owned Water Access Sites

SITE	RECOMMENDATION
Knappa dock	Develop a plan for improvement; designate as a county park.
Walluski River boat access	Develop as a non-motorized boat site; designate as a county park.
Rodney Road parcels on the Skipanon River	Natural wetlands deserving of protection. Explore feasibility of a small floating dock at the Perkins Road bridge, about 0.5 miles down the road.
Tansy Creek parcel	Need to clarify ownership of this vacated road and determine future development to occur on adjacent property before disposition is decided.
Fort Stevens parcel	The state may have interest in buying or trading this 72.3-acre parcel of county land on the ocean within Fort Stevens.
Skipanon Peninsula	Hold for future development or wetland mitigation project

See Appendix T for additional information relating to each county-owned actual or potential recreation sites.

The following three sites have trails that are either currently being used for recreation by Clatsop County residents, or have potential for this use:

- Claremont Road: This site, next to ODF's Claremont parcel should be retained an interpretive/educational site. [Note: ODF's Claremont parcel is part of the G & N Land Exchange – currently held up because of an appeal in State Court.]
- North of County Public Works: Approach Astoria Middle School about renewing agreement for nature trails. Depending on the future location of Public Works, site may have significantly increased value in the future.
- Williamsport Road Parcels: See below.

See Appendix U for additional information regarding these parcels.

Williamsport Road parcels

> Williamsport Road – Groups #1 and #2 Recommendation:

Negotiate a sale to City Parks or a conservancy group that would have deed restrictions to protect these areas for future generations. Any funds or proceeds should be designated to the Park and Land Acquisition and Maintenance Fund.

Williamsport Road – Group #3 Recommendation:

The area west of Williamsport Road should be evaluated for other use. Group #3 east of the road should be evaluated for sale.

This complex set of Williamsport Road parcels owned by Clatsop County, near the Astoria Column and Williamsport Road, requires careful consideration. The Task Force has divided them into the following groups:

- Groups #1 and #2 total 187 acres. They are located on both sides of Williamsport Road and include parcels east of the Astoria Column and north of the city's high-pressure water reservoir. These properties are laced with user-created trails (Appendix H-6) that wind through a mature forest.

- Group #3 parcels total eight acres. They are located below the waste disposal and recycle center on both sides of Williamsport Road. The area west of Williamsport Road has recently had some residential development. The area east of the road is very low and swampy.

> Camping Facilities

Car camping with a tent and RV/trailer camping are popular activities, ranked 10th and 15th in our local survey. Moreover, tent camping ranked sixth and RV/trailer camping 12th when survey participants were asked the specific activities they are interested in and want to know more about. Overnight camping facilities are a primary requirement.

"I love to tent camp, but sometimes certain parks are too crowded, or they do not have enough open area."
Survey respondent
Astoria
August, 2005

At this time, the only camping facilities on county-owned land are the two leased youth camps; these are Camp Kiwanilong and Camp Cullaby. The county managed the Spruce Run Campground under a lease agreement until 2002. This facility is now managed by ODF as Henry Rierson Spruce Run Campground. Clatsop County Parks may allow overnight self-contained RV/trailer camping at John Day Park in 2006.

The Task Force has identified the potential for camping at other county parks in the following priority order:

- Westport*
- Cullaby Lake
- Big Creek
- Klootchy Creek
- Sigfridson
- Lee Wooden/Fishhawk Falls

*The county is negotiating the acquisition.

> Recommendation: *Clatsop County Parks and RLPAC begin to develop a plan for adding camping facilities at each of the listed county parks.*

"I would like to know more about tent camping in less-populated areas. Sometimes the amount of people is overwhelming. I definitely would camp more at your parks if I knew more secluded areas."
Survey respondent
Astoria
August, 2005

These projects should be developed by Clatsop County Parks in collaboration with the RLPAC. The sequence and priority of developing camping facilities will depend on multiple factors including projected demand, availability of grant funds, staffing required and net impact on the Clatsop County Parks operating budget. Without question, the work involved in planning, seeking grants, designing, estimating revenue and expenses for these facilities – as well as operating and maintaining them – will require additional personnel. The

intention is to create facilities that generate revenue and address unmet public needs.

Tillamook and Columbia counties have made a significant investment in camping facilities. Their fee structures are shown on charts in Appendix K (see sidebar for fees at a glance).

Adjacent county park 2005 camping fees at a glance …

Columbia County

Day use:
$2 per motor vehicle

Campsite with hookups:
$18 per night

Campsite without hookups:
$14 per night

Bicyclist/hiker overnight:
$5 per night

Tillamook County

Day use:
$2 per motor vehicle

Designated campsite:
$10-$20 per night

RV hookup site:
$20-$25 per night

Hiker/biker campsite:
$5 per night

> Land and Water Trails Proposals

The Task Force recommends that the county, through the creation of a Regional Recreation Council, support the following efforts within its own sites as well as throughout the county:

- Improve and link existing trails.
- Create uniform user guidelines and consistent signage.
- Expand existing or create new trails.
- Develop and maintain a database of approved trails.

The primary means of developing these plans and proposals among landowners will be through the Regional Recreation Council (See Goal 5). We recommend that the county specifically support the need to:

- Connect trails in the Clatsop State Forest with those in the Tillamook State Forest.
- Use the public right-of-way along the railroad tracks to extend Astoria's Riverwalk both east and west.
- Connect Cullaby/Carnahan Parks to the Fort-to-Sea Trail.
- Connect the County Fairground/ODF District Office area with trials in the Astoria basin.
- Establish a water trail from Klootchy Creek Park to Seaside.
- Identify and improve both motorized and non-motorized boat launch sites.
- Support development of the Lower Columbia Water Trail (Appendix H-3).

8 > PARK SYSTEM FINANCIAL ANALYSIS

Beginning with a brief financial history of Clatsop County Parks, this analysis of the current situation reviews funding mechanisms and programs that are now in use or available, and recommended ways to achieve stable funding and more efficient management.

> Park System Management and Financial History

In 1992, when the last Recreational Lands Master Plan was written and approved, the county did not have a parks department. As described on page 30 of the 1992 plan:

> *Rather, the County Road Department oversees the county's recreational land properties and expenditure of park funds. Road Department personnel and equipment are utilized to perform basic maintenance tasks. In the past five years, about $80,000 annually has been appropriated in the county's general fund for park purposes. (1992 Plan)*

At that time, the plan called for the establishment of a county parks system as soon as practical "in order to more effectively manage its recreation land properties and existing improved sites." The plan also sought:

- *A stable source of funding; and*
- *Administrative staffing support for the management of county parks.*

A parks supervisor was hired in 1994 who reported to the Director of Public Works. A second full-time position, a parks ranger, was added in fiscal year 1996. During the summer months, a few temporary personnel were employed to collect fees and assist with other duties.

There were major improvements in the county parks during the 1990s due largely to the efforts of the staff and their success in obtaining $500,000 of grants. These grants, together with varying percentages of matching funds by the county, resulted in more than a half-dozen capital improvements. While much work remains, there is no question that these and other recent efforts have made a real difference in the quality of the recreational experiences enjoyed by the county's residents and visitors.

Beginning in fiscal year 1998, the financial history of the county parks operation can only be described as "difficult" for several reasons:

- In 1997-98, under financial pressure, the Board of Commissioners decided to eliminate the parks' operational account and transfer these expenses to the parks' acquisition account. (At that time, the account had a balance of $263,000.) This action had the effect of eliminating all general fund support for parks and, eventually, led to the virtual elimination of any balance in the acquisition account.

- In 1998, the Recreational Lands Planning Advisory Committee was asked to prepare a report outlining the cost of closing the parks.

- In March 1999, the Parks Budget Summary Sheet submitted for the 1999-2000 fiscal year contained the following statement:

  This budget allows us to maintain the operation of parks for one additional summer season, but after that the parks will effectively be out of operating money and we will start the process to close the parks.

- During the late 1990s, Parks was discouraged from applying for any new grants. This put a halt to any significant capital improvements.

- In the spring of 2000, the Board of Commissioners approved $64,000 from the general fund to keep the parks open.

Because of the financial pressures, a concerted effort was made during the late 1990s to make the parks more self-supporting by initiating or increasing park fees. In 2001 the annual revenue generated by Parks was $92,000, or almost 50% of its expense budget of $186,500. However, when the management of Spruce Run Park was shifted to the Astoria District of ODF in 2002, the revenue from park fees dropped significantly.

During the past few years, Parks has reported to the Director of Central Services. Staffing consists of a full-time parks foreman and temporary summer help. The Park Lands and Acquisition Fund had an infusion of approximately $700,000 in 2004 with the sale of Sunset Beach to State Parks. This fund is being used to provide matching funds for grants, some capital expenses and a proportion of operating expenses.

> Current Budget Resources

This section discusses various funding mechanisms and programs that are available or currently in use to support park and recreation services and facilities. The section discusses: 1) programs and resources currently used by the county; 2) selected grant programs; and 3) other potential resources.

The parks budget for 2005-2006 is $154,500. Dedicated parks staffing consists of a full-time parks foreman, two full-time seasonal employees (April 1 thru September 30) and one half-time seasonal employee (April 1 thru September 30). In addition, a part of the parks budget is utilized to support a portion of two full-time positions within the Central Services department. In the 2005-2006 budget, $5,000 was allocated for a shared staff assistant and $8,100 was allocated for the department director. This additional funding supports a portion of these two permanent county employees to cover services relating to parks operations.

Funding for the operations, development and maintenance of county parks comes from six revenue and assistance sources. In addition, volunteers/partnerships and offender work crews help maintain the parks. This funding is applied throughout the system and may fluctuate between budget cycles due to variable revenues from user fees, grants and state assistance programs. Current budget resources include the following:

Table 25 – Current Budget Resources

General Fund	The general fund provides budget support for a variety of community programs and services. The general fund derives revenue from property taxes, timber revenue and other sources, and is susceptible to shortfalls that may require budget reductions. The county has adopted implementing policies and a "resource reduction strategy" to help guide use of the fund. To accommodate the potential need for expenditure reductions, county budget policies emphasize conserving General Fund discretionary revenues to fund high priority programs (e.g., Public Safety and Justice). To the extent additional discretionary resources are available, high-priority service areas will be slated for growth and lower priority areas will receive constant or decreasing discretionary support.
User Fees	User fees are charges placed on facilities and programs to help defray the cost of operation, maintenance and other services. Clatsop County has implemented a system of user fees that includes day-use fees (Cullaby Lake, Carnahan and John Day Boat Launch), annual passes, facility reservations (Cullaby Lake Shelter) and special events permits. The Board of County Commissioners has final authority to place or modify the fee program.
Park & Land Acquisition & Maintenance Fund	This county-based fund provides dedicated monies for the development and operation of park and recreation sites. The county established the fund in 2003-04, using the proceeds from the sale of the Sunset Beach property to State Parks for the Lewis and Clark Trail from Fort Clatsop to the Pacific Ocean. This fund is intended for capital projects; however, in recent years a portion of the account has been used to supplement the general operating budget.

Table 25– Current Budget Resources, continued

County Parks Assistance Program (OPRD)	This program provides funds to Oregon counties, including Clatsop, for the acquisition, development, maintenance, care and use of county park and recreation areas. Funds are derived from RV registration fees. The program distributes funds annually to counties based on three factors: number of campsites managed by the county (50% of available revenue); number of RV registrations in the county (20%); and county population (30%).
Maintenance Assistance Program (OMB)	This Oregon Marine Board (OMB) program provides funds to counties and other eligible jurisdictions for the maintenance of improved public marine facilities. The program is intended to supplement, not replace, existing local funds. Funds may be used for "routine and ordinary maintenance" of boating facilities including but not limited to boat ramps, docks, parking areas and restrooms, and may be used for garbage and litter pick up, grounds keeping and minor repairs of eligible facilities.
Grants	Counties are eligible for a variety of public- and private-sector grants that support acquisition, development, rehabilitation, maintenance and management of park and recreation grounds, facilities and services. Generally, these programs provide funds on a matching basis, and include terms and conditions for receiving and utilizing funds that are unique to each program. The next section of this chapter summarizes selected programs. An addendum provides expanded information about program purpose, eligible and ineligible costs, funding capacity, evaluation criteria and related elements.
Partnerships and Volunteers	Currently, the county's Adopt-A-Park program provides opportunities for volunteers. Groups have "adopted" Klootchy Creek and Sigfridson Parks (see "Star of the Sea" article in Appendix P). The primary services involve litter pick-up and trail maintenance, and groups visit sites about four times a year. Historically, groups such as the Boy Scouts have also provided similar services on an individual-event basis. Currently, the Parks Department coordinates the Adopt-A-Park program and provides necessary supervision. In addition, Clatsop County employs a volunteer coordinator who helps organize volunteer efforts. Volunteers are asked to complete application forms and must be at least 16 years old. The coordinator will interview interested persons to help identify areas of interest and to provide the best work experience for the volunteer. Generally, volunteer programs supplement ongoing, maintenance and operation activities or focus on specific improvement projects.

Table 25 – Current Budget Resources, continued

Offender Work Crews	The use of work release and corrections work crews can provide an important resource for park maintenance services. Currently, the Parks Department uses adult work crews several times a year for tree removal, and also used the crews for the trail improvement project at Cullaby Lake. The Parks Department also uses juvenile work crews for various maintenance activities; current levels of service equate to 45 days of work from the crew. A foreman is provided to assist with supervision and transportation.

> Grant Funding Opportunities

Analysis of park system financing includes a review of available grant funding opportunities. Clatsop County is eligible for a variety of acquisition, development, restoration and rehabilitation grants administered by state and federal programs. Separate work sheets have been prepared for many programs to provide additional detail about program purpose, eligible and ineligible costs, funding capacity, use restrictions, and project evaluation criteria. These work sheets and detailed grant summaries can be found in Appendix M. A summary list of granting agencies and available grant programs follows:

Table 26 – Available Grant Programs

Oregon State Parks and Recreation Department	ATV Grant Program County Opportunity Grants Land & Water Conservation Fund Local Government Grants Recreational Trails Program
Oregon Marine Board	Facility Grant Program
Oregon Department of Fish and Wildlife	Restoration and Enhancement Program
Oregon Department of Land Conservation and Development	306A Program
Oregon Department of Transportation	Transportation Enhancement Program
National Fish and Wildlife Foundation	General Matching Grants Columbia River Estuarine Coastal Fund Five-Star Restoration Matching Grants Oregon Governor's Fund for the Environment

Table 26 – Available Grant Programs, continued

Oregon Watershed Enhancement Board	General Grant Program Small Grant Program
North American Wetlands Conservation Act	Standard Grants Program Small Grants Program
Lower Columbia River Estuary Partnership (LCREP)	Habitat Restoration Program

Clatsop County has successfully demonstrated its ability to utilize grants to develop and rehabilitate park and recreation facilities. Throughout the public involvement process, the use of grants was viewed favorably among community participants. County staff should carefully consider grant requirements and the associated maintenance implications when evaluating potential grant funded projects. We recommend the increased use of grants from state, federal, and private sources.

> Other Mechanisms and Resources

In addition to current county general fund and grant resources, other potential public and private funding mechanisms are available. These resources range from increased partnerships and donations to the creation of voter approved taxing districts and dedicated revenue streams. Potential mechanisms and resources reviewed during this master plan process include:

Table 27 – Other Mechanisms and Resources

Private Nonprofit	Land Trusts Land Conservancies
Districts	Park and Recreation Districts County Service Districts
Voter-approved Bonds and Taxes	General Obligation Bonds Revenue Bonds Local Option Taxes
Development Fees	Systems Development Charges (SDC)
Other Opportunities	ODOT Highway Fund Partnerships and Volunteers Private Grants, Donations and Gifts

During the planning process, other potential funding mechanisms and resources were also evaluated. These sources are detailed in Appendix R. Community comments noted during public workshops and park surveys indicate low support for additional county property taxes. Comments from elected officials and Task Force members highlighted the difficulty in proposing new property tax measures at this time.

Recommendation:

Of the mechanisms listed in Table 27, we recommend that the greatest attention be given to the following for stable, long-term, supplemental funding:

- *Development fees.*
- *Increased use of partnerships and volunteers.*
- *A restricted fund or foundation.*

> Financing Summary and Recommendations

During much of the past decade, the parks department has been successful in obtaining grants for park improvements, including the necessary matching funds from the county. Providing stable funding support for the park department's operating budget continues to be an ongoing challenge. Without a major increase in the county's revenue stream, it is assumed that the level of support for the parks department from the general fund will not rise significantly above current levels. The parks department continues to operate within its current resources as it seeks greater efficiency in its operations and searches for new funding mechanisms. The challenge in the coming decade will be to achieve the ambitious goals outlined in this report, including making park's operations increasingly self-sustaining, while working within these financial realities.

We recommend that the county pursue a multi-faceted approach, including:

1. Leverage available funds by continuing to aggressively pursue grants for capital improvements.
2. Seek all means to maximize parks' revenue.
    - Review user fees annually to ensure a level that is reasonable but does not undercut private facilities and consider a graduated fee schedule for county/non-county residents.
    - Determine if State County Park Assistance Program funding could be increased by recognition of the camping facilities at Camp Kiwanilong and Camp Cullaby.
    - Assign to parks the revenue the county receives from ODF for their camping facilities.
3. Find ways to creatively reward and encourage efficiencies in the parks' structure and operation.

4. Expand user fee and revenue from the state by adding new camping facilities.
    - The net operational impact should be carefully considered when proposing new facilities.
    - If feasible, those facilities that increase revenue will be proposed before those that are revenue neutral or require general fund support.
5. Increase the Parks Acquisition and Maintenance Account through the sale of parcels in the Williamsport Road area and the parcels in Fort Stevens.
6. Seek a group of interested and committed citizens willing to establish a "Friends of Parks" nonprofit foundation to accept tax-deductible donations.
7. Consider other mechanisms and resources to sustain long term park financing needs while maximizing efficiency of existing resources. These new mechanisms and resources include:
    - Consider establishing a systems development charge (SDC) for new construction within the unincorporated county to provide funding for park capital improvements.
    - Develop methods for utilizing the ODOT county highway fund for park and trail improvements.
    - Utilize volunteers and partnerships whenever possible to develop and maintain the park system.

It is recognized that, unless stable funding is achieved, the current operation of the parks department will most likely result in a "spending down" of the Park Land Acquisition & Maintenance Fund. Without consistent funding, it will be difficult to realize the goals outlined in this report.

> Park System Management and Recommendations

As elements of the master plan are implemented, park administration and maintenance staff will have increased responsibilities. The workload and job duties of staff, especially the parks foreman, should be monitored and recognized with appropriate compensation as the program moves forward. Another critical element during the next ten years will be additional secretarial/administrative support. It will also be impossible to achieve the goals outlined in this report without the backing and assistance of parks administration. Ideally, administrative support during this expansion phase should include personnel with prior experience in building and improving a parks operation.

We recommend the county consider organizational changes and periodic management evaluation, including:

- Reorganize the parks section within the county's public works department to gain greater efficiency in the utilization of personnel, equipment and materials.
- Review staffing needs as expanded park operations are considered and measure associated costs when determining project feasibility.
- Request that the RLPAC prepare an annual report summarizing the progress made toward meeting goals, objectives and actions strategies outlined in the master plan.

9 > PARK SYSTEM SUMMARY RECOMMENDATIONS AND CAPITAL PROJECTS LIST

Clatsop County's diverse recreational holdings are among our most valuable assets. Following is a summary of our recommendations for meeting park and recreation needs of county residents and visitors, followed by procedural recommendations.

> Introduction

The all-volunteer Recreational Lands Master Plan Task Force invested many hours in collecting data, developing recommendations and preparing this report. The relevant recommendations, based on goals, policies and priorities identified during the inventory and planning process, have been extracted from the main body of this report and are listed on the following pages. Recommendations for individual parks and recreation lands are contained on pages 72-112.

The action plan will help guide the county and its partners as they make the necessary long-term planning and financial decisions regarding county parks and recreational lands. This plan will also allow the public to better understand their park system, take a sense of ownership in it, and support the type of improvements that are being proposed in the plan. Ultimately, it will help us realize our vision for a park system that is a vital and publicly recognized contributor to a vibrant, growing economy and healthy, active citizenry.

Four recurring themes were identified during this planning process:

- **Improve the parks**
- **Connect with the community**
- **Link the recreational resources**
- **Fund the parks**

In this chapter, the objectives and actions that the Task Force would like to see addressed for each of these themes are summarized in the pages that follow. Those that the Task Force would like to see accomplished during the next three years are listed first in priority number order. These that follow are the ones that the Task Force believes can be accomplished over the next ten years.

Improve the parks

1. **Focus immediately on signage, appearance and maintenance.**
   - Establish consistent, high-quality and recognizable identity for Clatsop County parks and recreational lands, including uniform park entry and rules signage.
   - Display information about the entire park system at each developed county park.
   - Establish county-wide development, building and maintenance standards.
2. **Establish the exact boundaries and ownership of all county parks, recreational lands and other lands available for recreation, with special attention to Aldrich Point, Westport, DeLaura Beach and the Lewis and Clark boat ramp.**
3. **Provide more restroom facilities.**
4. **Recommend that parks management develop a strategic plan for implementing new camping facilities at Big Creek, Cullaby Lake, Klootchy Creek, Lee Wooden/Fishhawk Falls, Sigfridson and Westport.**
5. **Designate DeLaura Beach as a county "Park" and direct Clatsop County Parks and RLPAC to develop a plan to protect onsite natural resources and develop limited park facilities.**

Other recommendations:

Planning

- Strive to locate parks close to population centers.
- Create a policy for the acquisition, development and disposal of parks and recreational lands that addresses long-term county needs.
- Rezone all park lands to the RM (Recreation Management) zone.

Management

- Reorganize the parks section within the county's public works department to gain greater efficiency in the utilization of personnel, equipment and materials.
- Provide park facilities that are safe and accessible for their designated uses.
- Consider implementing ADA (Americans with Disabilities Act) accessibility standards within existing facilities, e.g., new handicapped-accessible fishing platforms at existing park sites.
- Increase the number of maintained trails in each park.
- Increase the number of designated fishing locations.
- Identify and improve both motorized and non-motorized boat launch sites.
- Designate the Lewis & Clark boat ramp as a county "Park" based on a sale, lease, donation or easement agreement being reached with the current owner of the site.

Environmental

- Complete a system-wide Natural Resources Inventory to be used to protect and enhance the environment.
- Practice environmentally responsible park management.
- Provide staff training on issues of resource management and protection.
- Implement a noxious weed control program.
- Develop and implement a "green purchasing" program for park maintenance and operations.

Connect with the community

1. **Use various media, such as newsletters, interpretive panels and the county's Web site, to highlight the parks' natural and cultural resources.**
   - Create a parks brochure detailing all parks facilities.
2. **Expand use of volunteers and partnership to aid in maintenance, construction and enjoyment of the parks. Example:**
   - Expand the Adopt-A-Park program, encouraging area schools, businesses and other community organizations to participate.
3. **Preserve the park inventory data collected during the process of producing this report and regularly update.**
4. **Sponsor public events that highlight the county's unique natural and cultural features.**

Other recommendations:

Marketing

- Develop a marketing plan, including cross-marketing opportunities with other recreational providers, to highlight the county's scenic, recreational and cultural qualities as an important part of a desirable, healthy lifestyle.
- Identify opportunities to collaborate on recreational maps and other visitor information.

Special Use

- Consider special-use areas, including off-leash dog parks.

Link the recreational resources

1. **Establish a permanent Regional Recreation Council of local, county, state, federal and private recreation providers in Clatsop County to improve and integrate regional park and trail developments.**
   - Fund a 1 /4-time position for six months to staff the council.
   - (See Appendix N for the proposed council charter, including major goals, composition of membership, staffing, etc.)
2. **Strive to increase connectivity between parks and adjacent recreation areas. Examples:**
   - Connect the trails being developed in the Clatsop State Forest with those in the Tillamook State Forest.
   - Use the public right-of-way along the railroad tracks to extend Astoria's Riverwalk both east and west.
   - Connect Cullaby/Carnahan Parks to the Fort-to-Sea Trail.
   - Connect the County Fairground/ODF District Office area with the trials in the Astoria basin.
   - Establish a water trail from Klootchy Creek Park to Seaside.
3. **Incorporate inventories of all park and recreation facilities, including parks, sport fields, trails, recreational lands, historic sites and other relevant data, into the county's geographical information system (GIS).**
4. **Create a Land and Water Trails Plan.**
   - Identify and investigate opportunities to secure public access to rivers, streams and lakes, as well as significant trails and natural or historic sites.
   - Identify and improve both motorized and non-motorized boat launch sites.
   - Support Lower Columbia Water Trail development.

Other recommendation:

Security

- Coordinate with other law enforcement and security personnel to share patrolling of county parks as appropriate.

Fund the Parks

1. **Increase the Parks Acquisition and Maintenance Account through the sale of parcels in the Williamsport Road area and the parcels in Fort Stevens.**
2. **Determine if State County Park Assistance Program funding can be increased by recognition of the camping facilities at Camp Kiwanilong and Camp Cullaby.**
3. **Consider establishing a systems development charge (SDC) for new residential construction within the county to provide funding for park capital improvements.**
4. **Expand user fee and revenue from the state by adding new camping facilities.**
5. **Fund other parks' capital improvement projects (see page 137-139).**
6. **Investigate the establishment of a "Friends of the Parks" foundation to increase fundraising.**
7. **Assign to parks a portion of the revenue the county retains from ODF for its camping facilities.**

Other recommendations:

Efficiency

- Maximize use of volunteers, partnerships, offender work crews and inter-jurisdictional efforts.
- Reward and encourage efficiencies in the parks' structure and operation.

- Review staffing needs as expanded park operations are considered and measure associated costs when determining project feasibility.

Leveraging Funds

- Continue to aggressively pursue grants from state, federal and private sources.
- Leverage appropriate revenue generating potential of the county parks, including a graduated fee schedule for county/non-county residents.
- Develop methods for utilizing the ODOT county highway fund for park and trail improvements.

> Procedural Recommendations

Achieving the Task Force's vision for the county's park and recreational lands will require the coordinated planning and effort of many people. To increase the likelihood of success, we recommend the following procedural recommendations:

1. The county's administrative staff shall prepare an implementation strategy of the recommendations in this report for consideration and approval by the Board of Commissioners.
2. Within a year after this Master Plan is approved, RLPAC shall propose changes to the county's Goal 8 Comprehensive Plan that bring the Goal 8 document in sync with the Master Plan.
3. Each year, RLPAC shall prepare a report that summarizes the progress in meeting the recommendations in the approved Master Plan.

> Capital Project List

This section includes the preliminary capital project lists based upon priorities and timeframe for completion. This list also identifies possible funding sources and estimated capital costs. It is anticipated that this list will be reviewed annually and updated to respond to:

- New funding opportunities
- Changed management and operations capacity
- Completed or modified projects
- New partnerships and volunteer opportunities
- Changing priorities and trends

We recommend that the Westport projects be given highest priority if constraints can be resolved regarding property ownership. The following order of priority is established by the Task Force for other projects:

- Cullaby Lake Park
- DeLaura Beach
- Big Creek Park
- Klootchy Creek
- Sigfridson Park
- Lee Wooden Park

It should be noted that other maintenance needs as they arise must be prioritized and may override projected capital projects.

Table 28 – Capital and Maintenance Improvement Plan

Project:	Priority	Time Frame	2005 Cost:	Potential Grant Match	Cost to County
Aldrich Point					
Park entry and rules signs	High	Short term	$1,200	Unknown	$1,200
Boat ramp/dock improvements	Med	Mid term	$150,000	80% State Marine Board	$30,000
Vault toilet (single stall)	Med	Mid term	$15,000	80% State Marine Board	$3,000
Total for Aldrich			$166,200		$34,200
Big Creek Park					
Park entry and rules signs	High	Short term	$1,200	Unknown	$1,200
Day-use fee station (manual)	Med	Mid term	$2,500	Unknown	$2,500
Paved entry road and ADA parking area	Med	Mid term	$20,000	50% State Parks	$10,000
Picnic shelter (24-foot)	Med	Mid term	$20,000	50% State Parks	$10,000
Site furnishings	Med	Mid term	$5,000	50% State Parks	$2,500
Playground	Med	Mid term	$10,000	50% State Parks	$5,000
ADA fishing enhancements	Med	Mid term	$7,500	Volunteer/Partnership	$3,750
Vault Toilet (two stall)	Med	Mid term	$28,000	50% State Parks	$14,000
Campground with host site and two stall vault toilet	Med	Mid term	$150,000	50% State Parks	$75,000
Total for Big Creek			$244,200		$123,950
Carnahan Park					
Dock replacement (three 20' docks and brow)	Med	Mid term	$55,000	80% State Marine Board	$11,000
Expanded trail system	Low	Long term	$5,000	Volunteer/Partnership	$1,500
Off-leash dog area (signage, dog waste station and water)	Med	Mid term	$5,000	Volunteer/Partnership	$2,500
Interpretive signage	Low	Long term	$5,000	Unknown	$5,000
ADA fishing enhancements	Med	Mid term	$7,500	Volunteer/Partnership	$3,750
Vault toilet (single stall)	Med	Mid term	$15,000	80% State Marine Board	$3,000
Boat ramp upgrade and paving of parking lot	Med	Mid term	$100,000	80% State Marine Board	$20,000
Total for Carnahan			$192,500		$46,750
Cullaby Lake Park					
Replacement of Boarding Dock behind north restrooms	High	Short term	$55,000	80% State Marine Board	$11,000
Replacement of roof on South Picnic Shelter (metal roofing)	Med	Short term	$13,000	Unknown	$13,000
Replacement of roof on North Picnic Shelter (metal roofing)	Med	Mid term	$13,000	Unknown	$13,000
ADA fishing enhancements	Med	Mid term	$7,500	Volunteer/Partnership	$3,750
Campground with host site and two stall vault toilet	Med	Mid term	$150,000	50% State Parks	$75,000
Replacement of restrooms at south end of the park	Low	Long term	$180,000	50% State Parks	$90,000
Total for Cullaby Lake:			$418,500		$205,750
David Douglas Park					
Park entry and rules signs	Low	Long term	$1,200	Unknown	$1,200
Primitive trails	Low	Long term	$7,500	Volunteer/Partnership	$3,750
Parking area (primitive) utilizing old roadbed	Low	Long term	$15,000	Unknown	$15,000
Total for David Douglas			$23,700		$19,950
John Day County Park					
Replacement of roof on restrooms (metal roof)	Med	Short term	$1,300	Unknown	$1,300
Installation of park Host site	Med	Mid term	$15,000	Unknown	$15,000
Total for John Day			$16,300		$16,300
		Subtotal	**$1,061,400**	**Subtotal**	**$446,900**

Time Frame: Short Term (1-3 years) Mid Term (4-7 years) Long Term (8-10+ years)
Note: Costs do not include design and engineering services, permit fees or other soft costs

Table 28 – Capital and Maintenance Improvement Plan, continued

Project:	Priority	Time Frame	2005 Cost:	Potential Grant Match	Cost to County
Klootchy Creek					
Park entry and rules signs	High	Short term	$1,200	Unknown	$1,200
Day-use fee station (automatic)	Med	Mid term	$20,000	Unknown	$20,000
Expanded trail system	Med	Mid term	$10,000	Volunteer/Partnership	$5,000
Campground with host site and two stall vault toilet	Med	Mid term	$150,000	50% State Parks	$75,000
Boat ramp/dock improvements	Low	Long term	$75,000	80% State Marine Board	$15,000
Deck surface replacement (Trex decking, materials only)	Med	Short term	$25,000	Unknown	$25,000
Installation of Vault Toilet (two stall)	Med	Mid term	$28,000	50% State Parks	$14,000
Total Klootchy Creek			$309,200		$155,200
Lee Wooden Park					
Park entry and rules signs	High	Short term	$1,200	Unknown	$1,200
Install primitive trails	Med	Mid term	$7,500	Volunteer/Partnership	$3,750
Install new access road, parking lot & gate, day use area	Med	Mid term	$20,000	50% State Parks	$10,000
Total for Lee Wooden			$28,700		$14,950
Nehalem County Park (Red Bluff)					
Park entry and rules signs	High	Short term	$1,200	Unknown	$1,200
Primitive trails	Med	Mid term	$7,500	Volunteer/Partnership	$3,750
Parking area (primitive)	Low	Long term	$20,000	50% State Parks	$10,000
Total for Nehalem County Park			$28,700		$14,950
Sigfridson					
Park entry and rules signs	High	Short term	$1,200	Unknown	$1,200
Primitive trails	Med	Mid term	$10,000	Volunteer/Partnership	$5,000
Pedestrian/Maintenance bridge	Low	Long term	$100,000	50% State Parks	$50,000
Site furnishings	Med	Mid term	$5,000	50% State Parks	$2,500
Day-use fee station (manual)	Med	Mid term	$2,500	Unknown	$2,500
Parking area	Med	Mid term	$30,000	50% State Parks	$15,000
Install single vault toilet	Med	Mid term	$15,000	50% State Parks	$7,500
Total for Sigfridson			$163,700		$83,700
Smith Lake					
Park entry and rules signs	Low	Mid term	$1,200	Unknown	$1,200
Primitive trails	Low	Long term	$5,000	Volunteer/Partnership	$2,500
Boardwalks, interpretive signage and wetland observation	Low	Long term	$20,000	Volunteer/Partnership	$10,000
Total for Smith Lake			$26,200		$13,700
Westport					
Park entry and rules signs	High	Short term	$1,200	Unknown	$1,200
Day-use fee station (automatic)	High	Short term	$20,000	Unknown	$20,000
Primitive trails	Med	Mid term	$10,000	Volunteer/Partnership	$5,000
ADA fishing enhancements	Med	Mid term	$7,500	Volunteer/Partnership	$3,750
Parking lot and boat launch upgrade	High	Short term	$230,000	80% State Marine Board	$46,000
Restroom installation (flush type)	High	Short term	$110,000	80% State Marine Board	$22,000
Installation of a RV/Trailer campground	High	Short term	$500,000	50% State Parks	$250,000
Total for Westport			$878,700		$347,950
Delaura Beach (Recreational Lands Site)					
Park entry and rules signs	High	Short term	$1,200	Unknown	$1,200
Install new access road and trailer parking lot	Med	Mid term	$80,000	50% State Parks	$40,000
Total for Deluara Beach			$81,200		$41,200
		Total Capital Costs	**$2,577,800**	**Total Costs with Grant Match**	**$1,118,550**

Time Frame: Short Term (1-3 years) Mid Term (4-7 years) Long Term (8-10+ years)
Note: Costs do not include design and engineering services, permit fees or other soft costs

> APPENDIX: A THROUGH U

APPENDIX A: Task Force Meetings

Meeting Title/Topics – Date

Task Force Meeting #1 - December 2, 2004
- *Organizational meeting*

Task Force Meeting #2 - January 13, 2005
- *Tour of County parks*

Task Force Meeting #3 - January 27, 2005
- *Review resource material; definition of consultant's role*

Task Force Meeting #4 - February 10, 2005
- *Tour of remaining County parks*

Task Force Meeting #5 - February 24, 2005
- *Summarize impressions of County parks; redefinition of consultant's role*

Task Force Meeting #6 - March 24, 2005
- *ODF's Recreational Plan presented; assignment of park inventories to Task Force members*

Task Force Meeting #7 - April 28, 2005
- *Star of the Sea grades 7&8 presentation re: Sigfridson Park; selection of consultant*

Task Force Meeting #8 - May 26, 2005
- *Astoria's Urban Trails presentation; introduction of consultant; planning process, facility inventory; symposium overview; work session on vision, goals & objectives.*

Task Force Meeting #9 - June 30, 2005
- *Review vision, goals & objectives, develop survey questions, review preliminary inventories, develop subcommittees for specific tasks; identify County holdings with recreational potential.*

Task Force Meeting #10 - July 28, 2005
- *Review final survey, review report outline, review symposium checklist, public workshop planning, review objectives and tasks; presentation by Oregon Parks & Recreation Department*

Task Force Meeting #11 - August 11, 2005
- Work session on Goals & Objectives

Task Force Meeting #12 - August 25, 2005
- *Review County holdings of potential recreational interest, review recreation inventories, review park inventories, review preliminary survey results, review refined objectives and tasks review, public workshop planning*

Task Force Meeting #13 - September 14, 2005
- Work session to identify lead responsibility, time frame and priorities

County Commissioner Update - September 28, 2005

APPENDIX A: Task Force Meetings

Task Force Meeting #14 - September 29, 2005

- *Review existing facility map, survey results, review/develop preliminary comprehensive services plan, public workshop planning*

Task Force Meeting #15 - September 29, 2005

- *Clatsop County trail opportunities, water trail access opportunities, public workshop planning*

Public Workshops

- *#1 - Astoria/Warrenton – location Red Lion Inn -* October 6, 2005
- #2 - *Seaside/Cannon Beach – Community Center -* October 13, 2005

Task Force Meeting #16 - October 27, 2005

- *Review workshop reports, Symposium Plan*

Task Force Meeting #17 - November 10, 2005

- *Parks Financing*

Task Force Meeting #18 - December 1, 2005

- *Symposium Planning, Final Report Status, Recreation Inventory*

Clatsop County Recreation Master Plan Symposium – December 7, 2005

Distribute Draft Master Plan for review - December 9, 2005

Task Force Meeting #19 - December 15, 2005

- *Review Draft Master Plan*

Task Force Meeting #20 - January 10, 2006

- *Review Draft Master Plan*

Task Force Meeting #21 - January 17, 2006

- *Review Draft Master Plan*

Task Force Meeting #22 - January 26, 2006

- *Review final Master Plan, project closeout*

APPENDIX B: 2005 Clatsop County Parks System Park Survey & Summary Report

Results Tally

1. Clatsop County's parks system consists of 11 parks and five public boat ramps, comprising 573 acres of land. How often in the last 12 months have you or members of your family used each of the following parks and facilities?

	At least once a week	At least once a month	1-5 times a year	6-11 times a year	Not at all or never	Haven't heard of it
Aldrich Point Boat Ramp			14	1	21	26
Big Creek Park	1		11	1	29	19
Cullaby Lake Park	4		30	6	21	1
Carnahan Park			19	2	23	15
David Douglas Park			8		33	15
DeLaura Beach	2	2	15	4	25	11
Fishhawk Falls/Lee Wooden Pk.		1	16		26	9
John Day Park/Boat Ramp		1	16	6	39	7
Klootchy Creek Park		2	15	1	26	14
Lewis & Clark River Boat Ramp		1	9		37	13
Nehalem Park		2	12		32	14
North Fork Nehalem Park			7		31	19
Sigfridson Park			2		29	27
Smith Lake Park	1		9		34	15
Sunset Lake Park	1	1	19	4	26	9
Westport Boat Ramp		1	9	3	33	14

2. Clatsop County Parks offer our community many recreation opportunities. Do you feel like you have enough information about these opportunities, or would you like more information on the following opportunities:

Currently have	Would like more info	Opportunity		Currently have	Would like more info	Opportunity
17	33	Walking/hiking		26	12	Horseback riding
24	14	Swimming		15	25	Bicycling
22	15	Boating		24	9	Playgrounds
19	21	Picnicking		13	24	Bird watching
21	12	Running/jogging		23	18	Fishing
21	11	Organized sports		19	19	Tent Camping
16	20	Environmental Ed.		24	10	RV Camping

Other: More information about ATV ride areas in Clatsop Co.

3. From what source(s) do you currently get information about Clatsop County Parks and Recreation programs? What source(s) would you like to use in the future?

Currently Use	Would like to use	Source of information
11	23	Park Maps
9	24	Web sites
22	12	Newspapers
14	20	Brochures
44	9	Friends/Family/Word of Mouth

Other: Signs in parks, places of employment.

4. Please put an "X" next to those outdoor activities you or members of your family currently participate in. Also, please circle the three most important activities.
   B

54	Walking/hiking		9	Multipurpose sport fields
35	Biking		7	Basketball
4	Horseback riding		3	Tennis
9	ATV		3	Skating
25	Swimming		12	Golf
17	Motorized boating		5	Archery
20	Non-Motorized boating		11	Hunting
32	Fishing		10	Target shooting
36	Beach activities		24	Natural areas & Open Spaces
12	Educational opportunities		10	RV Camping
16	Playgrounds		2	Yurts
32	Wildlife viewing/bird watching		17	Tent camping

Other outdoor activities (not listed above): Skateboarding, dirt biking, picnicking, big-bore rifle shooting, surfing, running, kite boarding, wakeboarding, dog walking, wildlife photography, car washing and "motorized" walking.

Following are "most-important activities" circled on the surveys:

Walking/hiking (21)
Natural areas & open space (2)
Fishing (12)
ATV (1)
Biking (8)
Playgrounds (2)
Wildlife viewing/bird watching (6)
Multipurpose sport fields (2)
Motorized boating (6)
Yurts (1)
Hunting (4)
Tent camping (1)
Horseback riding (3)
Dog walking (1)
Non-motorized boating (3)
Wildlife photography (1)
Beach activities (4)
Running (1)
RV camping (4)
Surfing (1)
Swimming (3)
Motorized walking (1)
Golf (2)

APPENDIX B: 2005 Clatsop County Park System Park Survey & Summary Report

A survey of public awareness and attitudes about Clatsop County Parks and Recreation programs was conducted during August, 2005. Surveys were handed out at key venues, mailed, and accessed online at the Clatsop County Web site. The objective was to obtain information that would be useful in preparing the county's Recreational Lands Master Plan update.

Sixty-five surveys were returned. Nine of these were submitted online. Of the remaining surveys, 26 were from a random mailing to households in Clatsop County.

The results of the survey process are shown below and are based on the total number of respondents (65). It is noted that not every item was responded to on every survey; the results tally is attached with specific detail. Surveys submitted by standard mail or returned in person are available for review, while online results are contained in a drill down report.

Question by Question Review

1. Clatsop County's parks system consists of 11 parks and five public boat ramps, comprising 573 acres of land. How often in the last 12 months have you or members of your family used each of the following parks and facilities?

The most heavily used park is Cullaby Lake Park. 61.5% of all respondents visited the park at least once in the last 12 months. Four respondents say they visit at least once a week. Only one respondent says he or she hasn't heard of it.

Sunset Lake Park, DeLaura Beach and John Day Park/Boat Ramp rank second, third and fourth. One or more respondents say they visit Sunset Lake Park, DeLaura Beach, Smith Lake Park and Big Creek Park at least once a week.

Sigfridson Park is the least used county park and also scores lowest in name recognition. Only two respondents visited Sigfridson Park in the last 12 months, while 41.5% say they haven't heard of it.

[Note: In written answers to questions (5) and (6), several people, even some who have lived in Clatsop County all their lives, comment that they have NO awareness of most parks listed.]

Results for (1) are shown on the following page.

APPENDIX B: 2005 Clatsop County Park System Park Survey & Summary Report

Parks/facilities ranked by annual use

(% represents overall respondents who visited from "at least once a week" to "1-5 times a year")

Cullaby Lake Park	61.5%
Sunset Lake Park	38.5%
DeLaura Beach	35.4%
John Day Park/Boat Ramp	35.4%
Carnahan Park	32.3%
Klootchy Creek Park	27.7%
Fishhawk Falls/Lee Wooden Park	26.2%
Aldrich Park Boat Ramp	23.1%
Nehalem Park	21.5%
Big Creek Park	20.0%
Westport Boat Ramp	20.0%
Lewis & Clark River Boat Ramp	15.4%
Smith Lake Park	15.4%
David Douglas Park	12.3%
North Fork Nehalem Park	10.8%
Sigfridson Park	03.1%

Parks/facilities with least name recognition

(% represents overall respondents who "haven't heard of it")

Sigfridson Park	41.5%
Aldrich Park Boat Ramp	40.0%
Big Creek Park	29.2%
North Fork Nehalem Park	29.2%
Carnahan Park	23.1%
David Douglas Park	23.1%
Smith Lake Park	23.1%
Klootchy Creek Park	21.5%
Nehalem Park	21.5%
Westport Boat Ramp	21.5%
DeLaura Beach	16.9%
Sunset Lake Park	13.8%
Fishhawk Falls/Lee Wooden Park	13.8%
John Day Park/Boat Ramp	10.8%
Cullaby Lake Park	01.5%

2. Clatsop County Parks offer our community many recreation opportunities. Do you feel like you have enough information about these opportunities, or would you like more information on the following opportunities?

Walking/hiking registered the largest response. Just 26.2% say they currently have enough information about walking/hiking. 50.8% say they want more.

There is also a desire by more than a third of the participants for more information about bicycling and bird watching (38.5% and 36.9%, respectively).

Swimming, boating, horseback riding, RV camping and playgrounds are popular activities but more respondents than not say they currently have enough information about

opportunities in these areas. Hence they show up lower on the list.

Results for (2) are shown below.

Recreation opportunities ranked by interest in obtaining more information

(% represents overall respondents who "would like more information")

Walking/hiking	50.8%
Bicycling	38.5%
Bird watching	36.9%
Picnicking	32.3%
Environmental education	30.8%
Tent camping	29.2%
Fishing	27.7%
Boating	23.1%
Swimming	21.5%
Horseback riding	18.5%
Running/jogging	18.5%
RV camping	15.4%
Organized sports	16.9%
Playgrounds	13.9%

More information about ATV ride areas in Clatsop County was mentioned in the space provided for "other" opportunities.

3. From what source(s) do you currently get information about Clatsop County Parks and Recreation programs. What source(s) would you like to use in the future?

By far the most common method of getting information is through family, friends and word-of-mouth (67.7%). Newspapers rank a distant second.

Currently the least common method is the Internet (13.8%). However, respondents say they would like to make greater use of Web sites in the future. In fact, the sources that they indicate they want to use are directly reversed from those they currently use.

Results for (3) are shown below.

Most-used current sources of information

(% represents overall respondents who "currently use" the source to get information about Clatsop County Parks and Recreation programs)

Friends/family/word of mouth	67.7%
Newspapers	33.8%
Brochures	21.5%
Park maps	16.9%
Web sites	13.8%

Sources they would like to use

(% represents overall respondents who "would like to use" the source to get information about Clatsop County Parks and Recreation programs. Assumption is made that this is in addition to sources currently being used, not in lieu of.)

Web sites	36.9%
Park maps	35.4%
Brochures	30.8%
Newspapers	18.5%
Friends/family/word of mouth	13.8%

4. Please put an "X" next to those outdoor activities you or members of your family currently participate in.

Walking/hiking in this context receives the largest percentage response of any item in the survey (83.1%).

Beach activities and biking are mentioned by over half of the survey respondents, and fishing and wildlife viewing/bird watching by nearly half.

Results for (4) are shown below.

Outdoor activities ranked by participation

(% represents overall respondents who said the activity is one they or members of their family currently participate in)

Walking/hiking	83.1%
Beach activities	55.4%
Biking	53.8%
Wildlife viewing/bird watching	49.2%
Fishing	49.2%
Swimming	38.5%
Natural areas & open spaces	36.9%
Non-motorized boating	30.8%
Motorized boating	26.2%
Tent camping	26.2%
Playgrounds	24.6%
Golf	18.5%
Educational opportunities	18.5%
Hunting	16.9%
RV camping	15.4%
Target shooting	15.4%
ATV	13.8%
Multipurpose sport fields	13.8%
Basketball	10.8%
Archery	7.7%
Horseback riding	6.2%
Skating	4.6%
Tennis	4.6%
Yurts	3.1%

Also mentioned in the space provided for "other" activities are skateboarding, dirt biking, picnicking, big-bore rifle shooting, surfing, running, kite boarding, wakeboarding, dog walking, wildlife photography, car washing and "motorized" walking.

APPENDIX B: 2005 Clatsop County Park System Park Survey & Summary Report

Outdoor activities ranked by importance

Survey respondents were also asked to circle the three activities that are "most important" to them or members of their family. The number shown next to the activity represents total mentions. Here again, walking/hiking is in the lead with 21.

Walking/hiking (21)
Fishing (12)
Biking (8)
Wildlife viewing/bird watching (6)
Motorized boating (6)
Beach activities (4)
Hunting (4)
RV camping (4)
Horseback riding (3)
Non-motorized boating (3)
Swimming (3)
Golf (2)
Multipurpose sport fields (2)
Playgrounds (2)
Natural areas & open space (2)
ATV (1)
Yurts (1)
Tent camping (1)
Dog walking (1)
Wildlife photography (1)
Running (1)
Surfing (1)
Motorized walking (1) ????

5. Are there any conditions that impact your experience, or that you have conflicts with when using County Parks?

"Lack of knowledge that they exist." (Astoria)

"We don't know where the parks are except a few. I thought the county only had 2-3 parks."

"Offroad/ATVs seriously impact our ability to enjoy the outdoors. They do not mix well with walkers, hikers, cyclists or horses." (Astoria)

"Only my own constraints about time, money and ignorance." (Cove Beach)

"We feel that the parks parking should all be free, especially to county residents. We pay enough taxes that we don't need that fee on top of it." (Dellmoor Lp Rd)

"We are in our eighties and no longer make use of parks locally but our family does and if we need maps we go to the Chamber of Commerce. We've no complaints." (Gearhart)

"Californians and stupid people that don't respect other people and property."

"Leash requirements! We have well behaved springers that love to run. That said, thanks for all your work." (Astoria)

"Price!"

"Lack of horse camps/day riding facilities." (Warrenton)

"Lack of maintenance."

"Lack of restrooms or stalked restrooms." (Astoria)

"The weather." (Hammond)

"Just make sure all users are paying for this use." (Knappa)

"I like clean, well-maintained restrooms." (Seaside)

"I love to tent camp, but sometimes certain parks are too crowded, or they do not have enough open area." (Astoria)

"People not obeying signs." (Olney area)

"Very good parks." (Seaside)

"I grew up here and going to parks to swim was fun. Now we have to pay to get in. So sad for those who are on a tight budget as we were when we were growing up." (Seaside)

"I'm conflicted over paying the fees."

"ADA or stroller accessible; well maintained and safe trails that are long enough in length."

"Toilet paper in the woods; unfortunate but understandable lack of unvandalized toilet facilities."

"Water lilies." (Smith Lake)

6. Do you have anything else you'd like to tell us involving County Parks? Please list any suggestions, comments, issues or concerns.

"We have lived here all our lives and I have never seen any information out on county parks." (Youngs River area)

"I think county parks are seriously under-advertised. I've lived in the county for 20 years and regularly use state parks ... really had NO idea there were so many county parks." (Seaside)

"I am from the local area and have not heard of some sites: need more signage and communication to public." (Hammond)

"All the parks need to be more publicized. Nobody knows about all these parks. Put out more information about the parks and put big signs on them!"

"I'm new to the area and I haven't seen much information except a couple of road signs that are so generic that I don't know if they're state or county or city parks."

"We do not go to any of them anymore where we have to pay to park. We simply don't have the money and feel that it is double taxation." (Dellmoor Lp Rd)

"As seniors we are unable to participate in many strenuous recreational activities, but still enjoy camping in our beautiful forests. We would appreciate more campsites such as those at beautiful Nehalem Falls campground which offers security and maintenance." (Hammond)

"Most county park areas seem more geared to fishermen. Why not clear lake edge at Carnahan to allow access to water and keep that end of the lake at 5 mph?" (Hammond)

"LNG concerns our family and the effects it may have on the river and environment." (Astoria)

"DeLaura Beach provides access to both beach riding and dunes trails, but there's precious little space for trailers. Why not dedicate that particular area to equine recreation and provide trailer parking, some open air stalls, and water." (Warrenton)

"Add soccer-baseball field to Big Creek Park as promised in the past."

"I work at Gearhart-by-the-Sea and we would love to have information about county parks to pass out!" (Warrenton)

"ATV ride areas are needed. A rifle shooting range is needed." (Warrenton)

"I belong to Clatsop County Bassmasters. We use Westport launch which is in need of repairs. I can help secure fishing and enhancement funds from the Marine Board to fix this up. Like you did at Callahan Lake. Warmwater Fisheries right now has a lot of clout with this committee." (Ron Haynes/Knappa)

"I would like to know more about tent camping in less-populated areas. Sometimes the amount of people can be overwhelming. I definitely would camp more at your parks if I knew more secluded areas." (Astoria)

"I enjoy boat ramps such as John Day and Astoria East end. It saddens me to see littering, like fish carcasses, etc. John Day ramp is excellent. The parks are wonderful." (Seaside)

"Sunset Lake Park has no bathroom facilities. That makes it hard when you have young ones." (Seaside)

"I'm excited to try the new Cullaby trail. Would like to see more trails ... Astoria to Seaside???"

"I think I lost my watch at Cullaby Lake. Did you find one there?"

"I think you're doing a great job!"

7. Do you live in Clatsop County?

52 Yes. If so, where?

Astoria (14)	Jewell (1)
Seaside (8)	Knappa (1)
Warrenton (5)	Cove Beach (Falcon Cove) (1)
Gearhart (5)	River Ranch (nr Clatskanie) (1)
Hammond (2)	East County (1)
Svensen (2)	Olney (1)
Brownsmead (2)	Smith Lake (1)
Youngs River (2)	Clatsop Plains (1)
Cannon Beach (1)	Dellmoor Lp Rd (1)

2 No. If not, where?

Nehalem (1)	Neahkahnie (1)

8. Would you be willing to volunteer in the parks?

7 Yes, I would like to volunteer to help the parks

46 No, I can't help at this time

APPENDIX C: Public Meetings Summary

October 27, 2005

Two public meetings were held in Clatsop County, Oregon in the fall of 2005. The objectives of these meetings were to gather public comment on preliminary master plan findings and to solicit additional comments regarding issues relating to parks and recreational lands in Clatsop County.

The first meeting was held on October 6, 2005 in the city of Astoria at the Red Lion motel. The second meeting was held on October 13, 2005 in the city of Seaside at the Chisholm Community Center. Both meetings began at 7:00 p.m. and lasted approximately 90 minutes. Public notices, press releases, newspaper articles, and radio play were used to advertise this community event.

Fifteen participants, 5 in Astoria and 10 in Seaside, attended these meetings. In addition, the meetings were staffed by Task Force members and attended by members of the County Board of Commissioners.

Community comments were gathered from questionnaire forms, post-it note statements adhered to displays, and text written directly on maps. Two additional park surveys were completed at the Astoria meeting. A summary of community comment follows:

Park Inventories Comments:

Aldrich Point

"If this area is in close proximity to where Lewis and Clark came across the Columbia River from Washington in later November 1805 to get to the Oregon side, this could be mentioned in a cultural/historical sign."

Carnahan Park

"Widen trail to boy scout camp to be able to mountain bike there and all the way around lake. Mountain bikers would volunteer (to construct)."

"Develop a mount bike system in Carnahan Park."

"Would like to see a multi-use trail for horses, bikers, and hikers."

Cullaby Lake

"Would like to see an (overnight) horse camp here, 8-stalls."

APPENDIX C: Public Meetings Summary

DeLaura Beach

"Would like more parking for horse trailers and large trucks."

"Build parking lot at DeLaura Beach Land and Burma Road"

"*We need a bigger and nicer trailer parking area and turn around at Delaura Beach for horse trailers and equestrians"*

"Locate parking area farther inland to get vehicles off of sand."

"Existing sand parking area too soft for horse trailers, you need a 4X4 in the winter."

"Riding on beach is not safe in winter because of possible sneaker waves, high water, and soft sand."

"Some trails are not usable in winter because of high water."

"4-wheel drive vehicles are damaging the dunes."

"Walking in Delaura Beach area can be dangerous because of 4-wheel drive vehicles."
"Dumping and vandalism is a continual problem at Delaura."

Klootchy Park

"Road and parking area need to have more gravel and kept up better."

Lee Wooden Park

"Would like a future trailhead parking and tie rail (equestrian) at Lee Wooden Park. OET in cooperation with IDF hopes to make a trail from new Northrop Creek horse camp to Lee Wooden Park in the next few years."

Nehalem Red Bluff

"This might be a good place to develop a trail but where do you park?"

Sigfridson Park

"Who would have known!"

Sunset Lake

"This site is maintained by local residents and not maintained by Clatsop County."

APPENDIX C: Public Meetings Summary

Park System Comments

"ATV park and campground on Nicoli Mountain."

"Need mountain bike park. Norm's Trail already established. Many people from Portland come here to ride mountain bikes."

"Bike trail from Fort Stevens to Seaside!"
"The parks are not well distributed geographically. Are they well placed based upon population?"

"Make Ecola Park bigger, trade for more land?"

"Would like a mountain bike trail in Ecola Park."

"Had no idea that there were so many parks."

"Link trail system in Tillamook Forest to trails in Clatsop Forests. Could be a multi-use trail including equestrians."

"Advertise and promote parks in the weekend section of the Daily Astorian. A different park could be featured each month with directions, amenities, etc."

"Sunset Beach parking area needs more gravel south side for parking as it is too soft for trailers. Need more room to turn around."

"Everyone needs a place to enjoy. ATVs, bikes, horses, and hikers."

"Please develop more multi-use trails."

"Parks need signs."

APPENDIX C: Public Meetings Summary

FOR IMMEDIATE RELEASE
September 26, 2005

Released by:
Brandi Helligso
Volunteer Coordinator
(503) 325-1000

PUBLIC INVITED TO LEARN ABOUT AND VOICE IDEAS FOR COUNTY PARKS

Clatsop County wants to make the most of its parks and recreational lands, and is turning to the public for ideas.

Two public workshops will be held in October to gather input for the planning, design and future direction of the county park system.

A 14-member citizen task force that has been updating the county's parks master plan will host the meetings, scheduled for Thursday, Oct. 6, from 7 to 8:30 p.m. at the Astoria Red Lion Inn, and Thursday, Oct. 13, from 7 to 8:30 p.m. at the Bob Chisholm Community Center in Seaside.

"We look forward to sharing our vision of a countywide system of parks and trails in which the county will be a major contributor," said Carolyn Eady, chairperson of the Parks Master Plan Task Force. "Our members will be in attendance at both meetings to hear your feedback."

The master plan sets the goals and priorities and recommends projects for the county's parks and recreational lands for the next 10 years. The current plan was adopted in 1992. The taskforce is made of community residents, business and civic leaders, and recreation and education professionals.

At the public workshops, exhibits will show inventories and maps of the county parks, along with each holding's management opportunities and challenges.
The task force will present results of a community survey about the county parks and recreational preferences and present its initial goals, objections and recommendations.

When preliminary survey results indicate that walking and hiking are the most popular recreational activity, the task force decided to emphasize development of trails, Eady said.

Many respondents were unaware of the variety of county parks, which are scattered throughout the county and range from passive use forests to fishing accesses to developed parks with restrooms.

The Task Force is recommending the formation of an on-going Recreational Coordinating Council, which would include representatives from the major public and private recreation providers in the County. This group would be responsible for developing coordinated information about all the various recreation opportunities in the County, including the many trails that are available "to make it easier for visitors and our own residents to discover all that is available," she said.

The task force was appointed by the county Recreational Lands Planning Advisory Committee, a group of citizens appointed by the county commissioners to help guide the county on recreational issues. The group has held a dozen meetings since starting work last December.

APPENDIX C: Public Meetings Summary

The task force usually meets on the last Thursday of the month at 10 a.m.
in the Clatsop County Courthouse at 749 Commercial Street in the main floor conference room. The public is invited to attend any session.

For more information about the master plan effort, contact Eady at 755-2617. More information is also available at the county's web site at www.co.clatsop.or.us

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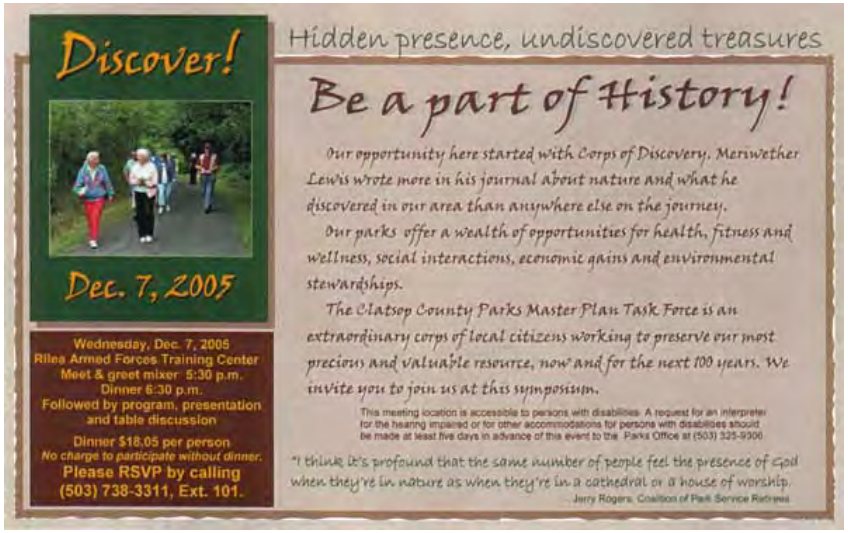
MEDIA CONTACT: Task Force Chairperson

APPENDIX D: Community Symposium



Public Invited to Help Map the Future of Clatsop County Rec Lands

Interested members of the public are invited to be a part of the corps of local citizens exploring the potential of Clatsop County's parks and recreational lands.

The Clatsop County Parks Master Plan Task Force invites the public to a symposium Wednesday, Dec. 7, to help blaze the future of the parks systems in Clatsop County. The task force is updating the county's Recreational Lands Master Plan that sets the goals and priorities and recommends projects for the county's parks and recreational lands for the next 10 years. The current plan was adopted in 1992.

The master plan serves as a background report by inventorying existing recreational facilities, examining general recreational needs and review land-use controls relating to recreational uses. It also serves as a management tool for county-owned lands, providing site-specific management statements and examining the park management structure.

"The symposium will play off the Lewis and Clark bicentennial, a theme that's fun and appropriate," said Mary Blake, a task force member.

"Meriwether Lewis wrote more in his journals about nature and what he discovered in our area than anywhere else on the journey," she said. "Our parks offer a wealth of opportunities for health, fitness and wellness, social interactions, economic gains and environmental stewardship. We want to engage our residents in making this a working document that preserves our most precious and valuable resources now and for the next 100 years."

A child born today could conceivably live to see 2105, Blake noted. The planning done today will affect the childhood of that child's grandchildren. "We're really setting the tone, vision, the future of the quality of life for generations," she said.

Chairperson Carolyn Eady explains that the task force has been looking at county-wide recreational resources and demand. The symposium will be an acknowledgment and celebration of all the recreational resources in the county, she said.

The symposium will be held at the Rilea Armed Forces Training Center on U.S. Highway 101 south of Warrenton. A meet-and-greet mixer will begin at 5:30 p.m. Dinner featuring elk stew will be served at 6:30 p.m. and followed by the program, presentation and discussions.

There will be a charge of $18.05 per person for dinner, but there is no cost to participate in the symposium without the meal. Reservations are welcome by calling 503 738-3311, Ext.101.

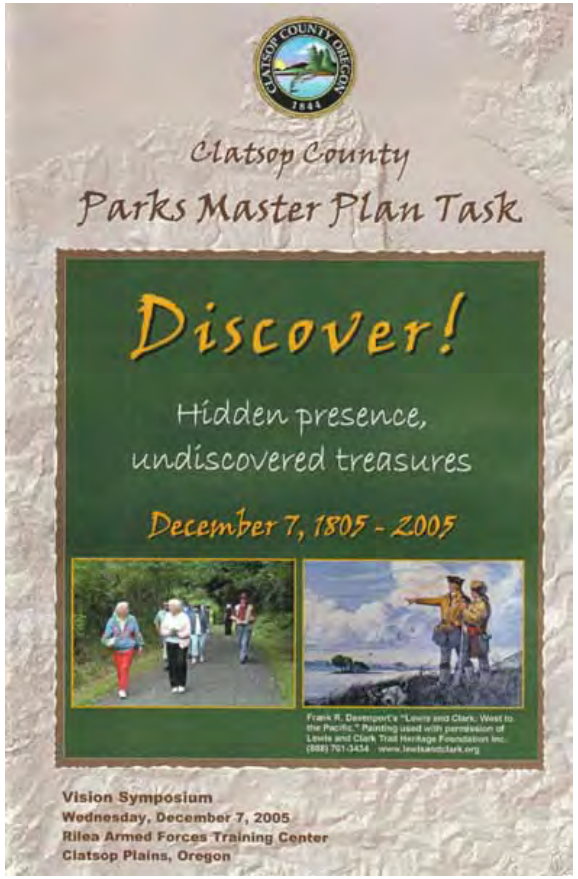
The task force is wrapping up the work it started last December, including holding public workshops in October and conducting an opinion survey. The 14 volunteers are community residents, business and civic leaders and recreational and education professionals

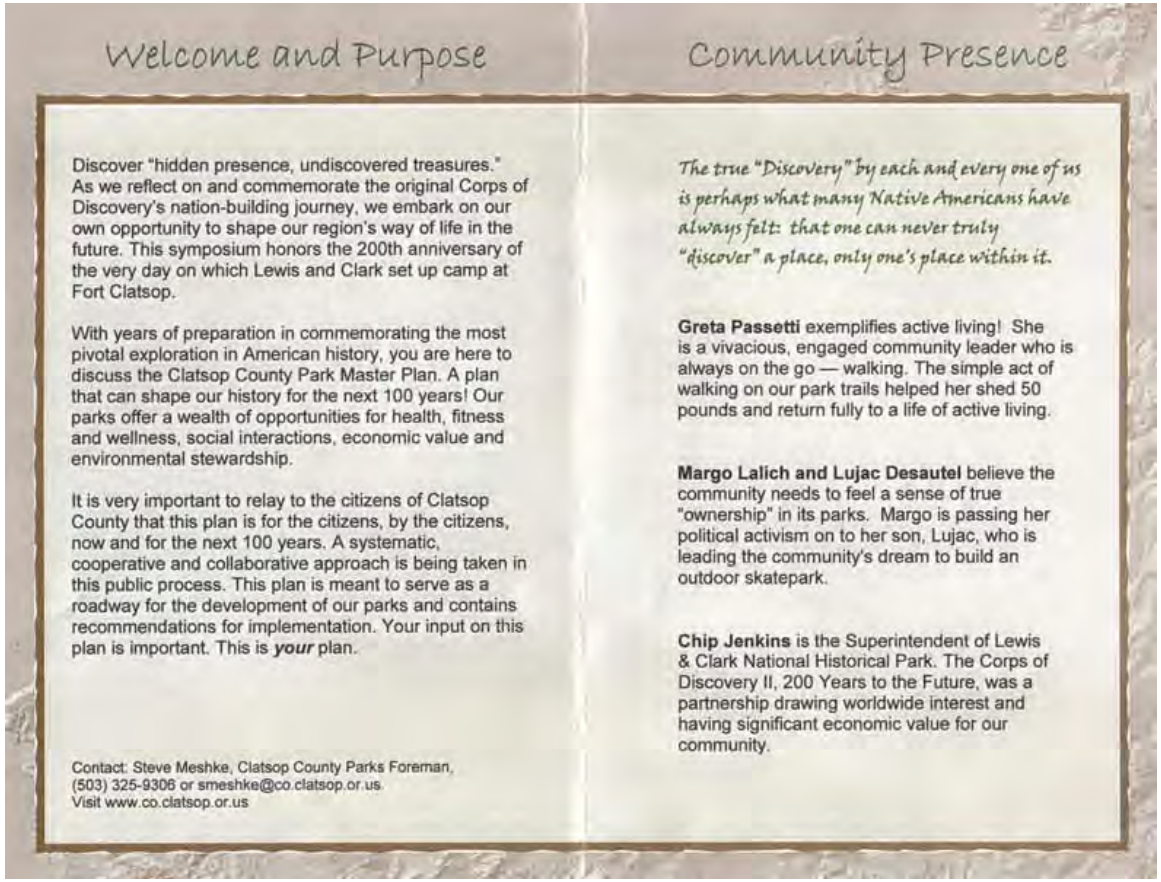
Clatsop County owns and operates 11 parks and open spaces and five boat launches comprising 573 acres, as well as other public lands open to recreation. The sites range from passive-use mature forests to fishing access with limited facilities, to more developed parks with restrooms and handicapped-compatible facilities.

The task force is recommending the formation of a continuing recreational coordinating council of representatives from major public and private recreation providers to develop coordinated information about various recreation opportunities, including trails.

More information is also available at the county's web site at www.co.clatsop.or.us

APPENDIX D: Community Symposium





Welcome and Purpose

Discover "hidden presence, undiscovered treasures." As we reflect on and commemorate the original Corps of Discovery's nation-building journey, we embark on our own opportunity to shape our region's way of life in the future. This symposium honors the 200th anniversary of the very day on which Lewis and Clark set up camp at Fort Clatsop.

With years of preparation in commemorating the most pivotal exploration in American history, you are here to discuss the Clatsop County Park Master Plan. A plan that can shape our history for the next 100 years! Our parks offer a wealth of opportunities for health, fitness and wellness, social interactions, economic value and environmental stewardship.

It is very important to relay to the citizens of Clatsop County that this plan is for the citizens, by the citizens, now and for the next 100 years. A systematic, cooperative and collaborative approach is being taken in this public process. This plan is meant to serve as a roadway for the development of our parks and contains recommendations for implementation. Your input on this plan is important. This is ***your*** plan.

Contact: Steve Meshke, Clatsop County Parks Foreman, (503) 325-9306 or smeshke@co.clatsop.or.us
Visit www.co.clatsop.or.us

Community Presence

The true "Discovery" by each and every one of us is perhaps what many Native Americans have always felt: that one can never truly "discover" a place, only one's place within it.

Greta Passetti exemplifies active living! She is a vivacious, engaged community leader who is always on the go — walking. The simple act of walking on our park trails helped her shed 50 pounds and return fully to a life of active living.

Margo Lalich and Lujac Desautel believe the community needs to feel a sense of true "ownership" in its parks. Margo is passing her political activism on to her son, Lujac, who is leading the community's dream to build an outdoor skatepark.

Chip Jenkins is the Superintendent of Lewis & Clark National Historical Park. The Corps of Discovery II, 200 Years to the Future, was a partnership drawing worldwide interest and having significant economic value for our community.

APPENDIX D: Community Symposium

Agenda of Events

Trail Mixer
5:30 – 6:15 PM

Welcome & Introductions
Helen Westbrook
Clatsop County Commissioner

Dinner
6:30 PM

Meriwether Lewis, 200 years ago today
Reflections & Community Presence and Projects

Program

Symposium
Map *Leader* *Recorder*

Observations & Closing Remarks

Gifts
*Redcedar Trees & Photographs

Speakers

Mary Blake, Master of Ceremonies
General Manager, Sunset Empire Park & Recreation District

Helen Westbrook – Welcome Community
Clatsop County Commissioner

Meriwether Lewis

Greta Passetti – testimonial

Margo Lalich & Lujac Desautel – testimonial

Chip Jenkins, Superintendent of Lewis & Clark National Historical Park - testimonial

Neal Maine – Executive Director North Coast Land Conservancy – slide show – PacificLight Images

Frank Jagodnik – Executive Director of Oregon Recreation & Parks Association ~ vision

Carolyn Eady – Chairperson Clatsop County Parks Master Plan Task Force, Our County Partnerships

David Sacamano – Community Process Illahee Group, Inc.

Debbie Boone – Oregon State Representative

Founding Fort Clatsop

December 7, 1805

Work began on the layout and construction of Fort Clatsop. Captain Lewis chose the site in a grove of fir and pine 35 feet above sea level on the bank of a small river now known as the Lewis & Clark River.

Fort Clatsop was named by Captain Lewis for the native people in the area. The Corps of Discovery moved into the new fort on Christmas Eve and stayed through March 23, 1806.

Today we have rich knowledge from the short three-month stay in what is still known as Clatsop, be it Fort or County. Voluminous journal entries describe the land, its plants, animals and people encountered at that moment in time.

Tonight we are documenting **this** moment in time, **December 7, 2005.** Your comments will be the modern-day journals describing our lands, plants, animals and people. Your legacy will live on as has that of the Corps of Discovery for future generations to draw on 50 or 100 years from now.

APPENDIX D: Community Symposium

Summary Comments from Participants

"Let's have full linkage from the north all the way down."

"Don't overdevelop or it'll be like the Portland metro area."

"Strengthen partnerships among all jurisdictions. Get everybody to the table."

"Form a recreation council."

"When people 'buy in' they contribute more."

"If people feel like they own their parks, they take care of them better."

"We need better signage in all of our parks."

"Signs should be aesthetically pleasing and respectful of visitors."

"Figure out how to connect the trails."

"Don't consider parks a luxury. They are vital to our well-being."

"Dog parks are needed."

"We need interconnected parks, both city and county."

"Build on the idea of 'making memories' for children that last a lifetime."

"Too many people don't know about our parks."

"Allow for better access and connectivity."

"Strengthen educational outreach so people have a sense of ownership in parks."

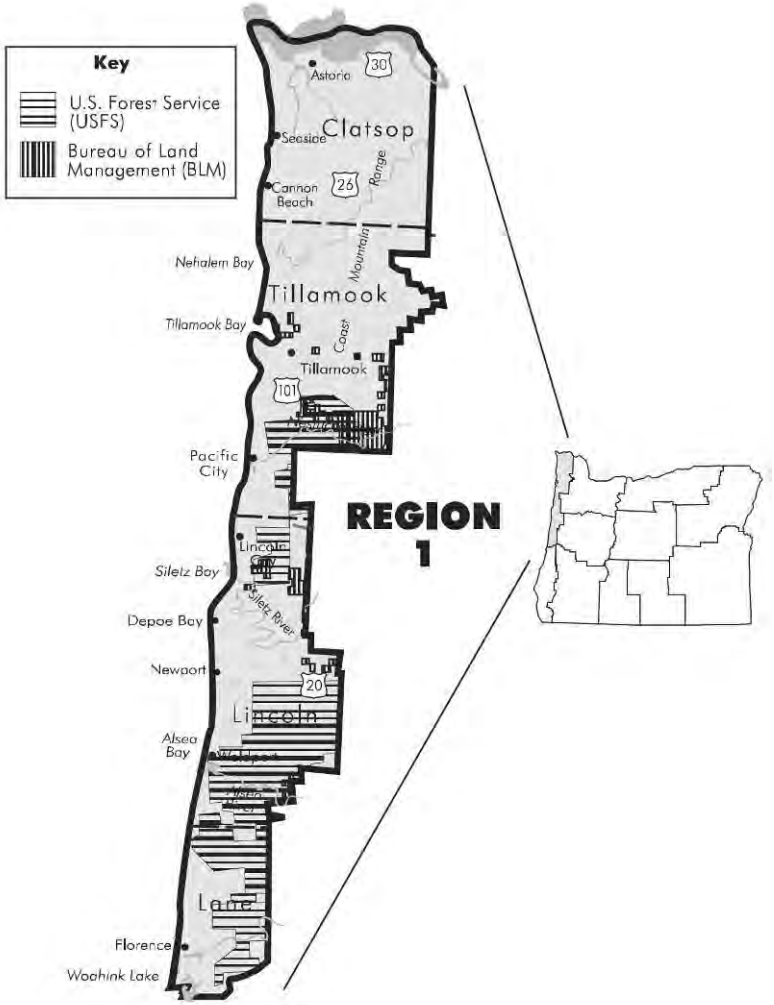
"Provide more multiple-use options."

"Create parks where people ARE ... don't isolate properties."

"Look at benefits, economic and social."

"Make our parks people-friendly, addressing signage, parking, personal safety
and restrooms."

APPENDIX E: Top LWCF Priorities: Region 1



SCORP PLANNING REGION 1

(Includes Clatsop, Tillamook, Lincoln and Coastal-Lane Counties)

A. Funding priority for additional camping facilities.
Need to enlarge existing campgrounds or provide new facilities to offset loss of private facilities that are either converting to time-share management or going out of business. There is also a lack of semi-primitive motorized (car and tent) camping opportunities.

B. Funding priority for new river access facilities and rehabilitation of existing river access facilities.
There is a lack of developed river access facilities for angling, swimming, kayaking, canoeing and sunbathing. In addition, there is a need for rehabilitation of existing river access facilities.

C. Funding priority for additional non-motorized recreational trails.
Need for additional recreational trails in close proximity to populated areas. This includes acquisition of land or easements for trails and trail connections. There is also a need for off-highway bicycle trails. At present, there is an increasing demand for hiking, biking, and equestrian trails in the coast range and along the coast. There is also a need for longer trails for multiple-night backpacking trips.

APPENDIX F: SCORP Phone Survey: Disability Information

Disability Information

In the 3rd and 4th waves of the phone survey, residents were asked whether anyone in the household had a physical or mental disability. Of the 3741 households surveyed in these waves, 598 had a household member with a disability. These households were asked about the type of disability, whether that disability affected their ability to utilize Oregon's recreation facilities, and finally asked about what types of accommodation or assistance would be useful to improve their outdoor recreation experience in Oregon. This question asked and resulting information is summarized below.

"NQ15 Does anyone in your household have a disability? Note: A disability is a physical (hearing, sight, walking, etc.) or mental (learning, etc.) impairment that substantially limits their ability to care for themselves, learning, working, thinking or interacting with others, etc.). Non-English speaking is not a disability."

- % of surveyed households with a disability: 16.0% (n = 598, N = 3741)

"NQ16 What type of disability?" (N= 595)

- % physical disability: 80.0%
- % mental disability: 9.8%
- % both physical & mental: 10.2%

"NQ17 Does the disability hamper the persons ability to recreate outdoors in Oregon?

- % of disabled households hindered in OR outdoor recreation: 66.4% (n = 395, N = 595)

"NQ18 Please tell me any accommodation or assistance that could be offered that would be helpful to the disabled household members to improve their recreational experience?"

- Suggestions for improving access to OR facilities (N = 179 respondents, 684 total suggestions)

Suggestion	% of respondents	number of comments
Paved trails	41%	74
Accessible restrooms	41%	73
Flatter, easier grades	37%	67
Easier access to water (access route to water's edge)	32%	57
Accessible parking	31%	55
Accessible campsites	24%	43
Accessible activities w/in the campgrounds	21%	38
Fishing platforms	20%	36
Access behind closed areas (roads)	16%	28
Provide rental equipment and instruction	16%	28
Proper accessibility to playgrounds, variety of accessible equipment	13%	23
Better ways to communicate (visually or hearing impaired)	11%	20
More designated hunting areas	5%	9
Other	74%	133

APPENDIX G: SCORP: Role Of County Park & Recreation Departments

▶ CURRENT ROLE:

Counties acquire and develop parks serving citizens of an area larger than a single municipality but less than statewide. Counties provide a substantial amount of the public sector boating access, and RV and camping related facilities around the state. Many of the county facilities are overnight and day use, water-based recreation facilities providing access to lakes, streams and rivers. Most county programs would fall in the mid-range of the recreation opportunity spectrum providing developed and semi- developed outdoor recreation opportunities for people in the urban/rural interface. Counties provide a significant amount of the facilities for access to natural resource orientated activities such as camping, hiking, fishing, picnicking, motorized and non-motorized boating, water-skiing, swimming, ATV riding, bicycling, nature study and interpretation.

Significant Resources and Facilities provided by counties include:

- Parks and open space areas including linear parks, waysides, and water access points.
- Overnight camping: RV and tent sites, group areas, dispersed areas, cabins and yurts.
- Day use: Picnic shelters (group and individual), hiking and nature trails, ATV and equestrian facilities, playgrounds, and sports fields.
- Water-based: Boat ramps, piers, docks and moorage.
- Swimming: Beaches, pools and water-slides.
- Museums and nature centers: Cultural, historical and natural history.
- Many counties also administer and manage forest resources/timber programs.

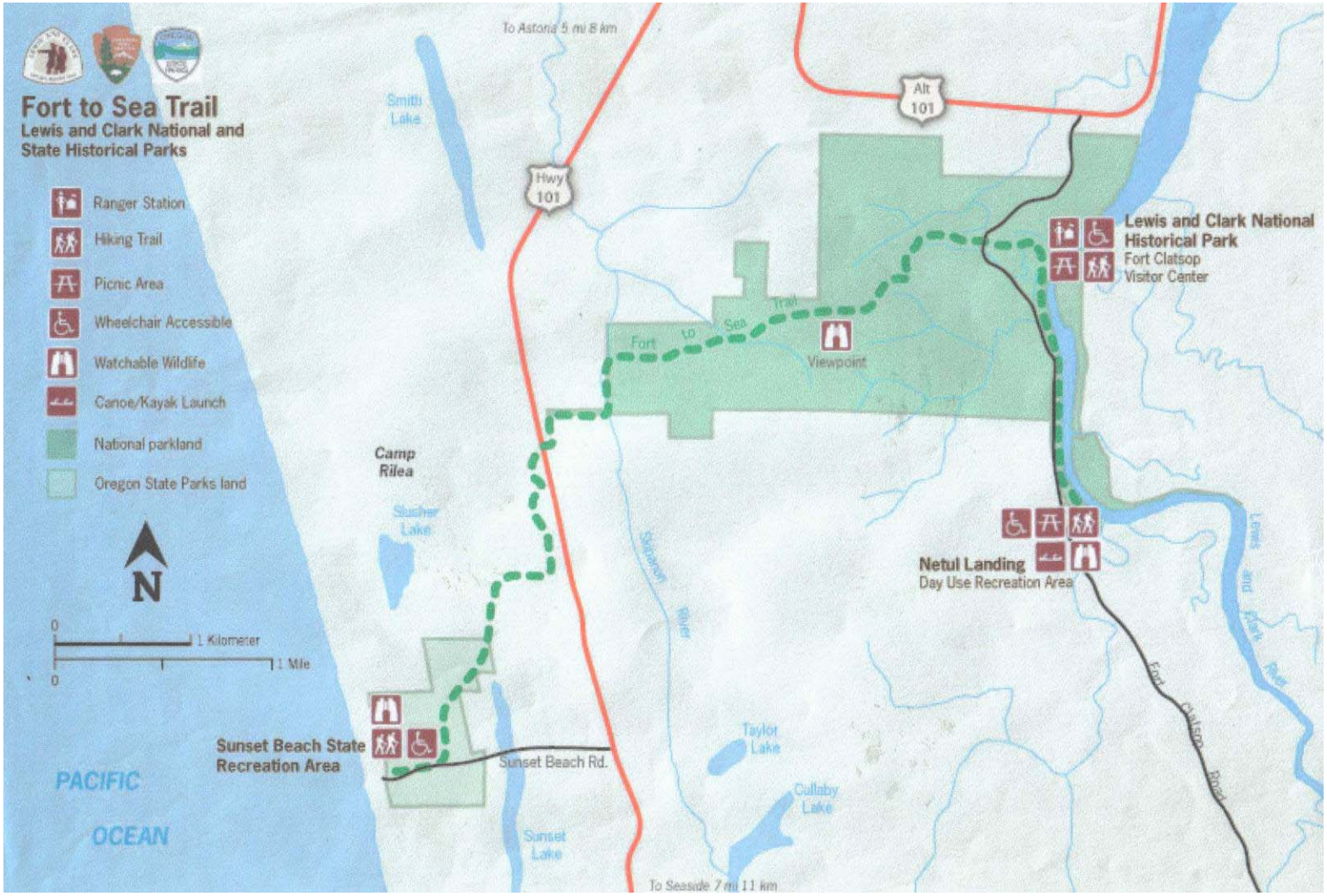
▶ HOW ROLE MAY CHANGE IN THE NEXT 5 YEARS:

County agencies have been under increasing pressure to be fiscally self-sufficient. With budget constraints and ballot measure constraint, county park systems will be looking for creative ways to generate more revenue in order to be able to maintain their systems. This could lead systems to prioritize revenue-generating facilities over facilities that do not generate revenue or generate very little revenue. Politically it has become very difficult to justify acquiring open space, or construct new day use and dispersed non-motorized boating facilities. Traditionally county recreation facilities have been a place that local families, seniors and lower income people have been able to use with little or no cost. That role could change as counties charge more and more user fees for facility access.

On the brighter side, in more urban areas there will be pressure from community and environmental groups to acquire more open space, especially along the urban fringe. This fringe area, more often than not, falls under the jurisdiction of the counties. Counties in Oregon have traditionally been very conservative and the idea of acquiring areas solely for open space and resource protection has not been a priority. The county's role of providing solely traditional forms of parks will need to evolve. Some counties are already evolving to meet this new role. Benton, Lane and Marion Counties are currently making an effort in this direction.

Counties are also experiencing an increased demand to provide recreation areas/opportunities for ATV and other motorized and non-motorized recreation activities, which are increasingly restricted on Federal lands. These recreationists participate in activities that are often viewed as detrimental to the environment, and are finding it increasingly difficult to locate areas where they can participate in their chosen activities.

APPENDIX H: Local Area Trail Maps



APPENDIX H: Local Area Trail Maps

Warrenton Trails

Explore them Today
Help Expand them Tomorrow

"one of the best ideas anyone has floated on the North Coast."
- The Daily Astorian

In cooperation with

CITY OF WARRENTON

Warrenton Business Association

Port of Astoria

Warrenton and the surrounding area offer a variety of trail experiences for everyone. Explore the Columbia River, visit the dunes and ocean beaches or follow the route of Lewis and Clark over the hills to Fort Clatsop.

We are the Warrenton Trails Association. Our mission is to encourage the use of Warrenton's existing trails, with the goal of connecting them all into a 25-mile loop trail.

Here are three trails you can enjoy today:

The Warrenton Waterfront Trail
(4.3 miles one-way, flat)

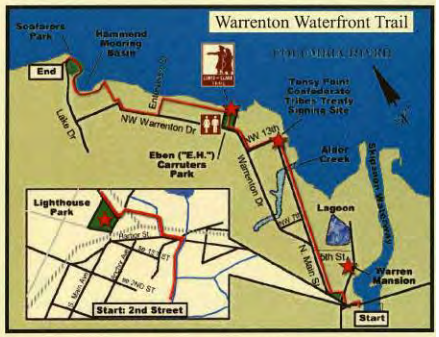
The Waterfront Trail takes you along the Skipanon Harbor, past the Warren Mansion, through a shaded wood trail, emerging on the Columbia with a spectacular view of Astoria and Washington state. A detailed map is available at the Warrenton Visitors Center.

The Airport Dike
(5 miles out and back, flat)

Take Business 101 (Alt 101) north, past Fort Clatsop. Just before the Lewis & Clark bridge there is a gravel parking pull-out on the north side of the road. Don't let the elk-proof fence deter you. You will see that there is an entry point in the fence for human passage. You can walk as far as the gate just short of the Premarq Center.

Fort Stevens

Fort Stevens dates back to the Civil War, providing defense of the mouth of Columbia until WWII. It has 7 miles of paved bike trail, and an additional 5 miles of hiking-only trails. It offers scenic views, historic areas, and campsites. Detailed maps available at the Fort Stevens visitors center



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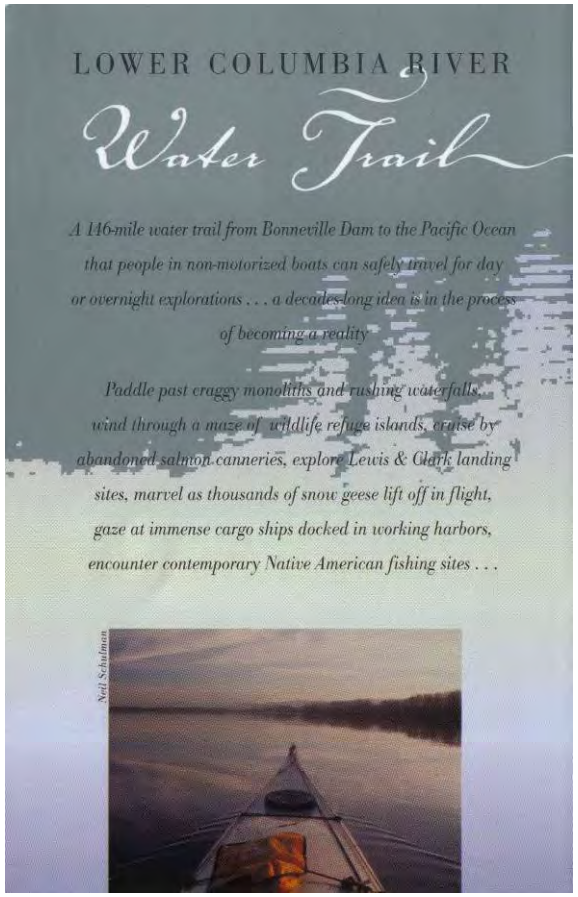
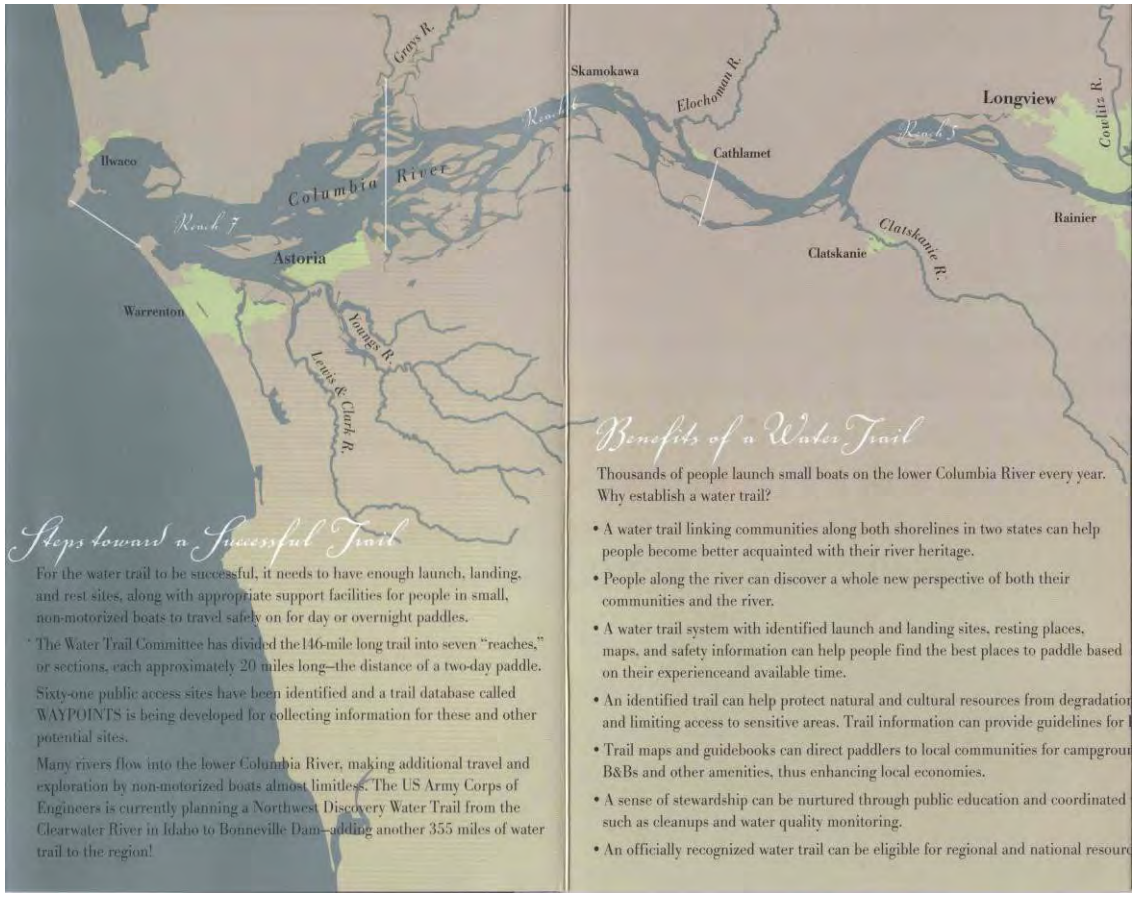
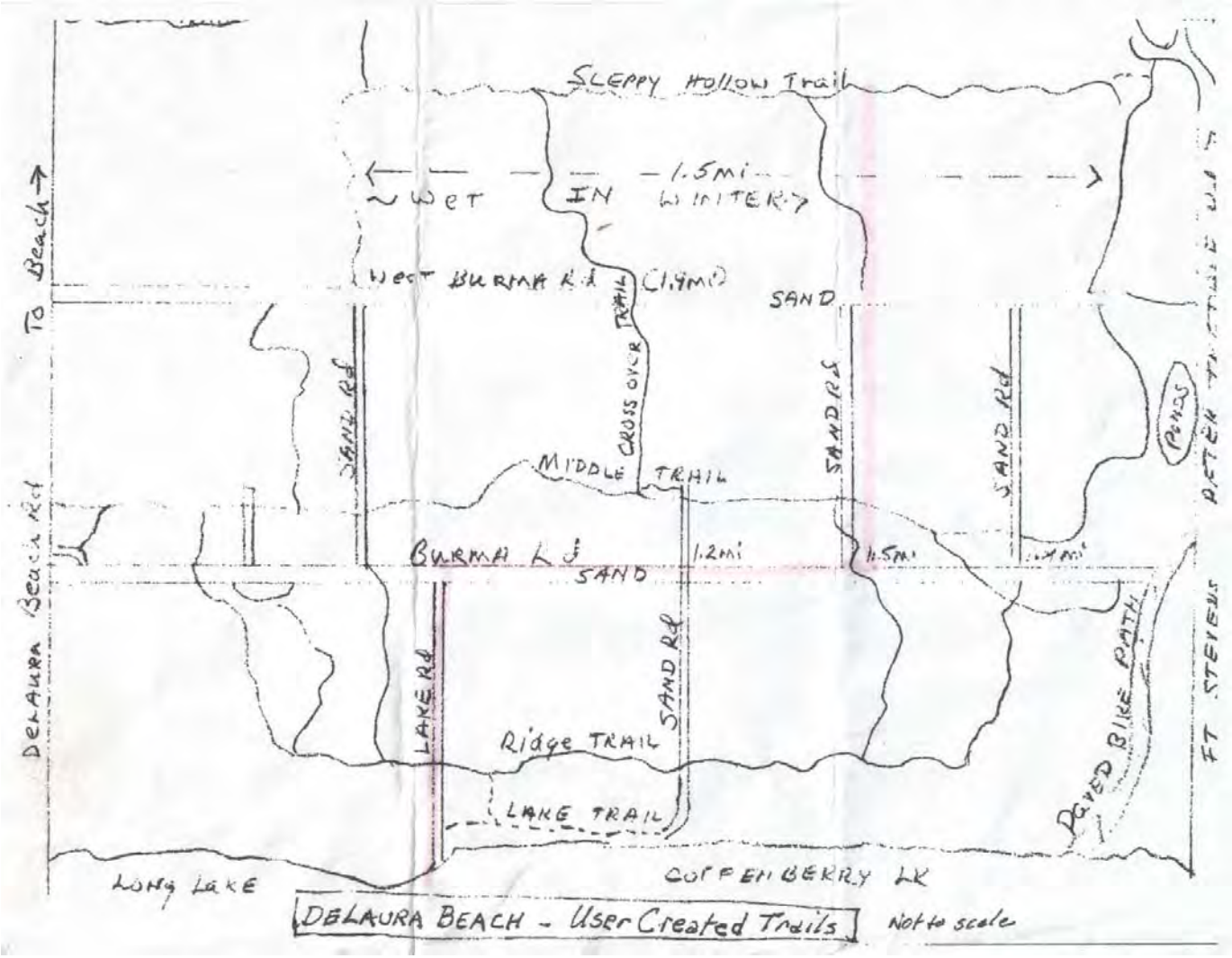




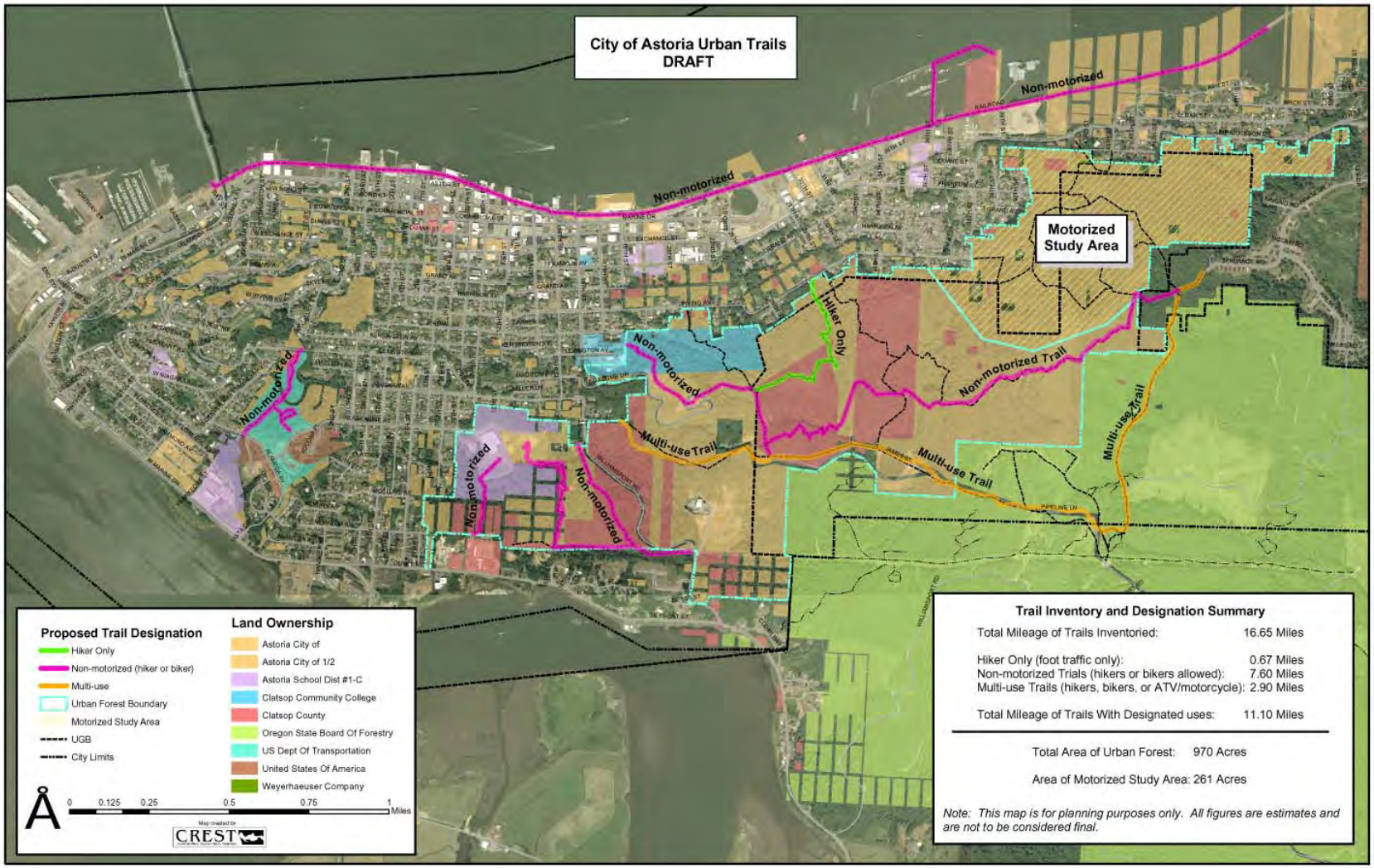
APPENDIX H: Local Area Trail Maps



APPENDIX H: Local Area Trail Maps

'Norm's Trail' Popular urban area trail on ODF forestland off Hwy. 30

APPENDIX H: Local Area Trail Maps



APPENDIX I: Recreation Map and Rules: Astoria District - ODF

ACTIVITY ZONES: DESIGNATED ACROSS FOREST

We all enjoy recreating out in the forest. Each of us has our own special activity that we enjoy participating in regularly.

Unfortunately, both motorized and non-motorized activities affect other resources and users. Some of the affects on resources may be increased water turbidity, soil compaction, sanitation problems, litter, reduction of understory vegetation, and reduced site productivity.

Often times, competing users in the same area reduce the user experience.

Activity zones were designated across the Clatsop forest to contribute to minimizing these affects across the forest landscape.

The designation of the zone boundaries involved many components including the following criteria:

- Existing use patterns
- Protection of natural resources
- Soil and topography constraints
- Consideration of private landowners, neighbors, and inholdings
- Location of sensitive, threatened, or endangered wildlife species

What does this mean?

The activity zone boundaries include 3 categories:

1) Non-Motorized Activities
2) Motorized Activities
3) Not-designated areas

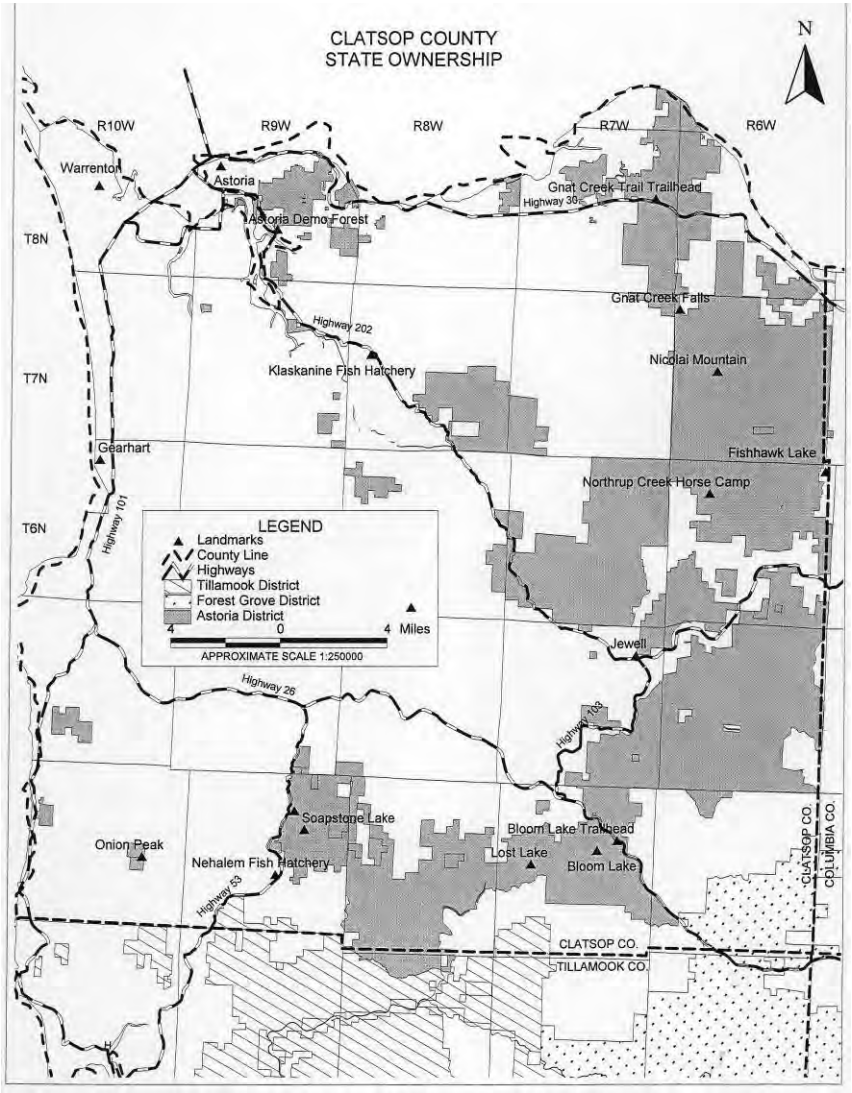
Trails developed and designated in a non-motorized zone will only be for hiking, mountain biking, equestrian riding, and other non-motorized activities. Motorized use in a "non-motorized zone" will be confined to surfaced roads only.

Trails designated in a motorized zone will focus on motorcycles, all-terrain vehicles, and four-wheel drive vehicles. Trails may be designated for all three activities or ATV and motorcycle only. Motorized use in the "motorized zone" of the forest is to be confined to surfaced roads and officially designated, signed trails.

Areas that are in a "not-designated area" will be considered for zoning in the future after issues concerning access and impacts to private landowners are resolved. Motorized use in these areas is confined to surfaced roads only.

Goals of Activity Zoning

- Minimize resource impacts
- Reduce conflicts between different users
- Reduce conflicts between users and forest management activities
- Strive to accommodate recreation demands



APPENDIX I: Recreation Map and Rules: Astoria District - ODF

DISCOVER

DISPERSED CAMPING

Rules and regulations to follow when recreating on the Clatsop State Forest.

The following rules are sited from OAR 629-25-040 and OAR 629-25-005.

629-25-040 General Forest Recreation Rules

(1) ***Sanitation:***

(a) On all state forest lands, no person shall, unless otherwise authorized:

(A) Dispose of any cans, bottles and other non-flammable trash and garbage except in designated places or receptacles;

(B) Dispose of flammable trash or garbage except by burning in authorized fires, or disposal in designated places or receptacles;

(C) Drain sewage or petroleum products or dump refuse or waste other than wash water except in places or receptacles provided for that purpose;

(D) Dispose of any household, commercial or industrial refuse or waste brought as such private or municipal property, including but not limited to automobiles, household appliances and furnishings;

(E) Pollute or contaminate water supplies or water used for human consumption; or

(b) No person shall wash any clothing, dishware, cookware, or other materials in any lake, stream, river, or other body of water on State Forest land.

(c) No person shall deposit human waste within 100 feet of any campsite, trail, or body of water. Human waste shall be deposed of by burying to a depth of at least 6 inches.

(2) ***Occupancy and Use.*** On State Forest lands, no person shall:

(a) Camp longer than 21 days out of any 28 day period, or the period of time permitted by the Forester;

(b) Camp within 25 feet of any body of water; or

(c) Leave personal property unattended longer than 4 days. Personal property left unattended longer than 4 days, without permission of the Forester, shall be removed by the Department and shall be disposed of by the Forester as provided by law.

(d) Leaving personal property unattended will be considered camping for the purposes of determining the length of stay at a given site.

(3) ***Property and Resources.*** On all State Forest lands, unless otherwise authorized by the Forester, no person shall:

(a) Deface, disturb, remove or destroy any public property, structures, or any scientific, cultural, archaeological or historic resource, natural object or area.

(6) ***Firewood Collection.***

(a) Persons engaged in lawful camping activity may collect sufficient firewood for their personal use while camped on State Forest land, except where otherwise prohibited to remove in these rules.

(b) No person shall be permitted to remove from State Forest land firewood which has been collected for use while camping on State Forest land, without a valid firewood permit.

(c) Firewood shall be collected only from dead and down material that is 12 inches or less in diameter at its largest point. No standing trees, living or dead may be felled for conversion into firewood without a valid firewood permit.

(7) ***Campfires.***

(a) Fires shall be confined to camp stoves or fire rings or other fireproof structures constructed for such purposes. Such structures shall not exceed four fee in diameter.

(b) All flammable material shall be cleared for a distance of 5 feet around and 10 feet above any fire ring or other structure used to contain a campfire.

(c) No fire shall be left unattended and every fire shall be extinguished before its user leaves the site.

DEFINITIONS

629-25-005 As used in rules 629-25-000 through 629-25-070:

(1) "Campground" means an area designated by the Forester.

(2) "Camping" means occupying State forest lands overnight.

(3) "Camping Area" means an area designated by the Forester for overnight camping, without designated campsites.

"Dispersed Camping" refers to camping on State forest lands, which is not a campground or camping area designated by the Forester.

OREGON DEPARTMENT OF FORESTRY

If you have any questions or comments, please contact the Oregon Department of Forestry at (503) 325-5451

APPENDIX J: Recreation Map and Rules: Weyerhaeuser Forest Lands – Clatsop County

Maps
A detailed recreation map may be purchased from our North Coast office during the hours of 9:00 am to 4:00 pm. Monday –Friday. Many local sporting goods stores also sell them.

The Many Values of Sustainable Forests

Weyerhaeuser sustainably manages millions of acres of commercial forests in the United States and Canada. The company grows and harvests trees in perpetual cycles to supply the wood and paper products people want and need.
Weyerhaeuser also works to protect the many other values forests provide society, including fish and wildlife habitat, water quality, aesthetic values and recreational opportunities. To date, 25.5 million acres (10.3 million hectares) of forests that Weyerhaeuser manages in Canada and the United States have been certified to internationally recognized standards for sustainable forest management practices

March 2005

Welcome to Weyerhaeuser North Coast Timberlands

North Coast Public Access Policy

Weyerhaeuser
The future is growing™

Welcome to Weyerhaeuser's North Coast Timberlands

People enjoy the benefit of outdoor recreation on Weyerhaeuser land year-round.

Our number one concern is **SAFETY**. It is extremely important to us that all users of our timberlands follow and adhere to safe practices.

We are committed to practicing sustainable forestry. This means we manage forestlands for the sustainable production of raw materials while protecting water quality, fish and wildlife habitat and soil productivity; also cultural, historical and aesthetic values. In order to meet our safety and environmental objectives it may require limiting public access to some areas during certain time periods.

Weyerhaeuser's Public Access Policy

Safety
Our foremost priority is the safety of our employees and visitors. Our roads are designed for forest-management purposes, not for public use. Heavy trucks and other vehicles use our roads on a daily basis.

- Speed Limit no greater then 25 MPH.
- Headlights and seatbelts on at all times.
- Obey all posted signs; don't go into areas posted "Stop Logging Operations Ahead"

Weyerhaeuser's timberlands in Clatsop County are open during daylight hours to the public for non-motorized recreational use.

Some areas will be open during daylight hours for motorized access during specific hunting seasons on rocked roads. Roads not open to motorized access will be gated and/or signed. Weyerhaeuser will coordinate with State wildlife agencies to open timberland to motorized and non-motorized access during fall hunting seasons provided that the fire danger is at an acceptable risk as determined by Weyerhaeuser.

Public access is restricted when necessary to protect our land from public abuses, protect wildlife in cooperation with resource agencies, or protect the safety of our workers on active work/haul routes.

Public access may be discontinued without advanced notice.

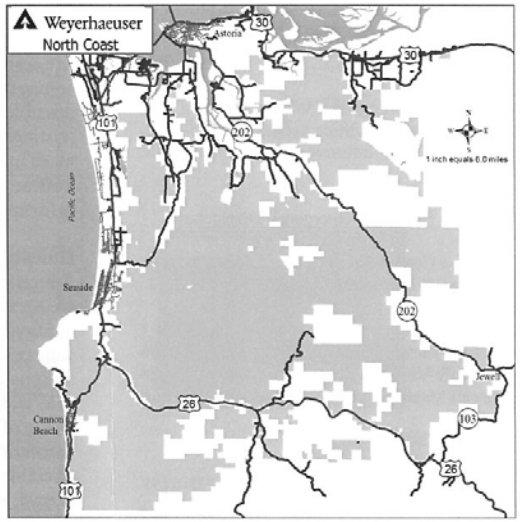
Please behave responsibly, observe all postings and report abuses. This will allow us to keep many areas open.

APPENDIX J: Recreation Map and Rules: Weyerhaeuser Forest Lands – Clatsop County

RECREATION ACCESS RULES

- No motorized vehicles off rocked roads.
- Vehicles must travel only on improved roads.
- No fires or camping
- Access is allowed ONLY during daylight hours.
- DURING HIGH FIRE DANGER ALL PUBLIC ACCESS WILL BE PROHIBITED.
- Access may be restricted at any time due to active operations.
- Drug and alcohol use is prohibited.
- Parked vehicles should not block roads or gates.
- No forest product removal is allowed except berry picking for personal use.
- Pack out your trash.
- No Target Practicing

Weyerhaeuser North Coast Forest Area



Help us protect our forests by reporting incidents of dumping, theft, or vandalism

Clatsop County Sheriff
503-325-2061

IMPORTANT PHONE NUMBERS

Emergencies…….…… 911

Wildfire reporting Oregon Department of Forestry, Astoria Office, ……..503-325-5451
Fire Regulation Information…..503-325-7215

24 Hour Non-emergency Dispatches

Clatsop County Sheriff……..503-325-2061
Oregon State Police…..……503-325-2231

Oregon Department of Fish & Wildlife:
Astoria Field Office……503-338-0106
Wildlife Violations……..1-800-452-7888
Jewell Meadows Wildlife Area..503-755-2264

Weyerhaeuser:

North Coast Office……503-738-6351
North Coast Security……503-738-2439
Public access hotline…..……1-888-741-5403

Other Weyerhaeuser contact information

Weyerhaeuser is committed to protecting forest resources that are so important to all of us. For more information about Weyerhaeuser or our forest management practices, visit our website, www.weyerhaeuser.com.

Fire season
Weyerhaeuser may temporarily close its lands to all public access during extreme fire conditions. Closures will be communicated in advance whenever possible through recorded messages, postings at entrance points and in selected news media. **Call our public access hotline at 1-888-741-5403 for up-to-date information.**

Hunting
A high percentage of our roads and lands are open during general deer and elk hunting seasons. Depending on the fire danger level, each year we open designated gates the morning of general rifle season. Hunters must be acutely aware of their surroundings and take precautions not to trespass or shoot in the direction of active-work areas or other private property.

For more information about access during hunting seasons, call the public access hotline number.

Motorcycles, Quads and other Off-Road Vehicles
These are not permitted at any time on North Coast Weyerhaeuser property. Under no circumstances should trails be built around gates or from neighboring properties in order to gain access. This is considered trespass and will be subject to prosecution.

APPENDIX K: Tillamook and Columbia County Camping Fees

CHECK IN TIME: 4:00 p.m.
CHECK OUT TIME: 1:00 p.m.

COLUMBIA COUNTY PARKS' FEES - 2005

Usage	Peak Season Effective May 1st thru. Oct. 31st	Off-Season Effective Nov. 1st thru. April 30th
Day Use (20 minutes or longer)	$2.00 per motor vehicle	
Campsite w/hookups	$18.00 per night	$15.00 per night
Campsite w/out hookups	$14.00 per night	$12.00 per night
Campsite @ Scaponia Park only	$9.00 per night	$6.00 per night
Adirondacks @ Camp Wilkerson	$20.00 per night per adirondack	$16.00 per night per adirondack
Each additional tent, RV or vehicle per campsite on overnight camping	$7.00 per night	$4.00 per night
Bicyclist/Hiker	$5.00 per person per night	
Non-Refundable Campsite Deposit	Equal to one night's stay	
10% Discount to Senior Citizens (Age 60 or over)	On camping only	
Reservation of Picnic Areas	$20.00	
Reservation of Covered Picnic Areas	$30.00	
Reservation of Lodge @ Camp Wilkerson	$100.00 per day (includes 8 vehicle permits)	
Reservation of Schoolhouse @ Camp Wilkerson	$100.00 per day (includes 8 vehicle permits)	
Reservation of Cabin @ Hudson (60 person Maximum use in cabin)	$100.00 per day (includes 8 vehicle permits)	
Refundable Cleaning Deposit for Picnic Area/s	$25.00	
Refundable Cleaning Deposit for Covered	$100.00	

APPENDIX K: Tillamook and Columbia County Camping Fees

Buildings	
Sewage Dump	$5.00 non-patron
Firewood	$4.00 per cubic foot bundle
Showers (for non-camping individuals)	$2.00 per person, per shower
Annual Day Use Pass @ Prescott Beach Only (good January 1st through December 31st)	$ 20.00

note 1	Maximum number of people per site is eight (8) people. After eight, a second site must be used.
note 2	Maximum number of vehicles per site is two (2) vehicles and one (1) towed vehicle (additional vehicle fee/s still apply). Maximum number of RV's per site is one (1) RV. Over maximum allowable vehicles, a second site must be used and/or vehicles parked outside the park.

Exclusive Group Camping at Camp Wilkerson

Youth Groups - 18 and under	$200.00 minimum per night for up to 150 people. After 150 persons, $1.00 per night per person. In addition, a fee of $5.00 per RV per night.
Adult Groups - 19 and over	$500.00 minimum per night for up to 150 people. After 150 persons, $3.00 per night per person. In addition, a fee of $5.00 per RV per night.

APPENDIX K: Tillamook and Columbia County Camping Fees

TILLAMOOK COUNTY PARKS' FEES

BARVIEW JETTY PARK
Fee Structure, Site Limitation and Reservation Policy
Effective May 1, 2005

Single Use Camp Site: ..... **Summer Base Rate $15/night**
BROWN Site Marker ..... **Winter Base Rate $10/night**
Allows one Tent and one Vehicle. One extra Tent may be added to the site for $5 each per night. Extra vehicles are not allowed. Suggested campsite limit is 8 people.

Double Use Camp Site: ..... **Summer Base Rate $20/night**
BLUE Site Marker ..... **Winter Base Rate $15/night**
Allows one Tent and one Vehicle OR, one RV and one Vehicle. Two extra Tents plus one extra Vehicle may be added to the site for $5 each per night. Suggested campsite limit is 12 people.

Back-In RV Sites (14 through 60): ..... **Summer Base Rate $20/night**
..... **Winter Base Rate $15/night**
Allows one RV and one Vehicle. During the Summer Season, sites 41-50 may add one extra Vehicle and one Tent for $5 each per night. In sites 14-39 and sites 51-60 additional Vehicles are not allowed. However, you may add one additional Tent for $5 each per night.

Pull Through Sites (1 through 13): ..... **Summer Base Rate $25/night**
..... **Winter Base Rate $20/night**
Allows one RV and one Vehicle. During the Summer Season, one extra Vehicle and one Tent may be added to the site for $5 each per night.

Hiker-Biker Campsite: ..... **Base Rate $5/night**
Allows one person and one Tent. Extra people, with or without Tents, may be added for $5 each per night. Suggested campsite limit is two Tents and four people. RVs and Vehicles are not permitted at Hiker-Biker campsites.

RV Holding Tank Dump: ..... **Base Rate $10/RV**
Allows one RV, not registered as a park guest, to empty the contents of the RV holding tanks.

Please remove all occupied signs when you leave, and remember
CHECK OUT IS 1:30 P.M.
THANK YOU!
We appreciate your cooperation and hope you have a great time at our parks.
Tillamook County Parks Department

For information or reservations at one of our campgrounds, please call:

Roy Creek Park	*on the Nehalem River*	503/322-3522
Barview Jetty Park	*on the Tillamook Bay Jetty and Beach*	503/322-3522
Kilchis River Park	*on the Kilchis River*	503-842-6694
Trask River Park	*on the Trask River*	503/842-4559
Whalen Island Park	*in the Sandlake Estuary*	503/965-6085
Webb Park	*adjacent to Cape Kiwanda and Beach*	503/965-5001
Woods Park	*on the Nestucca River*	503/965-5001

KILCHIS PARK
Fee Structure, Site Limitation and Reservation Policy
Effective May 1, 2005

Designated Camp Site: ..... **Base Rate $10/night**
Allows one Tent or one RV, and two Vehicles. At the discretion of Park staff, a vehicle may be exchanged for a small tent. Extra Tents, RVs and Vehicles may be added to the site for $5 each per night. Maximum of 3 extras. Campsite limit is 8 people.

Undesignated Open Camping Areas: ..... **Base Rate $10/night**
Allows one Tent or one RV and one Vehicle. At the discretion of Park staff, an extra Tent or Vehicle may be added for $5 each per night. Campsite limit shall be 8 people. Reservations are not available for undesignated open camping areas.

Group Picnic Area: ..... **Base Rate $20/day**
..... **$5 non-refundable reservation fee**
Reservations are available for Group Picnic Areas. Reservations May thru September.

Day Use Area: ..... **Base Rate $2/per vehicle year-round**

Hiker-Biker Campsite: ..... **Base Rate $5/night**
Allows one person and one Tent. Extra people, with or without Tents, may be added for $5 each per night. Suggested campsite limit is two Tents and four people.

RV Holding Tank Dump: ..... **Base Rate $10/RV**
Allows one RV, not registered as a park guest, to empty the contents of the RV holding tanks.

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Webb Park	*adjacent to Cape Kiwanda and Beach*	503/965-5001
Woods Park	*on the Nestucca River*	503/965-5001

APPENDIX K: Tillamook and Columbia County Camping Fees

TRASK RIVER PARK
Fee Structure, Site Limitation and Reservation Policy
Effective May 1, 2005

Designated Camp Site: ..... **Base Rate $10/night**
Allows one Tent or one RV, and two Vehicles. At the discretion of Park staff, a vehicle may be exchanged for a small tent. Extra Tents, RVs and Vehicles may be added to the site for $5 each per night. Maximum of 3 extras. Campsite limit is 8 people.

Undesignated Open Camping Areas: ..... **Base Rate $10/night**
Allows one Tent or one RV and one Vehicle. At the discretion of Park staff, an extra Tent or Vehicle may be added for $5 each per night. The open campsite capacity shall not exceed 20 people without expressed written permission.

Group Picnic Area: ..... **Base Rate $20/day**
..... **$5 non-refundable reservation fee**
Reservations are available for Group Picnic Areas. Reservations May thru September.

Day Use Area: ..... **Base Rate $2/per vehicle year-round**

Hiker-Biker Campsite: ..... **Base Rate $5/night**
Allows one person and one Tent. Extra people, with or without Tents, may be added for $5 each per night. Suggested campsite limit is two Tents and four people. Reservations are available.

RV Holding Tank Dump: ..... **Base Rate $10/RV**
Allows one RV, not registered as a park guest, to empty the contents of the RV holding tanks.

Please remove all occupied signs when you leave, and remember
CHECK OUT IS 1:30 P.M.

THANK YOU!
We appreciate your cooperation and hope you have a great time at our parks.
Tillamook County Parks Department

For information or reservations at one of our campgrounds, please call:

Roy Creek Park	*on the Nehalem River*	503/322-3522
Barview Jetty Park	*on the Tillamook Bay Jetty and Beach*	503/322-3522
Kilchis River Park	*on the Kilchis River*	503-842-6694
Trask River Park	*on the Trask River*	503/842-4559
Whalen Island Park	*in the Sandlake Estuary*	503/965-6085
Webb Park	*adjacent to Cape Kiwanda and Beach*	503/965-5001
Woods Park	*on the Nestucca River*	503/965-5001

APPENDIX K: Tillamook and Columbia County Camping Fees

WEBB PARK
Fee Structure, Site Limitation and Reservation Policy
Effective May 1, 2005

Designated Camp Site: ..... **Base Rate $15/night**
Allows one Tent or one RV, and two Vehicles. At the discretion of Park staff, a vehicle may be exchanged for a small tent. Extra Tents, RVs and Vehicles may be added to the site for $5 each per night. Maximum of 2 extras. Campsite limit is 8 people.

RV Hookup Site with Electricity and Water: ..... **Base Rate $20/night**
Allows one RV and two Vehicles. At the discretion of Park staff, a Vehicle may be exchanged for a small tent. One extra Tent and one extra vehicle may be added for $5 each per night. Maximum of 2 extras. Campsite limit shall be 8 people.

Hiker-Biker Campsite: ..... **Base Rate $5/night**
Allows one person and one Tent. Extra people, with or without Tents, may be added for $5 each per night. Suggested campsite limit is two Tents and four people. Reservations are available.

RV Holding Tank Dump: ..... **Base Rate $10/RV**
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Tillamook County Parks Department

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Trask River Park	*on the Trask River*	503/842-4559
Whalen Island Park	*in the Sandlake Estuary*	503/965-6085
Webb Park	*adjacent to Cape Kiwanda and Beach*	503/965-5001
Woods Park	*on the Nestucca River*	503/965-5001

WHALEN ISLAND PARK
Fee Structure, Site Limitation and Reservation Policy
Effective May 1, 2005

Designated Camp Site: ..... **Base Rate $10/night**
Allows one Tent or one RV, and one Vehicle. At the discretion of Park staff, extra tents, RVs and Vehicles may be added to the site for $5 each per night. Maximum of 3 extras. Campsite limit is 8 people.

Undesignated Open Camping Areas: ..... **Base Rate $10/night**
Allows one Tent or one RV and one Vehicle. At the discretion of Park staff, an extra Tent or Vehicle may be added for $5 each per night. Campsite limit shall be 8 people. Reservations are not available for undesignated open camping areas.

Group Picnic Area: ..... **Base Rate $20/day**
..... **$5 non-refundable reservation fee**
Reservations are available for Group Picnic Areas. Reservations May thru September.

Day Use Area: ..... **Base Rate $2/per vehicle year-round**

Hiker-Biker Campsite: ..... **Base Rate $5/night**
Allows one person and one Tent. Extra people, with or without Tents, may be added for $5 each per night. Suggested campsite limit is two Tents and four people. Reservations are available.

RV Holding Tank Dump: ..... **Base Rate $10/RV**
Allows one RV, not registered as a park guest, to empty the contents of the RV holding tanks.

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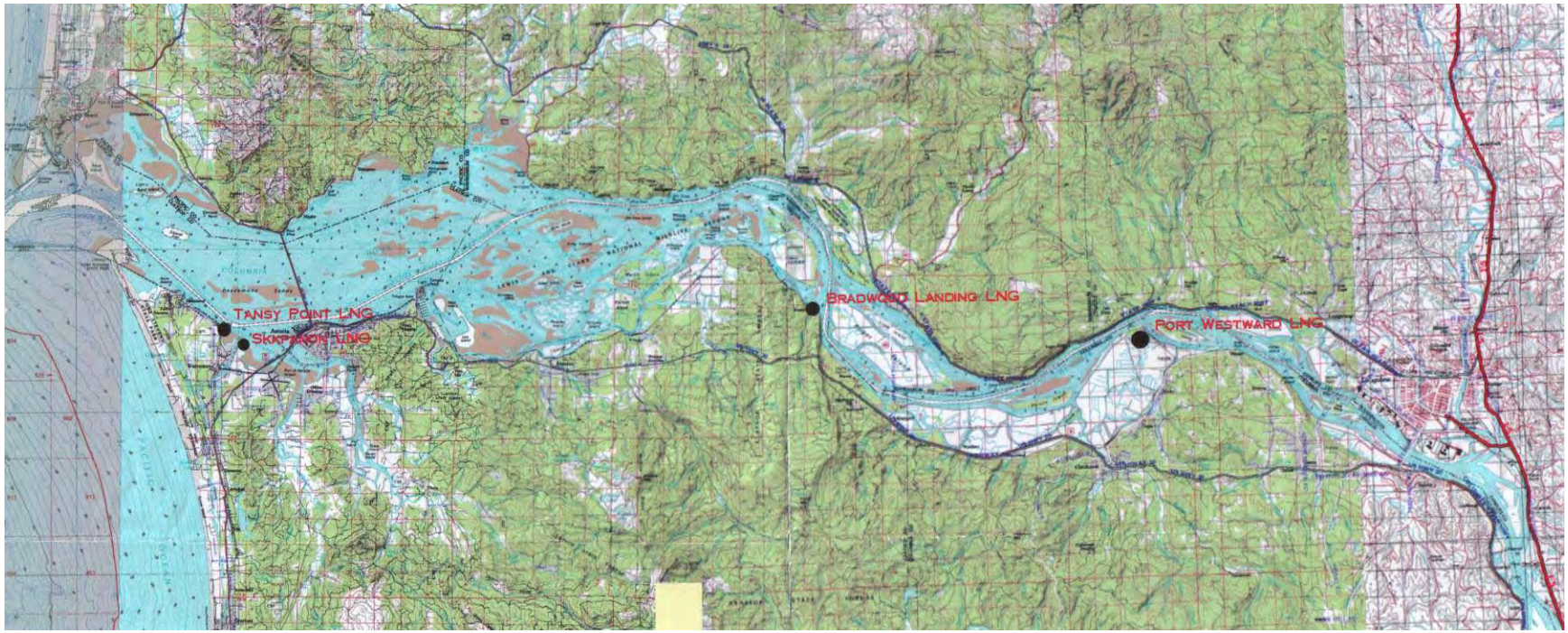
Trask River Park	*on the Trask River*	503/842-4559
Whalen Island Park	*in the Sandlake Estuary*	503/965-6085
Webb Park	*adjacent to Cape Kiwanda and Beach*	503/965-5001
Woods Park	*on the Nestucca River*	503/965-5001

APPENDIX L: Locations of Proposed LNG Facilities on Columbia River



Columbia River LNG Proposal

APPENDIX M: Grant Summaries and Worksheets

Oregon State Parks and Recreation Department

ATV Grant Program	This program provides matching grants for ATV recreational projects in the following areas: Operation and Maintenance, Law Enforcement and Emergency Medical Services, Acquisition, Planning, Development, and Safety Education. Program funds are derived from ATV permit fees and a percentage of the gas tax related to ATV use. Depending on the project type, grant opportunities occur once a year or three times a year.
County Opportunity Grants	This program provides matching grants to Oregon counties for the acquisition, development, rehabilitation and planning for county park and recreation sites that provide, or will provide, overnight camping facilities. Funds are derived from RV registration fees. Historically, grant cycles occurred biennially, but now occur each year.
Land and Water Conservation Fund	This program provides matching grants for the acquisition, development and major rehabilitation of outdoor park and recreation areas and facilities. Projects must be consistent with SCORP and local comprehensive land-use plans and park master plans. Funds are primarily derived from Outer Continental Shelf mineral receipts. The National Parks Service is the federal program manager. The program provides matching grants to states, which then make grants available to local units of government.
Local Government Grants	This program provides matching grants to local governments for acquisition, development and rehabilitation of outdoor park and recreation areas. Funds are derived from the Oregon Lottery, and grant cycles occur on a biennial basis in odd-numbered years. The program includes large and small grant options; maximum grants are $500,000 and $50,000 respectively.
AT Recreational Trails Program	The RTP is a federal-aid-assistance program that helps states provide and maintain recreational trails for a wide range of both motorized and non-

	motorized uses. Funds may be used to maintain and restore existing trails; develop and rehab trailheads; construct new trails; and acquire trail corridors and facility sites. Grant cycles occur annually and require a minimum 20% sponsor match.

Oregon Marine Board

Facility Grant Program	This program provides funds to local and state agencies to acquire, develop, expand, and rehabilitate public, principally motorized boating facilities on waters of the state. Funds are derived from registered boat license fees, motorboat fuel taxes, the federal Clean Vessel Act Program and Boating Infrastructure Grant Program. Grant cycles occur on a biennial basis, and the program has a minimum match policy for local agencies of 25%.

Oregon Department of Fish and Wildlife

Restoration and Enhancement Program	This program provides funds to public agencies and private-nonprofit organizations to restore state-owned hatcheries, enhance fish production, and

Oregon Department of Land Conservation and Development

306A Program	This program provides matching grants to coastal counties for acquisition and small-scale construction projects that provide public recreation access to ocean and estuarine shores and coastal lakes and rivers; that redevelop urban waterfronts or ports; and that preserve significant coastal resources. Funds are provided under the Coastal Zone Management Act. Grant cycles occur annually. The maximum grant limit is $50,000 and sponsors must provide an equal amount of cash or in-kind contributions.

APPENDIX M: Grant Summaries and Worksheets

Oregon Department of Transportation

Transportation Enhancement Program	This program provides federal highway funds for projects that strengthen the cultural, aesthetic or environmental value of the state's transportation system. Funds are provided in four main areas: pedestrian and bicycle projects, historic preservation related to surface transportation, landscaping and scenic beautification, and environmental mitigation (highway runoff and wildlife protection only). Sponsors must be public agencies, and the program intent is to fund special or additional activities not normally required on a highway or transportation project.

National Fish and Wildlife Foundation

General Matching Grants	This program provides matching grants to counties and other government agencies, tribes, schools and nonprofit conservation organizations to conserve fish, wildlife, plants and the habitats on which they depend through fostering cooperative partnerships. Eligible projects include restoration, enhancement and acquisition. Grants typically range from $10,000 to $150,000, and sponsors must provide minimum 1:1 matches, with target matches of 2:1.
Columbia River Estuarine Coastal Fund	This program provides funds to counties and other eligible sponsors to conserve ecosystems and habitat resources in the lower Columbia and coastal areas south to Tillamook Bay and north to Willapa Bay. Program funds are derived from court settlements for pollution violations; consequently, the timing of grant cycles varies. The program includes both a small grant ($5,000 or less) and large grant ($5,000 to $200,000) element. Sponsor matches are not required, but encouraged.
Five-Star Restoration Matching Grants	This program provides funds for community-based wetland, riparian and coastal habitat restoration projects that build diverse partnerships and foster local natural resources stewardship through education, outreach and training activities. The

	program emphasizes diverse partnerships of ideally five organizations ("Five Stars") or more. Grants typically range from $5,000 to $20,000. Any public or private entity may apply.

National Fish and Wildlife Foundation, continued

Oregon Governor's Fund for the Environment	This program provides funds to benefit rivers and streams passing through Oregon and near coastal waters. Funds are derived from settlement agreements for pollution violations. The initial program focus is on the Willamette Basin, but the scope is likely to expand to other areas/basins. Initial project priorities include technical assistance for private land owners; encouraging land owner use of existing incentive programs such as the Wetlands Reserve Program; public awareness; and technical assistance to small municipal government agencies to address non-point source water-quality issues.

Oregon Watershed Enhancement Board

General Grant Program	This program supports voluntary efforts to create and maintain healthy watersheds, and encourages interagency cooperation, cost sharing, local stakeholder involvement, youth and volunteer participation, and efforts to teach watershed concepts. Projects may include on-the-ground restoration and acquisition, assessment and/or monitoring of natural resource conditions; education and outreach; and watershed council support. Eligible applicants include individuals, organizations, local governments and institutes of higher education. Funds are derived from the Oregon State Lottery.
Small Grant Program	This program provides small grants ($10,000 or less) for on-the-ground restoration projects that benefit water quality, water quantity, and fish and wildlife. Eligible applicants include any person, tribe, watershed council, soil and water conservation district, nonprofit institution, school or political subdivision of the state that is not a state agency. The project must demonstrate benefits to aquatic species or wildlife health.

APPENDIX M: Grant Summaries and Worksheets

North American Wetlands Conservation Act

Standard Grants Program	NAWCA provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation in the United States, Canada, and Mexico. The standard grants program provides funds for acquisition, restoration and enhancement of habitats that support migratory birds and other wildlife. There is a maximum per-project grant limit of $1 million, and sponsors must provide a minimum 1:1 match. Successful grants commonly provide higher matching percentages. The lower Columbia Region below Bonneville Dam has received significant NAWCA funding.
Small Grants Program	Small grants support the same kinds of projects and objectives as the Standard Grants Program. However, grants do not exceed $50,000 and the program emphasizes projects that have been submitted by sponsors that have not participated in a NAWCA-supported project.

Lower Columbia River Estuary Partnership (LCREP)

Habitat Restoration Program	LCREP works to protect and restore the Columbia River Estuary with on-the-ground improvements and education and information. In recent years, LCREP has provided matching grants to fund habitat restoration projects designed to improve the access and availability of rearing and spawning habitats for salmonid populations that utilize the lower Columbia below Bonneville Dam, including tidally influenced sections of tributaries. Eligible applicants include counties and other government bodies, schools, and community and environmental organizations. Grants typically range from $50,000 - $250,000, and sponsors must provide a 25% match. The BPA provides revenue for this program.

APPENDIX M: Grant Summaries and Worksheets

Manager	**Oregon Parks and Recreation Department**
Program	**ATV Grant Program**
Purpose	Provides supplemental funding for ATV recreational projects
Eligible Recipients	•Public Agencies, including federal land managers, state agencies, and local governments that have the responsibility of providing off-highway vehicle (OHV) recreation. •Private Land Managers •Registered OHV Clubs (must be registered with the state as nonprofit organizations)
Eligible Projects	•Operation and Maintenance •Law Enforcement and Emergency Medical Services •Acquisition (fee simple and easements) •Planning •Development, including Emergency Repair •Safety Education
Ineligible Projects and/or Costs	•Overhead •Overtime •Expenses for vehicles and equipment used outside scope of an ATV project •Project work or expenses incurred prior to signed project agreement •Grant Writing •Projects excluding OHV recreation
Grant Limits	No specified maximum $5,000 minimum ($6,250 would be minimum total project cost including $1,250 minimum match)
Sponsor Match	Planning grants: 50% minimum All other categories: 20% minimum
Funds Available	Varies
Fund Source	ATV user permit fees and a percentage of gasoline tax dollars related to OHV use.
Application Date	Generally, there are 3 open periods and 3 meeting dates each year to award funds. The January meeting considers operation and maintenance applications; April meeting considers First Aid and Police Services applications; and the September meeting considers Safety Education applications. Planning, Development, Acquisition, and Emergency Repair applications may be submitted during each open period.
Contact	Oregon Parks and Recreation Department ATV Grant Coordinator 725 Summer St. NE, Suite C Salem, OR 97301 Grant Program Questions: Rocky Houston (503) 986-0707

Manager	**Oregon Parks and Recreation Department**
Program	**County Opportunity Grants**
Purpose	Provides funding for acquisition, development, rehabilitation, and planning for county park and recreation sites that provide, or will provide, overnight camping facilities.
Eligible Recipients	Counties.
Eligible Projects	●Acquisition ●Development (recreation and support facilities) ●Rehabilitation ●Planning
Ineligible Projects and/or Costs	●Projects at sites where recreation is secondary function (e.g., courthouse, fair, port, museum) ●Recreation complexes for organized sports (e.g., baseball, soccer) ●Indoor facilities (e.g., yurts, caretaker residences, maintenance buildings) ●Routine maintenance
Grant Limits	No set limit. (However, applicants should consider funding available)
Sponsor Match	25% for counties with population of 30,000 or less 50% for counties with populations over 30,000
Funds Available	Varies. Approximately $363,000 available for 2005 grant year.
Fund Source	RV Recreation Fees
Application Date	Historically grants available on biennial basis; grants now available on annual basis with application deadline in fall/winter (e.g., 11/9/05 for 2006 grant year.)
Evaluation Criteria/Priorities	Scoring Criteria ●Need/Benefits ●Exceptional Need ●Planning and Public Involvement ●Design and Accessibility ●Source of Funding (match stability/M&O capacity) ●Committee Member Evaluation
Contact	Oregon Parks and Recreation Department Local Government Grants Program 725 Summer St. NE, Suite C Salem, OR 97301 Marilyn Lippincott, Senior Grants Project Coordinator (503) 986-0708

APPENDIX M: Grant Summaries and Worksheets

Manager	**Oregon Parks and Recreation Department/National Park Service**
Program	**Land and Water Conservation Fund**
Purpose	Provides matching funds for the acquisition and development of outdoor recreation areas and facilities
Eligible Recipients	Cities and Counties Park and Recreation Districts Port Districts Indian Tribes Metropolitan Recreation Districts Some State Agencies (OPRD, ODFW, ODF, DSL)
Eligible Projects	•Acquisition (fee or less than fee) •Development •Major Rehabilitation
Ineligible Projects and/or Costs	•Acquisition of historic sites and structures, museums, archaeological excavations, land to meet minimum school needs, facilities for semi-professional and professional arts and athletics, game refuges, fish production facilities, etc. •Development of indoor facilities (except swimming pools and ice skating rinks), community centers, meeting rooms, auditoriums, semi-professional or professional arts or athletic facilities, convention facilities, etc.
Grant Limits	Maximum: None specified ($250,000 highest grant award in fiscal 2005.) Minimum: $12,500 minimum federal share (requires at least $25,000 total project per match requirement)
Sponsor Match	50% of total project cost (minimum)
Funds Available	Varies. Recommended funding level for fiscal 2005: $737,887. (10 projects, with grant amounts ranging from $13,135 to $250,000.)
Fund Source	Federal Land and Water Conservation Fund (LWCF). Funds primarily derived from Outer Continental Shelf mineral receipts, with additional funds from motorboat fuel taxes, recreation user fees, and proceeds from sale of federal surplus property.
Application Date	Grant cycles occur annually, with applications due in the fall of each year that funds are available.
Evaluation Criteria/Priorities	•Compliance re: grant performance and ADA accessibility (no points assigned; however, failure to comply could lead to disqualification of application) •Readiness to Proceed •Partnerships •SCORP Consistency and Compliance •Local Needs and Benefits •Site Suitability •Fiscal Considerations •Public Involvement •Discretionary Committee Criteria
Contact	Oregon Parks and Recreation Department Grants Section 725 Summer St. NE, Suite C Salem, OR 97301 (503) 986-0711

Manager	**Oregon Parks and Recreation Department**
Program	**Local Government Grant Program**
Purpose	Provides funds to local governments for acquisition, development, and rehabilitation of outdoor park and recreation areas and facilities.
Eligible Recipients	Cities, counties, metropolitan service districts, park and recreation districts, and port districts. (Local govt. agencies, which under state law have obligation to provide public recreation facilities.)
Eligible Projects	►Acquisition (fee or less-than fee) ►Development (recreation and support facilities) ►Rehabilitation.
Ineligible Projects and/or Costs	►Indoor facilities ►Commercial amusement centers ►Routine maintenance ►Professional facilities ►Exhibit areas for non-recreation purposes ►Exclusive use areas for specific groups ►Operational equipment
Grant Limits	$500,000 for Large Grant Requests $50,000 for Small Grant Requests
Sponsor Match	At least 50% match required for: a. Cities and districts over 5,000 population b. Counties over 30,000 population At least 40% match required for: a. Cities and districts less than 5,000 population b. Counties less than 30,000 population
Funds Available	Approximately $8 million for 2005-07 biennium. (10% assigned to small grants program.)
Fund Source	Lottery
Application Date	Grant cycles occur on biennial basis in odd-numbered years. Application due date for 2005 was April 15.
Evaluation Criteria/Priorities	Scoring Criteria: a. Recreation needs and plan consistency b. Partnerships c. Public support d. Timelines (degree of threat) e. Source of funding (availability/commitment) f. Committee member evaluation
Contact	Oregon Parks and Recreation Department Local Government Grants Program 725 Summer St. NE, Suite C Salem, OR 97301 Michelle Scalise, Grants/Contracts Coordinator (503) 986-0708 Michele.scalise@state.or.us

APPENDIX M: Grant Summaries and Worksheets

Manager	**Oregon Parks and Recreation Department**
Program	**Recreational Trails Program**
Purpose	To provide and maintain recreational trails for both motorized and non-motorized uses.
Eligible Recipients	Nonprofit organizations Municipal agencies (cities, towns, counties, school districts, etc.) State and federal agencies Other govt. entities (tribes, regional governments, port districts, etc.)
Eligible Projects	•Maintain and restore existing trails •Develop and rehab trailhead facilities •Construct new recreation trails •Acquisition (fee simple and easements)
Ineligible Projects and/or Costs	•Use of condemned lands for matching value •Feasibility studies •Projects solely for environmental evaluation and documentation •Law enforcement •Planning •Sidewalks •Federal-designated wilderness area projects
Grant Limits	$50,000-$100,000 (Typical high-end range) $5,000 (Minimum grant request)
Sponsor Match	20% of total project cost (minimum)
Funds Available	$650,000 - $850,000 (Typical range)
Fund Source	Federal aid to states authorized under Transportation Equity Act for the 21st Century (TEA-21)
Application Date	Grant cycles occur annually. Letters of intent: December 2005 Application deadline: February 2006 Project evaluation: March 2006
Evaluation Criteria/Priorities	•Completeness of project application, sponsor's past performance, readiness to proceed, etc. (10 pts. Max). •Need – Satisfies identified need, coordinates with existing system, etc. (55 pts. Max). •Support/Commitment/Planning – Relates to plan/policies, demonstrated support, commitment to operate and maintain, etc. (35 pts. Max.)
Contact	Oregon Parks and Recreation Department Local Government Grants Program 725 Summer St. NE, Suite C Salem, OR 97301 Michelle Scalise, Grants/Contracts Coordinator Michele.scalise@state.or.us

Manager	**Oregon Marine Board**
Program	**Facility Grant Program**
Purpose	Acquire, develop, expand, and rehabilitate public, principally motorized, boating facilities located on all waters of the state.
Eligible Recipients	Local/state agencies authorized to provide public recreation facilities, including cities, counties, park and port districts, and state agencies. (Federal agencies must partner with local jurisdictions.)
Eligible Projects	Master planning and feasibility studies Design and engineering Acquisition Development, expansion and rehabilitation.
Ineligible Projects and/or Costs	►Application preparation or other indirect costs ►Legal fees ►Ordinary operations and maintenance ►Waterway permit application, recreational use license or related fees ►Construction permits or inspection fees Capital equipment such as tools, vehicles, boats
Grant Limits	No limit. 2005-07 grant requests range from $1,500 to $1 million
Sponsor Match	Priority given to projects with highest amount of cash and/or inkind match. Minimum match policy is: Local entities: 25% State agencies: 25% Federal agencies: 50%
Funds Available	Approximately $4-$4.5 million for biennium, not including federal cost-sharing or sponsor match.
Fund Source	Registered boat license fees, motorboat fuel taxes, federal Clean Vessel Act Program and Boating Infrastructure Grant Program
Application Date	Grant cycles occur on biennial basis and extend from July 1 to June 30 of odd-numbered years (e.g. 7/1/05 – 6/30/07). Application notices are posted on March 1, preceeding start of biennial period.
Evaluation Criteria/Priorities	Priority assigned to facilities for motorized boats with at least 50% motorized use. Priority needs in order are pollution control facilities, facility rehabilitation, expansion, new facility acquisition and development. Priority construction needs in order are: 1. Vessel waste collection systems. 2. Boat ramps and transient tie-up floats. 3. Restrooms. 4. Parking and access roadways. 5. Boarding floats. 6. Landscaping, kiosks etc.
Contact	Oregon Marine Board Grants Coordinator 435 Commercial Street NE, #400 Salem, Oregon (503) 373-1405 X251

APPENDIX M: Grant Summaries and Worksheets

Manager	**Oregon Department of Land Conservation and Development**
Program	**306A Program**
Purpose	Acquire and construct (small-scale construction projects) that support 306A objectives: •Provide public recreation access to ocean and estuarine shores, coastal lakes and rivers. •Redevelop urban waterfronts and ports. •Preserve or restore significant conservation, recreational, ecological, or aesthetic coastal features, or coastal resources of national significance.
Eligible Recipients	•Coastal Counties and Cities (Columbia River boundaries extend to east Clatsop County line.) •Coastal Associations of Local Governments •Coastal Ports •Coastal Public School Districts •State Agencies
Eligible Projects	•Land Acquisition. •Small-scale Construction (i.e., projects that do not require EIS pursuant to NEPA; projects generally less than $100K w/o significant environmental impacts.) Typical projects include: paths, walkways, fences, parks, restoration of historic buildings/structures; acquisition and restoration of piers, etc. Projects must be completed within 12 months after grant award; extensions are possible but discouraged.
Ineligible Projects and/or Costs	Costs incurred prior to or after the specified grant period.
Grant Limits	$50K maximum
Sponsor Match	Sponsors must provide equal amount of cash or in-kind contribution.
Funds Available	
Fund Source	Federal Coastal Zone Management Program Funds
Application Date	Annual program. Mid-February application deadline.
Evaluation Criteria/Priorities	Applications are scored based on various criteria that relate to: Kind of access, project quality, waterfront revitalization, restoration or preservation, interpretive displays, regional economic development, non-applicant matching funds, and status of local, state, and federal land-use approvals
Contact	Oregon Department of Land Conservation and Development Jeff Weber 306A Program Grants Coordinator (503) 731-4065 x26

Manager	**Oregon Department of Fish and Wildlife**
Program	**Restoration and Enhancement Program**
Purpose	Restore state-owned hatcheries, enhance natural fish production, expand hatchery production, and provide additional public access to fishing waters. The program provides increased recreational fishing opportunities and supports and improves the commercial salmon fishery.
Eligible Recipients	Any public or private, non-profit 501c(3) organization, including sport or commercial fishing groups, school districts, federal, state or local agencies, port districts, and soil and water conservation districts.
Eligible Projects	►Enhancement: access for sport/commercial fishing (e.g., boat ramps, docks, trails), propagation, habitat enhancement, research and monitoring, and education (e.g., literature, demonstrations, displays re: fish, fishing, or habitat). ►Restoration: maintenance (restore or modify existing fishways, screens, hatcheries, or other structures), liberation (maintain or provide equipment for fish liberation).
Ineligible Projects and/or Costs	No specific prohibitions. Board will consider various project elements at time of project review/evaluation.
Grant Limits	No limit. 2005-06 project list includes grant requests ranging from $2,200 to $669,000. (Most grant requests are less than $100,000.)
Sponsor Match	Not required. However, most projects include significant cost-sharing and matching funds are considered in project evaluation.
Funds Available	Approximately $3 million per biennium.
Application Date	Approximately 4/5 deadlines per biennium. Dates subject to change. Consult program web site.
Evaluation Criteria/Priorities	ODFW Commission appoints 7-member board to review projects. Board recommends a balance between restoration and enhancement projects. Funds are also dispersed in same ratio as revenues derived from surcharges on sport fishing licenses, commercial salmon licenses and poundage fees (approximately 80% sport vs. 20% commercial).
Contact	►R&E Program Coordinator ODFW, Fish Division 3406 Cherry Ave Salem, OR 97303 (503) 947-6232 ►Assistant Coordinator Lisa Kingsley 3406 Cherry Ave. Salem, OR 97303 (503) 947-6211 lisa.m.kingsley@state.or.us For initial project consultation (Clatsop county), contact Columbia River field office in Clackamas, OR.

APPENDIX M: Grant Summaries and Worksheets

Manager	**National Fish and Wildlife Foundation**
Program	**General Matching Grants**
Purpose	Conserve fish, wildlife, plants, and the habitats on which they depend through fostering of cooperative partnerships.
Eligible Recipients	Federal, state, and local governments Tribes Educational Institutions Nonprofit conservation organizations
Eligible Projects	Restoration, enhancement, acquisition. (Staff indicates fewer acquisition projects getting funded.)
Ineligible Projects	►Political Advocacy ►Shortfalls in govt. agency budgets ►General admin overhead or indirect costs ►Multi-year grants ►Basic research
Grant Limits	$10,000 - $150,000 (typical range)
Sponsor Match	Target ratio (match/grant): 2:1 Minimum ratio: 1:1
Funds Available	FY 2002: $2.25 million (all NFWF programs for OR)
Application Date	Pre-proposals: June 1 and October 15 Full Proposals: July 15 and December 1
Evaluation Criteria/Priorities	►Address priority actions promoting fish and wildlife conservation and habitats on which they depend. ►Involve other conservation and community interests. ►Leverage available funds. ►Evaluate project outcomes.
Contact	National Fish and Wildlife Foundation 806 SW Broadway, Suite 750 Portland, Oregon 97205 (503) 417-8700 www.nfwf.org

Manager	**National Fish and Wildlife Foundation**
Program	**Oregon Governor's Fund for the Environment**
Purpose	To benefit rivers and streams passing through Oregon and near coastal waters. (Initial focus on Willamette Basin but scope likely to expand to other areas/basins.) Specific purposes: •Develop and implement strategies to eliminate or reduce pollution or otherwise restore quality of Oregon rivers, streams, and coastal areas •Restore and conserve fish, wildlife, and plant resources •Identify continuing sources of pollution •Improve state/local criminal enforcement of environmental protection laws
Eligible Recipients	Non-profit conservation organizations Watershed councils and soil and water conservation districts Special districts, tribes, schools Counties and cities State and federal agencies
Eligible Projects	Priorities for initial funding round: •Technical assistance to private landowners (via workshops, community meetings, individual meetings, etc.) to address environmental issues •Encourage participation in existing landowner incentive programs available through farm bill (e.g., CREP, WRP) or other similar state/federal programs. •Provide public awareness on significance of aquatic resources and importance of environmental laws to protect those resources •Provide technical assistance to small municipal govts to address non-point source water-quality issues
Ineligible Projects	•Political advocacy, litigation, or mitigation activities •Equipment not primarily related to project •Website development or videos
Grant Limits	$5,000 - $50,000
Sponsor Match	Not required, but encouraged
Funds Available	Total: $2 million. Initial grant cycle: $200K - $300K. (Funds derived from settlement agreement imposed on shipping company for pollution violations.)
Application Date	Initial cycle: October 2005 (pre-proposal deadline Future cycles: To be determined
Evaluation Criteria/Priorities	•Addresses program purposes •Describes need clearly and how project addresses problem •Has quantifiable/measurable benefits for fish, wildlife, or habitat •Includes two or more partners in implementation and/or cost share •Includes community volunteer efforts •Defines success/outcomes clearly •Can be accomplished within two years •Is innovative and creative •Provides opportunity to replicate successful project in other geographic area •Minimizes indirect administrative costs
Contact	National Fish and Wildlife Foundation 806 SW Broadway, Suite 750 Portland, Oregon 97205 (503) 417-8700

APPENDIX M: Grant Summaries and Worksheets

Manager	**National Fish and Wildlife Foundation**
Program	**Five-Star Restoration Matching Grants**
Purpose	Support community-based wetland, riparian, and coastal habitat restoration projects that build diverse partnerships and foster local natural resources stewardship through education, outreach, and training
Eligible Recipients	Any public or private entity
Eligible Projects	Projects must include strong on-the-ground wetland, riparian, or coastal habitat restoration component and should also include training, education, outreach, monitoring and community stewardship. Projects must involve diverse partnerships of ideally five organizations (i.e., "five stars") that contribute funding, land, technical assistance, workforce support, and/or in-kind services
Ineligible Projects	Projects involving **only** research, monitoring, or planning, or projects that are part of mitigation requirement
Grant Limits	$5,000 - $20,000. ($10,000 average)
Sponsor Match	Program emphasizes listing of project partners and value of partner contribution, but specific percentage for sponsor share is not indicated
Funds Available	In 2005, the program funded 53 projects (out of 220 proposals) with an average grant amount of $10,000.
Application Date	Early March
Evaluation Criteria/Priorities	Matching grants awarded to projects that: •Emphasize diverse partnerships •Include strong on-the-ground restoration element •Demonstrate measurable ecological, educational, social, and/or economic benefits
Contact	National Fish and Wildlife Foundation 1120 Connecticut Ave., NW, Suite 900 Washington DC 20036 (202) 857-0166

APPENDIX N: Regional Recreation Council – Proposed Charter

Purpose:
To coordinate planning among the major providers of recreation in Clatsop County leading to the development of a more integrated and well-distributed recreational system that will meet the needs of residents and visitors.

Major Goals:

1. *Create a Land and Water Trail Plan throughout the County.*
2. *Create uniform land and water trail use guidelines and consistent signage to minimize user conflicts.*
3. *Collaborate on recreational maps and other visitor information.*
4. Identify and pursue opportunities to secure public access to rivers, streams and lakes, as well as significant trails and natural or historic sites.
5. Build a geographical information systems (GIS) inventory of all parks and recreational facilities, including: parks, camping sites, sport fields, trails, historic sites, and other relevant data.
6. Identify opportunities for cost savings through cooperative efforts for maintenance and security.
7. Seek grant funding to support the goals of the Council.
8. Analyze future needs and trends in recreation within Clatsop County; identify and work to solve unmet needs.
9. Coordinate planning of future developments.

Membership:
Permanent Members:

The local representative for recreational matters from Clatsop County, Oregon State Parks, National Parks Service and Oregon Department of Forestry, each of whom is officially appointed by his/her respective agency. The chairman is selected from among these members.

Rotating Members (2 year appointments):

3 - Officially appointed representatives from among the incorporated cities and Recreational District(s).
2 – Members from recognized local recreational user groups.
2 – Members-at-large chosen from among citizen applicants. [Note: An effort will be made to seek representation from all geographic areas of the County.]

Staff:

A quarter-time position funded by grant and selected from among qualified applicants. This position will report to the Committee Chair and be expected to document all expenditures to the funding authority.

Start-up Period:
The County will interview and hire the Staff position from among qualified applicants. It will assume the initial costs for 3-6 months until grant funding is obtained.

Frequency of Meetings:
The council will meet at least bi-month

APPENDIX O: Clatsop County Park Rules and Regulations

EXHIBIT A

PARK REGULATIONS

A. Definitions

(1) "Park area" means any lands accepted as a county park pursuant to ORS Chapter 275.

(2) "Motor vehicle" means every self-propelled vehicle and vehicle designed for self-propulsion, except police and other emergency motor vehicles, and does not include camping or sleeping facility vehicles.

(3) "Sleeping facility vehicle" means any motor vehicle or device designed for overnight camping, including but not limited to campers, motor homes, travel trailers, and tent trailers.

(4) "Camp" or "camping" means the placing or pitching of tents, the placing of camping or sleeping facility vehicles including but not limited to a trailer, mounted camper, motor vehicle or other equipment for the purpose of staying overnight or for a limited period during proscribed hours at a county park, upon other county property, or upon a county or public road.

(5) "Park Ranger" means a Clatsop County employee specifically designated to seek compliance with and enforce County park ordinances.

B. Park and County Property Restrictions

The following restrictions shall apply to all parks and county property:

(1) Fires and smoking may be restricted by the Park Ranger at any time.

(2) All fires, when allowed, shall be confined to a stove, pit, or fireplace designated for fires, attended at all times, and extinguished before its user leaves the fire. As used in this subsection, "fire" includes all open flames except for camp stoves, charcoal cookers, and other contained camping equipment used for cooking.

(3) No person shall drive a vehicle at a speed greater than is reasonable and prudent, having due regard to traffic, surface, and strength of roadways, hazards at intersections, and other conditions then existing. The maximum speed limit on all interior roads, drives, and parking lots shall be 15 miles per hour, unless otherwise posted.

Page 1 - Exhibit A

(4) No person shall drive a motor vehicle on any walk, path, trail, service road, or other area, unless said walk, path, trail, service road, or area has been officially designated for use by motor vehicles.

(5) No person shall park any auto, truck, trailer, or other vehicle in any area other than an area specifically designed for such purposes.

(6) No person shall:

(a) Allow a dog or other animal to run at large. All animals shall be confined or leashed with a leash of not more than ten feet. The custodian of said animals are responsible for the animals' behavior and the removal of the animals' waste from the park;

(b) Ride, drive, lead, or keep a saddle horse or other animal except on such roads, trails, or areas specifically designated for that purpose;

(c) Deposit any rubbish, garbage, glass, or other litter except in receptacles designated for that purpose;

(d) Dispose of hand and dish water other than in the receptacles provided for that purpose, or to dump human waste in gray water receptacles;

(e) Wash any clothing or other materials in a lake or stream, or in any way pollute or defile any stream, spring, well, or lake;

(f) Dump household or commercial garbage, brought from lands outside the park, in park facilities;

(g) Alter, deface, mutilate, or destroy any trail, road, parking lot, bridge, fence, building, sign, barrier, or other facility or structure;

(h) Dig up or remove any soil, stones, rocks, or other substances whatever; make any excavation, or lay or set off any blast therein except within the confines of the county rock pit;

(i) Mutilate, dig, or remove any plant, or in any way burn, destroy, or defile any tree or plant or natural feature found in the park;

(j) Create or erect signs, markers, or inscriptions of any type;

(k) Use abusive, threatening, boisterous, vile, obscene, or indecent language or gestures;

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APPENDIX O: Clatsop County Park Rules and Regulations

(l) Operate radios, television, musical instruments, or other noise-producing devices, or otherwise cause unnecessary sound in such a manner and at such times so as to disturb other persons;

(m) Cause, attempt to cause, or bring about any public demonstrations or disturbances, or in any way create a public nuisance;

(n) Discharge any firearm, slingshot, arrow, air, CO^2, spring activated rifle or pistol or other similar device, darts, fireworks or related explosive materials, except in areas designated for such activity;

(o) Throw rocks, sticks or other objects, which may endanger the safety of any other person within said area; or

(p) In any manner pursue, hunt, trap, or molest any bird or animal.

C. Restricted Areas

(1) The Park Ranger may, if necessary to protect natural resources or to promote safety in any park, designate areas as access restricted;

(2) No person shall enter into an access restricted area unless that person has the written permission of the Park Ranger.

D. Overnight Camping

(1) It shall be unlawful for any person to camp in a county park or on other county property, except in areas specifically designated by the county as public camp grounds. It shall be unlawful for any person to camp on a county or public road.

(2) In designated camping areas, residence shall be limited to ten consecutive days in any park during the period from May 15 to September 15, and fourteen days during the remainder of the year.

(3) No person shall abandon a camp established by that person. Any camp that is uninhabited for more than 24 hours shall be deemed abandoned. Abandoned vehicles and abandoned personal property shall be sold or disposed of in the manner established by Oregon law.

Page 3 - Exhibit A

E. Concessions

(1) No person shall operate a concession, or engage in the business of selling, hawking, peddling or vending any merchandise or material, without a written permit from Clatsop County.

F. Fees

(1) The fees for day use, overnight camping, concessions and other Clatsop County park uses shall be set by order of the Board of Commissioners.

(2) No person shall attempt to use a county park in a manner for which a fee is required without paying the established fee.

G. Enforcement

(1) This ordinance shall be excepted from the enforcement provisions of Ordinance 96-15, the Clatsop County Code Compliance Ordinance.

(2) Violation of this ordinance shall be punishable, upon conviction, by a fine of not more than $250.00 for a non-continuing offense and $1,000.00 for a continuing offense. Offenses shall be prosecuted pursuant to ORS 203.065, as amended.

(3) Bail shall be set as 10% of the maximum fine together with any fees and assessments required by Oregon law.

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APPENDIX P: Article: Sigfridson Park Adopted by Class of Star of the Sea School

Star of the Sea students learn about conservation through caring

St. Mary, Star of the Sea School students decided to make Sigfridson County Park more than their classroom for water quality studies.

They're now caretakers of the nature park near Olney through Clatsop County's Adopt-A-Park program.

The kids in Margaret Johnson's seventh- and eighth-grade class go to the park to sample the Ph and water temperature in the Klaskanine River. They also monitor riparian vegetation, trees, shrubs, moss, lichen, animal signs and aquatic life in the river.

The students wanted to show their stewardship to the land and pride in the section of river because they spend so much time at the park, according to Johnson and Steve Meshke, the county's parks foreman.

"Mrs. Johnson has a great bunch of kids and they are all very excited about the Adopt-A-Park program as their class project," Meshke said.

Johnson became familiar with Sigridson park about 10 years ago as a member of the county's recreational lands planning advisory committee. The 64-acre park is located along Oregon Highway 202 about a mile east of Olney.

Johnson started the water testing and reporting project while teaching at Clatsop Community College with her students. She figures a class of hers, whether college or middle school, has been going to the park for about six years. Johnson also used the park for the a key part of her thesis for her master's degree in science education. She conducted research on inquiry-based learning and offering students a sense of stewardship and ownership to a specific location.

Any individual, neighborhood or organization may Adopt-A-Park as a volunteer project. The Parks Division continues to provide regular maintenance, while the individuals and groups assist with the special care of the adopted areas.

For more information, contact Meshke at 325-9306.

APPENDIX Q: Article: Camp Kiwanilong Celebrates 70th Anniversary

Camp Kiwanilong offers 70 years of positive memories for kids, adults

"I wish I had a nickel for every time an elderly lady has pulled in here and said, 'Hey, this was my Girl Scout camp!'" says Camp Kiwanilong ranger Trinda Little.

Kiwanilong was a Civilian Conservation Corps project during the Depression years. This year it celebrates its 70th birthday.

Recently, Camp Kiwanilong signed a 99-year lease agreement with Clatsop County, so it's likely to be around awhile longer.

"I love it here," says Little. "It's the prettiest place in Clatsop County."

Little has been ranger for the past six years. Before that she was on the Board for eight years. "I grew up in Coos Bay, but I went to Warrenton High School for two years," says Little. "My dad did a lot of work with the Corps of Engineers so we moved up and down the coast a lot.

"I came back in 1977 and helped Jesse Wallace coach volleyball at Warrenton High School. I coached the junior varsity team. I've been here ever since."

Camp Kiwanilong is located across the road from the Warrenton Soccer Complex. It is a 220-acre spread that borders three different lakes. Long Lake is the one next to the lodge. Though the original lodge is still standing, Little says it's in need of some repairs. From the lodge it's one and a half miles to the beach down through the woods. There are 19 cabins. "The Castle is down that way," Little smiles, pointing at the restroom. "We call it The Castle because it's got 10 thrones!"

"The camp is open to everyone, but kids get priority," says Little. "In an average year, Camp Kiwanilong provides services for 3,000 kids," she explains. "In April and May, OMSI rents the place for a science camp," she continues. "That books it up solid during the week, but the weekends are sometimes free during that time."

Summer camp goes from the last week in June through the first week of August. Debbie Vail, whose camp name is "Sparky," has become an institution over the years. She has played the role of mother and now grandmother in the summers for countless young people. This summer will be her 27th year as head counselor.

"VOCA (Victory Over Child Abuse) does a camp here every year," Little explains. "There is also a Native American group that does a salmon camp here each year."

MARK MIZELL — For The Daily Astorian

Moss-covered trees form an archway over one of the many trails at Camp Kiwanilong.

She says that in September adults start coming in. "People from Coast Rehab use the camp," she explains, as well as people from Clatsop Behavioral.

"The camp really gets a lot of use throughout the year," says Little. "Girl Scouts, Boy Scouts, as well as groups from many of the local churches. There are gatherings out here during Thanksgiving and Christmas," she continues. "Labor Day weekend, Linfield's cross country team does a special camp here."

To get out of the rain, we step under the roof of the Slim Schrager Shelter, named after one of Kiwanilong's legendary supporters. "Keeping the camp buildings in good repair is a continual battle," she says, looking out across the grounds. "Many of the cabin roofs leak," she explains. "So many businesses have helped us out, though, and continue to help us," she says.

Little explains that the camp is a nonprofit organization and relies on user fees and donations to pay for its operation and maintenance.

If you'd like to be a financial supporter, send your donation to Camp Kiwanilong, P.O. Box 128, Warrenton.

Into the open air

By MARK MIZELL

Mark Mizell is an English teacher at Seaside High School. His column runs the first Thursday of each month in The Daily Astorian.

APPENDIX R: Other Funding Mechanisms and Resources

Land Trusts	Generally, these are private nonprofit land conservation organizations whose mission may involve the conservation of wildlife habitat, shorelands, farms, forests, and other valuable open space and resource lands. Land trusts use a variety of mechanisms to meet their goals. These may include fee acquisition, conservation easements, bargain sales, donations and life estates. Land trusts often work in partnership with public agencies to conserve high-value sites. Land trusts include national and international organizations such as the The Nature Conservancy and Trust for Public Lands, and local and regional organizations. Land trusts working in the lower Columbia and north coast regions include the North Coast Land Conservancy and Columbia Land Trust.
Park and Recreation Districts	Chapter 266 Oregon Revised Statutes authorizes the formation of park and recreation districts. Districts may construct, reconstruct, alter, operate and maintain lakes, parks, recreation grounds and buildings, and may acquire real and personal property and rights of way to meet district purposes. Districts may consist of contiguous or noncontiguous territory located in one or more adjoining counties. The formation of districts may be initiated by citizens petition or by order of Boards of County Commissioners, as provided in ORS 198.705-955. The formation of the district must be placed before voters if the proposal includes a request for an operating levy, and a separate vote must occur if the proposal includes a request for bonded indebtedness for purposes of capital construction. Districts may collect voter-approved property taxes, issue general obligation bonds, and sell voter-approved revenue bonds, as provided in the statute. The governing body is an elected 3- or 5-member board.
County Service Districts	Chapter 451 ORS authorizes the formation of county service districts to provide various public services and facilities and to provide coordinated master plans for the development of service facilities. This authority includes: “Public parks and recreation facilities, including land, structures, equipment, supplies and personnel necessary to acquire, develop and maintain such public park and recreation

County Service Districts, Cont.	facilities and to administer a program of supervised recreation areas." Service districts may consist of contiguous or noncontiguous territory located in one or more counties. The formation of districts may be initiated by citizens petition or by order of Boards of County Commissioners, as provided in ORS 198.705-955. The formation of the district must be placed before voters if the proposal includes a request for an operating levy, and a separate vote must occur if the proposal includes a request for bonded indebtedness for purposes of capital construction. Districts may finance the construction, operation and maintenance of service facilities by voter-approved property tax assessments, general obligation bonds, revenue bonds and other methods as provided in the statute. Unlike P&R Districts, Boards of County Commissioners serve as the governing body.
General Obligation Bonds	These voter-approved bonds are an assessment on real property. Funding can be used for capital improvements, but not maintenance. This property tax is levied for a specified period of time, usually 10-30 years. As with serial levies, passage requires

Revenue Bonds	These bonds are sold and paid from the revenue produced from the operation of a facility. (Source: Willamalane Park and Recreation District Comprehensive Parks Plan.)
Local Option Taxes	Chapter 280 ORS authorizes counties and other subdivisions of the state to enact, with voter approval, local option property taxes for the purpose of "financing the cost of any service, project, property or equipment which such subdivision has lawful power to perform, construct, or acquire, and of repairs and improvements thereof and of maintenance and replacement thereof." The ballot measure must qualify under section 11(8), Article XI, of the Oregon Constitution, which requires, in addition to a majority vote, that at least 50% of registered voters eligible to vote cast a ballot unless the

Local Option Taxes, Cont.	election is held during a general election in an even-numbered year. The period of the levy shall not exceed five years, unless the tax is for capital projects. In the case of funding for capital projects, the period of the levy may be up to 10 years or the useful life of the capital project, whichever is less. A county may also obtain these funds as provided in the statute and advance them to a County Service District for approved district services and facilities.
Systems Development Charges	Chapter 223 ORS authorizes local governments to impose systems development charges to help provide orderly growth and development of Oregon communities. Systems development charges may be used for capital improvements only, and the definition of capital improvements specifically includes park and recreation facilities. The systems development charge is "a reimbursement fee, an improvement fee or a combination thereof assessed or collected at the time of increased usage of a capital improvement or issuance of a development permit, building permit or connection to the capital improvement." Improvement fees relate to capital

APPENDIX R: Other Funding Mechanisms and Resources

Partnerships and Volunteers	Volunteers and partner organizations may provide a variety of maintenance and improvement services to support the parks department. The level of volunteer service will vary depending on the number volunteers, timing and availability, skills, equipment and other resource needs, and the capacity of the department to organize and supervise programs and events.
Private Grants, Donations, and Gifts	Many private-sector trusts and foundations provide funding for park, recreation and open space projects. Grants from these sources are typically allocated through a competitive application process – similar to public-sector grants – and vary dramatically in size based on the financial resources and funding objectives of the granting organization. In addition, gifts and donations from private individuals and businesses can make important contributions to parks and recreation services and facilities. The donation of land or land value has helped expand many municipal park systems throughout the northwest. Philanthropic giving is another, related source of project funding. These contributions can include cash gifts and donations through mechanisms such as wills. Community fundraising events – such as annual auctions – can also support park, recreation, and open space facilities and projects.
ODOT Highway Fund	ORS 366.514 allows a portion of the funds received by the by any county from the State Highway Fund to be expended as necessary to provide footpaths and bicycle trails, including curb cuts or ramps as part of the project. Footpaths and bicycle trails, including curb cuts and ramps as part of the project, shall be provided wherever a highway, road or street is being constructed, reconstructed or relocated. <u>Funds received from the State Highway Fund may also be expended to provide footpaths and trails along other highways, roads and streets and in parks and recreation areas.</u>

APPENDIX S: Clatsop County Travel Economic Impacts 1991-2005p (Oregon Tourism Commission)

	1991	1999	2000	2001	2002	2003	2004
Total Direct Travel Spending ($Million)							
Visitor Spending at Destination	178.5	279.5	305.6	319.8	325.9	323.4	337.4
Other Travel*	0.4	0.6	0.6	0.6	0.5	0.3	0.4
Total Direct Spending	178.9	280.1	306.2	320.3	326.4	323.7	337.7
Visitor Spending by Type of Traveler Accommodation ($Million)							
Hotel, Motel	79.4	133.7	147.5	154.4	156.9	154.8	163.1
Private Campground	7.7	9.4	9.7	10.0	10.3	10.6	11.1
Public Campground	9.3	11.3	11.7	12.2	12.7	13.0	13.3
Private Home	3.7	4.9	5.0	5.2	5.4	5.5	5.6
Vacation Home	8.4	13.6	14.9	15.5	15.9	16.2	16.8
Day Travel	70.0	106.6	116.6	122.4	124.8	123.3	127.5
Spending at Destination	178.5	279.5	305.6	319.8	325.9	323.4	337.4
Visitor Spending by Commodity Purchased ($Million)							
Accommodations	39.0	64.3	69.4	71.6	73.3	73.7	78.2
Food & Beverage Services	53.4	83.8	91.6	96.4	98.7	98.1	103.2
Food Stores	17.3	25.8	27.9	29.5	29.9	30.3	32.1
Ground Tran. & Motor Fuel	2.8	4.0	5.1	5.0	4.8	5.6	6.4
Arts, Entertainment & Recreation	27.3	42.4	46.6	49.1	49.8	49.1	50.7
Retail Sales	38.8	59.2	64.9	68.2	69.4	66.5	66.8
Air Transportation (visitor only)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spending at Destination	178.5	279.5	305.6	319.8	325.9	323.4	337.4
Industry Earnings Generated by Travel Spending ($Million)							
Accommodations & Food Service	38.4	61.4	66.8	69.8	71.4	71.3	75.0
Arts, Entertainment & Recreation	8.5	13.1	14.5	15.2	15.5	15.2	15.4
Retail**	6.5	9.8	10.7	11.0	11.0	11.2	11.5
Auto Rental & other ground tran.	0.1	0.2	0.2	0.2	0.2	0.2	0.3
Air Transportation (visitor only)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Travel*	0.2	0.3	0.3	0.3	0.3	0.2	0.2
Total Direct Earnings	53.6	84.8	92.5	96.5	98.4	98.1	102.3
Industry Employment Generated by Travel Spending (Jobs)							
Accommodations & Food Service	2,780	3,430	3,700	3,860	3,860	3,780	3,820
Arts, Entertainment & Recreation	610	760	820	840	860	830	830
Retail**	410	500	530	560	540	550	550
Auto Rental & other ground tran.	10	10	10	10	10	10	10
Air Transportation (visitor only)	0	0	0	0	0	0	0
Other Travel*	20	20	20	20	20	10	10
Total Direct Employment	3,820	4,710	5,080	5,290	5,280	5,180	5,220
Tax Receipts Generated by Travel Spending ($Million)							
Local Tax Receipts	1.8	3.2	3.4	3.5	3.8	3.8	4.0
State Tax Receipts	3.0	4.7	5.2	5.4	5.4	5.5	6.4
Total Direct Tax Receipts	4.9	7.9	8.6	8.9	9.2	9.3	10.4

Details may not add to totals due to rounding.
*Other Travel includes resident air travel and travel agency services. **Retail includes gasoline.
Less than $50,000 in spending, earnings or tax receipts = 'a'. Less than 5 employees = 'b'.

APPENDIX T: County-Owned Water Access Sites

CLATSOP COUNTY PROPERTY INFORMATION

Assessor's Account #	80708CC-100
Acreage	0.32
Zoning	AC-2
Real Market Value 04-05 Assessed Value	3,681 2,106
Location	Knappa Dock at the end of Knappa Dock Road
Other important information	

Knappa Dock

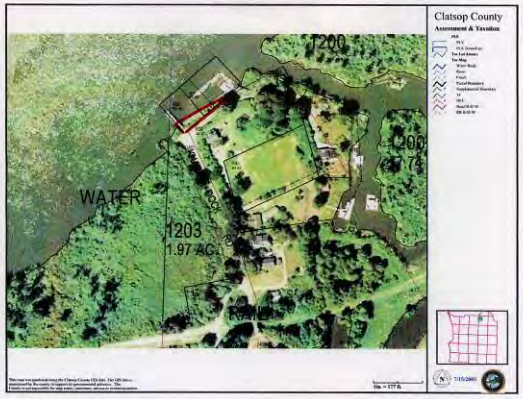
July 7, 1970 Boise Cascade sold dock property to Clatsop County for $1.

Nov. 11, 1990 Clatsop County leased property to Gottfried John Haglund and Brian Haglund.

April 24, 1991 Clatsop County exchanged property with John Haglund.

At one time the dock was used by a ferry to transport cattle to an island to the north.

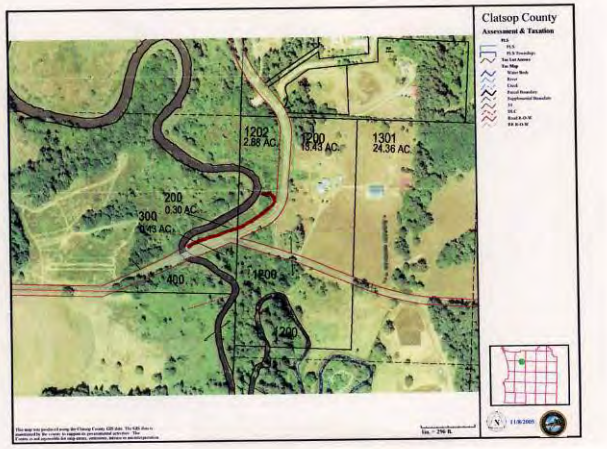
The property includes a dock and strip of land to the east between the road and the Columbia River. There is room to park 4-5 cars to the west of the dock. A short trail gives boaters access to put in non-motorized boats. The dock is currently used for fishing, swimming and tying up motor boats.



Knappa Dock Parcel

CLATSOP COUNTY PROPERTY INFORMATION

Assessor's Account #	70903-200
Acreage	0.30
Zoning	AF
Real Market Value 04-05 Assessed Value	$600 $329
Location	Next to Bridge and Walluski Creek off Walluski Creek Road
Other Important Information	Very narrow strip; currently used as a non-motorized boat launch site.



Walluski River Parcel

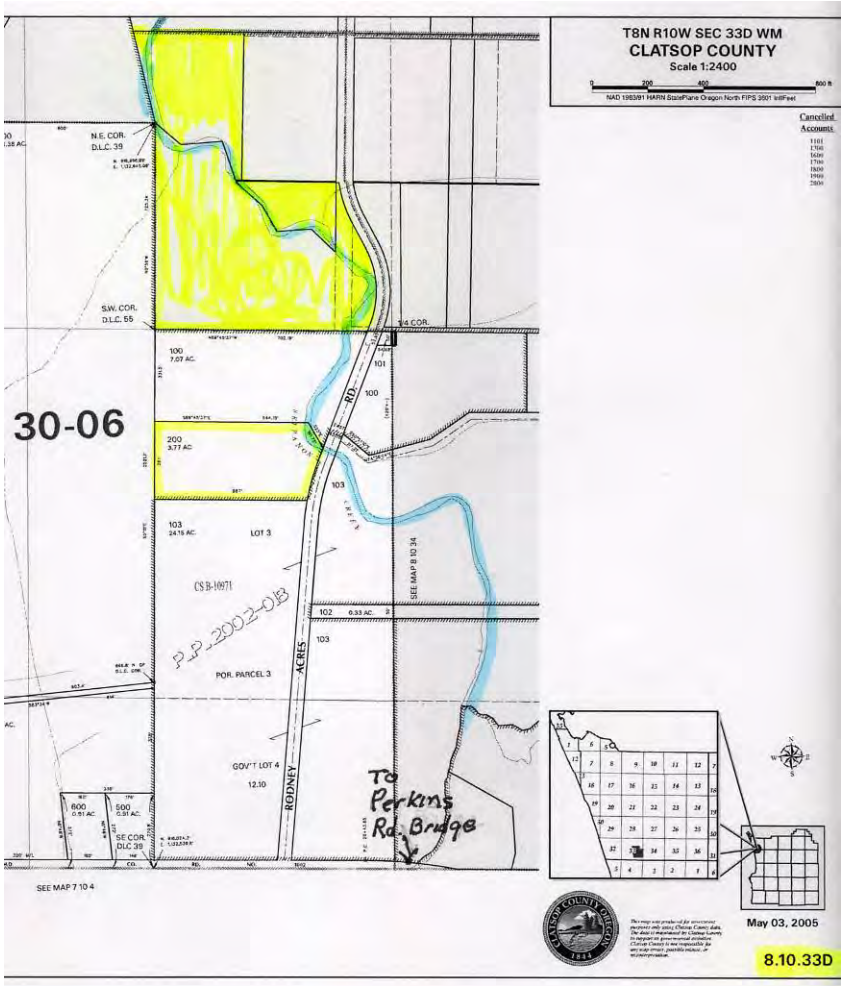
APPENDIX T: County-Owned Water Access Sites

CLATSOP COUNTY PROPERTY INFORMATION

Assessor's Account #	81033A-700, 800, 1000
Acreage	11.74
Zoning	LW
Real Market Value 04-05 Assessed Value	65,161 21,571
Location	Off of Rodney Acres road in Warrenton.
Other important information	Skipanon creek runs through these three parcels.

Assessor's Account #	81033D-200
Acreage	3.77
Zoning	LW
Real Market Value 04-05 Assessed Value	6,967 6,072
Location	Off of Rodney Acres road in Warrenton.
Other important information	Skipanon creek runs through this parcel.

Rodney Road Parcels



Rodney Road Parcels

APPENDIX T: County-Owned Water Access Sites

11.7 acres in three parcels, off Dolphin Road, Warrenton, includes Skipanon River

This impenetrable piece of land appears to be a spectacular natural wetlands, wothy of protection.

Providing parking access for paddlling the Skipanon River directly at this site might be too damaging, and would at least require mitigation. However there is a possible access site close by, within county control, at the Perkins Road bridge over the Skipanon. That location already contains significant gravel fill suitable for limited parking, which could be made accessible to vehicles by removing only a few sections of recently installed guardrail associated with the small bridge. The river level is influenced by tides, and with some modification of the river bank, a small floating access dock down stream from and adjacent to the bridge seems feasible.

From this location, there are miles of pleasant paddling downstream (north) before encountering the 8th Street tidegates in Warrenton (with portage potential to continue to the Columbia River?), and a short upstream paddle (south) would provide a possible link with the new Fort to Sea Trail, where that trail crosses the Skipanon River, via a lovely heavy timber footbridge.

The Perkins Road bridge site also could provide access for maintaining a portable toilet. It also seems sensible to consider collaborating on toilet facilities with the Fort to Sea Trail.

Rodney Road Parcels

APPENDIX T: County-Owned Water Access Sites

CLATSOP COUNTY PROPERTY INFORMATION

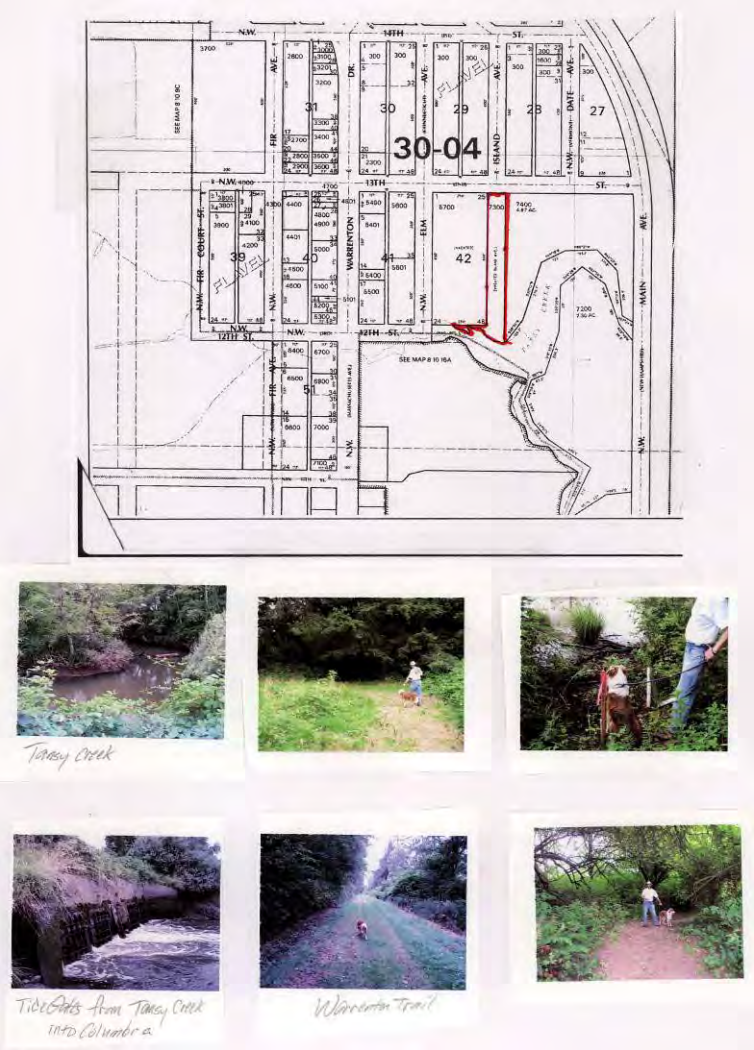
Assessor's Account #	81009D-7300
Acreage	1.03
Zoning	I2, Water Dependent Industrial
Real Market Value 04-05 Assessed Value	31,846 13,002
Location	In Tansy Point area of Warrenton, access from 13th street.
Other important information	Vacated portion of Rhode Island and 3rd. Streets.

1.03 acres fronting Tansy Creek, on Tansy point in Warrenton

This property is technically a vacated road, which usually gets partitioned to adjacent property owners, but a subsequent foreclosure apparently caused it to revert to County ownership. A physical inspection on August 9, 2005 showed evidence of a recent survey. County staff were unaware of any activity regarding the survey, so the survey company (HLB & Associates) was contacted and informed Rec Lands member Gail Galen that they were working on a partition for Anderson Family Trust, the owner of adjacent parcel to the east, tax ID parcel 7400. All party's ownership records show this parcel still in County possession.

This parcel fronts Tansy Creek, accessible currently via an existing "social" trail running through the property (which may cross boundary lines). Tansy creek would provide a pleasant although not lengthy paddling experience. Tansy creek terminates at a set of tide gates into the Columbia River (see photo). It would be too difficult and dangerous to portage around these tide gates without significant alterations. However, Tansy Creek briefly parallels a beautiful, quiet segment of Warrenton Waterfront Trail, with abundant wildlife.

Tansy Creek Parcel

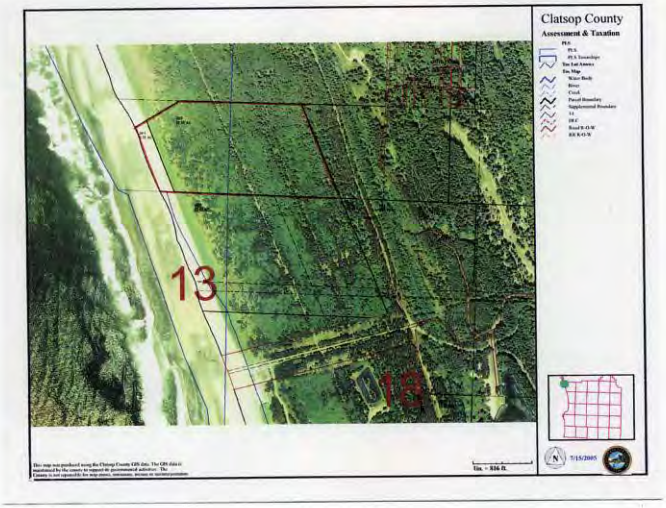


Tansy Creek Parcel

APPENDIX T: County-Owned Water Access Sites

CLATSOP COUNTY PROPERTY INFORMATION

Assessor's Account #	81007-300, 301
Acreage	72.31 for tax lot 300
Zoning	OSI-Open space institutional A5-Lake and Freshwater Wetlands
Real Market Value 04-05 Assessed Value	270,820 270,820
Location	North of Peter Iredale road in the Fort Stevens Park, oceanfront.
Other important information	Tax lot 301 is west of the zone line and no value or acreage given.



Fort Stevens Parcel

CLATSOP COUNTY PROPERTY INFORMATION

Assessor's Account #	81022-100
Acreage	3.07
Zoning	URR
Real Market Value 04-05 Assessed Value	$11,750 $ 6,481
Location	East bank of Skipanon Waterway, just north of the Skipanon Marina.
Other Important Information	Access maybe only be by foot from marina.

3.07 acres on Skipanon Peninsula, North of Skipanon Marina

This property has good potential for recreational water access, although it is fairly industrial. The water level has tidal fluctuations, which would require any water structure to be floating.

There is a dirt road adjacent to the property which is probably owned by the Port of Astoria. The southern end of this road has a parking area which is heavily used by commercial fishermen. It is likely that parking for recreational paddlers would need to be addressed separately.

From this county owned property, paddlers could head north to the Columbia River, and enjoy the Skipanon River to the south, possibly linking with the Fort to Sea trail of Lewis and Clark National Park, a paddling distance of approximately 4 miles. The tide gates at 8th Street in Warrenton would require a small portage, which could actually create an opportunity for another access/rest/service stop, with cooperation of the Skipanon Water Control District, an agency with an active interest in recreational accomodation.

Another trail connectivity bonus is the proximity of this property with the Warrenton Waterfront hiking trail under current development and promotion.

Providing water access here could be unneccessary redundance, since the City of Warrenton apparently owns a small boat (non-motorized) ramp 1/2 to 3/4 mile away, on the Skipanon at 2nd Street, and on 3rd Street owns a river front park, consisting of a small turn-around plus parking for about 6 cars. These sites need evaluation; perhaps there are opportunities for collaborating on upgrading them to meet the needs of water trail users. The possibility that 3/4 mile between user service stops is ideal also should be considered.

Skipanon River Parcel

APPENDIX T: County-Owned Water Access Sites

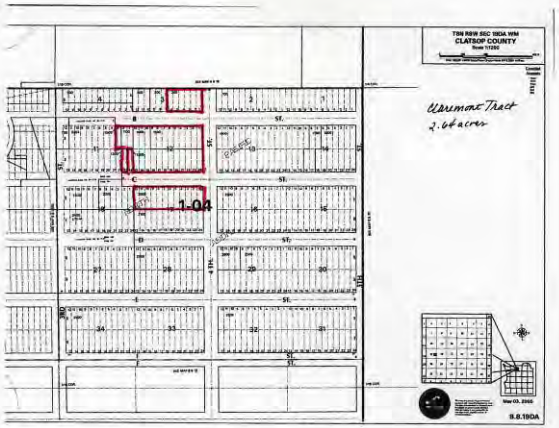
Skipanon River Parcel

Skipanon River Parcel

APPENDIX U: Other County-Owned Parcels

CLATSOP COUNTY PROPERTY INFORMATION

Assessor's Account #	80819DA-200, 1000, 1100, 1200, 1400, 1500, 2000
Acreage	2.02
Zoning	RA-5
Real Market Value 04-05 Assessed Value	48,497 26,567
Location	Off of Claremont Road, next to proposed land trade with Oregon Department of Forestry and Nygaard, et al.(GND)
Other important information	Timber cruise dated October 3, 2001 has a stumpage value of $21,050, however, Jim Capellen informed that this is one of the few 300 year old spruce groves left in Clatsop County, should be used as an educational tool for schools about old growth forest. Access is platted but not improved, steep hill to get there.



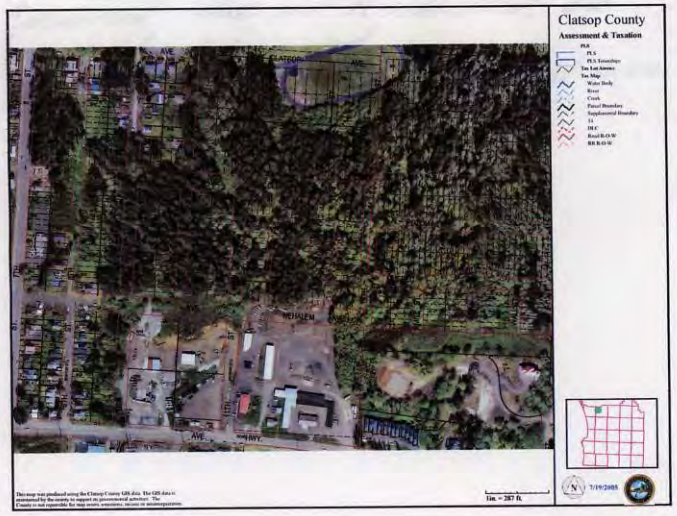
Claremont Road Parcels

Claremont Road Parcels

APPENDIX U: Other County-Owned Parcels

CLATSOP COUNTY PROPERTY INFORMATION

Assessor's Account #	80917CA-1001, 1700, 2200, 2300, 2400, 25000 80917CB-3600
Acreage	8.99
Zoning	R-2
Real Market Value 04-05 Assessed Value	245,042 159,357
Location	South slope of Astoria, between Clatsop County Public Works area and Astoria Middle School
Other important information	Astoria Middle School had a nature trail built several years ago with a 5-year license agreement for maintenance, that agreement has since lapsed and has not been renewed. There is also a stream running thru this area and it is my understanding that the trail has been vandalized.



North of County Public Works Parcels

North of County Public Works Parcels

APPENDIX U: Other County-Owned Parcels

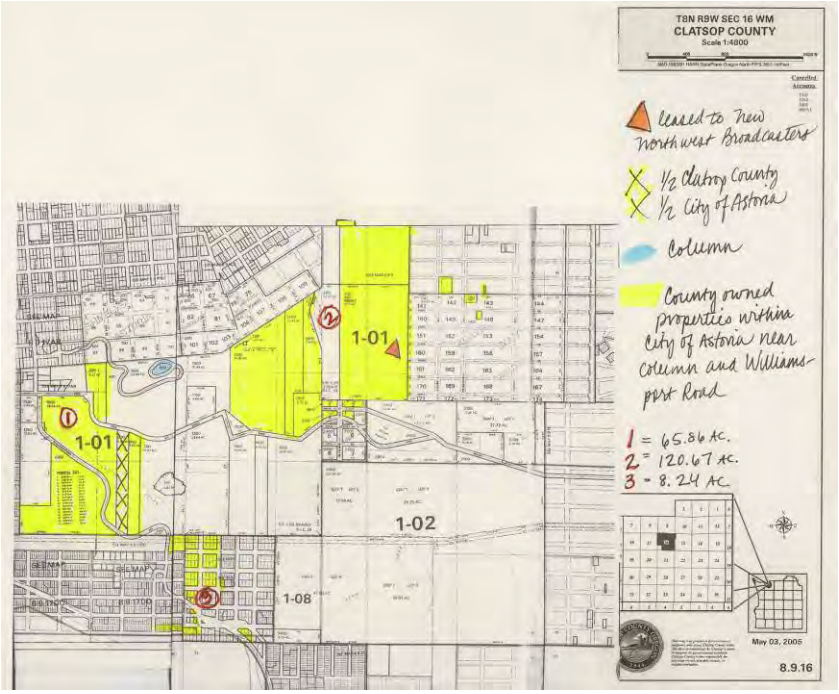
CLATSOP COUNTY PROPERTY INFORMATION

Assessor's Account #	80917-500, 800, 1000 and ½ of tax lot 900. Group # 1 on Map
Acreage	62.91
Zoning	Mostly LR
Real Market Value 04-05 Assessed Value	681,430 446,719
Location	In the city of Astoria, South of Pipeline road and on both sides of Williamsport Road
Other important information	Values and acreage include ½ of tax lot 900. This area is in city limits of Astoria and to the best information available was last logged around 100 years ago.

Assessor's Account #	80909-1900, 80909CA-10800 80916-400, 1300, 1381, 1601, 1700, 1800, 1900, 2000, 2201, 2301 Group # 2 on map
Acreage	119.88
Zoning	LR
Real Market Value 04-05 Assessed Value	164,551 112,918
Location	East of Astoria Column and north of the City's high-pressure water reservoir.
Other important information	Tax lot 400 has a portion of it leased to New Northwest Broadcasters for their FM tower. Base of tower is fenced off. Portion of this larger area was logged in the late 70's. One City of Astoria parcel separates this group of county owned properties.

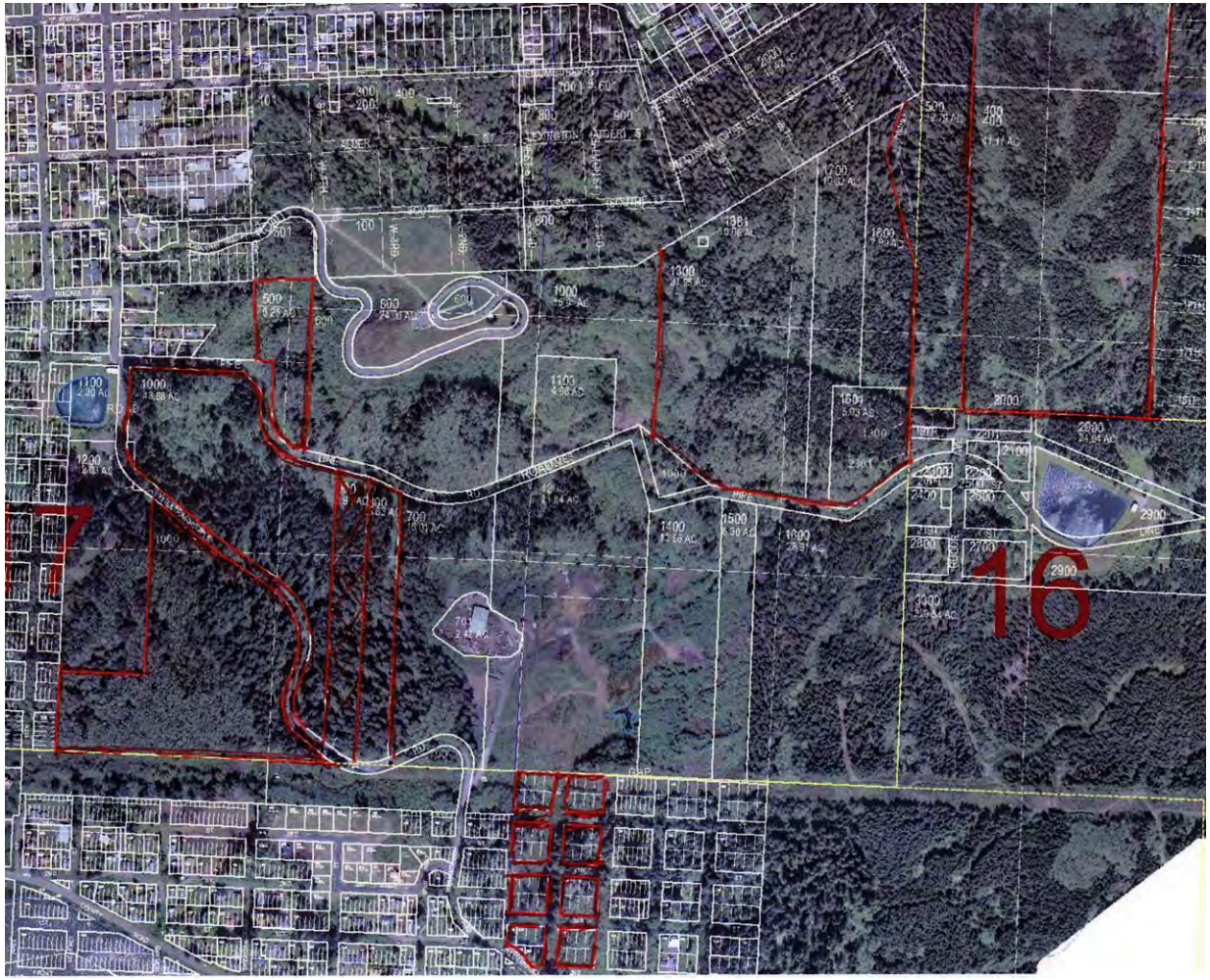
Assessor's Account #	80916CC-100, 200, 900, 1000, 1100, 1200, 1300, 2400, 2900, 3000, 4400, 4900 and 80917DD-100, 5100
Acreage	7.89
Zoning	Mostly R-2
Real Market Value 04-05 Assessed Value	4,827 3,607
Location	South and east of Williamsport Road and some south of Hwy 202, in the Youngs Bay.
Other important information	Most of them do not have improved access, although it is platted on the maps. Group #3 on map

Williamsport Road Parcels

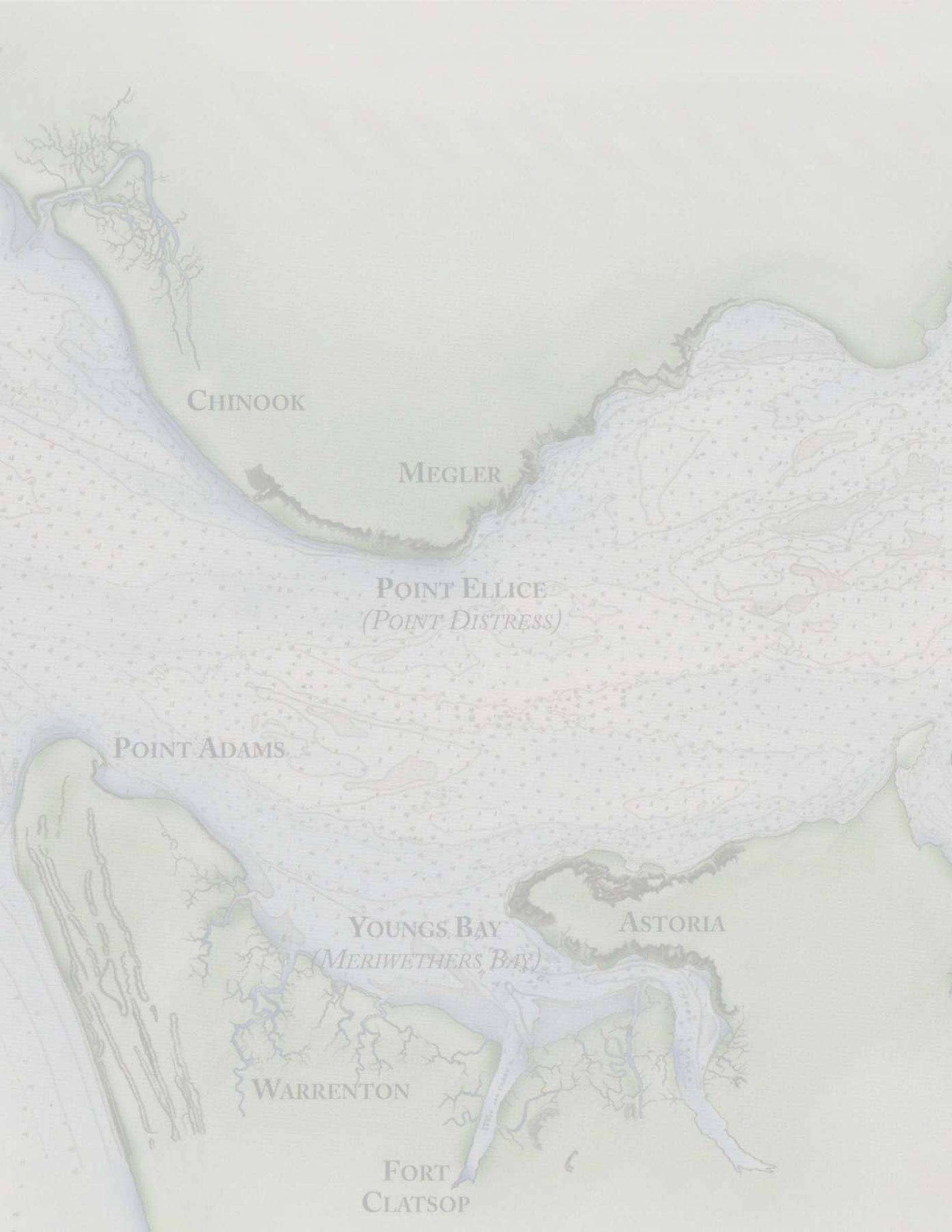


Williamsport Road Parcels

APPENDIX U: Other County-Owned Parcels



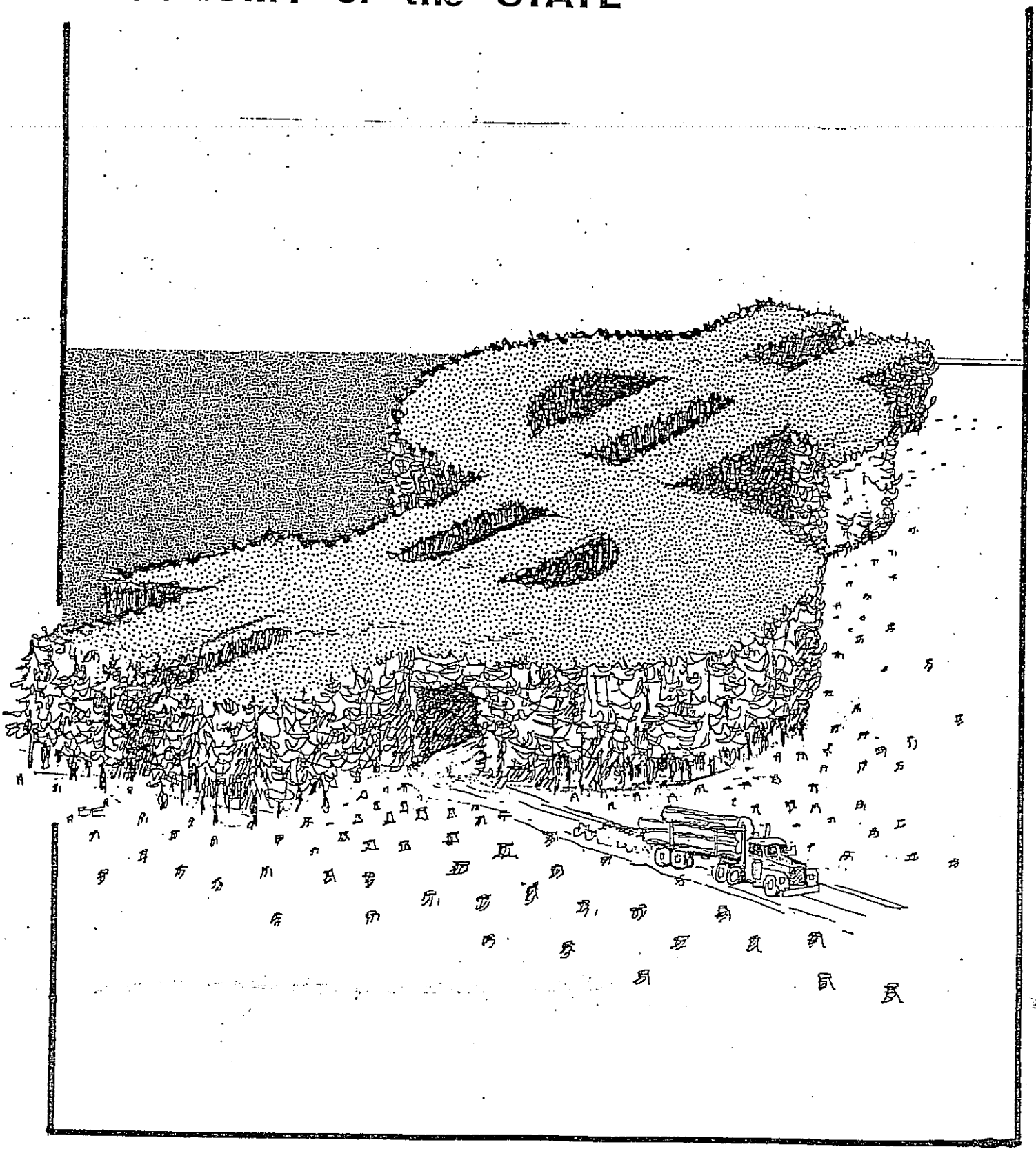
Williamsport Road Parcels


Chinook
Megler
Point Ellice
(Point Distress)
Point Adams
Youngs Bay
(Meriwethers Bay)
Astoria
Warrenton
Fort
Clatsop

Goal 9

CLATSOP COUNTY
GOAL 9
COUNTY-WIDE ELEMENT

ECONOMY of the STATE



COUNTY-WIDE ELEMENT

Goal 9

Economy

Adopted July 23, 1980 by
Clatsop County Board of Commissioners

Amended Ordinance 83-17, dated September 30, 1983

Introduction

Clatsop County has been suffering from economic problems since the mid-fifties due to the area's dependence on the harvesting and exploitation of local natural resources. The forest products industry is the largest dollar generator in Clatsop County, followed by the marine resource sector and tourism.

Due primarily to the seasonal and cyclical nature of these sectors, the county experiences high unemployment, wide discrepancies in patterns of earned income distribution, and significant numbers of households near or below fedeal poverty line indicators.

Existing national economic conditions are responsible for the exportation of non- or semi-processed raw materials resulting in the accompanying exportation of above-average manufacturing wage occupational opportunities.

Overall, Clatsop County's economic strategies must aim at maximizing the potential for local processing and manufacturing of existing resources while attempting to decrease the leakage of local investment and consumer dollar flows.

Goal

To diversify and improve the economy of the state and Clatsop County.

Area of Concern
(Summary)

Community Resources	Natural Resources	Human Resources
-fragmented local economic planning	-cyclical supply and demand patterns	-seasonality of major occupational opportunities
-insufficient local economic planning expertise	-development pressure on agricultural, forest and marine productive land uses	-increased mechanization of major occupational opportunities
-uneven infrastructure facilities		
-insufficient industrial land in rural areas	-reliance on single crop /species harvest and processing patterns	-low-income nature of increasing non-manufacturing occupancies
-poor land-based transportation network	-insufficient long-range productivity measures of marine, forest, and agricultural areas	-traditionallly high unemployment
-prohibiting parcel size on vacant industrial land in urban growth areas		-poor county-wide income distribution patterns
-shortage of investment capital for local manufacturing opportunities	-economic conflicts over resource usage (i.e. forest industry, marine industry, and tourist industry)	-declining county-wide personal income
-lack of control over major occupational opportunites	-high energy utilization of resource harvesting and processing techniques	-nation-wide inflation in basic necessities (energy, food and housing)
		-area has a disproticnate number of retired citizens

Forest Products

Basic Findings

The forest products sector of the County's economy is currently growing and is expected to continue to grow in the foreseeable future due to a favorable combination of factors including excellent access to raw materials and national and international markets through transshipment points on the Columbia River.

The forest industry generates more economic activity in the County than all other sectors of the economy combined. The principal impact to the County's economic from this sector is payment to households (i.e., local employment) from the processing of forest resources. Little correlation

exists between the amount of timber harvested in Clatsop County and employment in local mills due to current timber transportation patterns where local timber is exported internationally while at the same time timber is imported from neighboring counties for local mills. This lack of correlation between local jobs and local harvest levels means that harvest rates above sustained yield levels will not substantially affect long term County employment levels. The best long term employment opportunities for Clatsop County lies in the complete utilization of all the wood fiber the forest lands in the County are capable of prodoucing on a sustained yield basis. That would mean more complete utilization of those species now being harvested as well as bringing into use species not now being used. It would mean an increase in small scale processing operations, better management of the County's small woodlots and an increase in the dollars remaining in the area.

In light of the above facts, the County's best long-term interest is to protect its forest base both in total acreage and rate of harvest so that a stable supply of lower cost lumber is guaranteed for years to come.

Policies

1. Forestation and reforestation of the County's forest lands is encouraged.

2. The County shall encourage the continuation of the long-term supply of raw products necessary to provide material for County mills by the following:

   a. Sustained yields of forest products should be promoted through educational programs provided by service foresters, extension service personnel and continuing educational courses.

   b. Information should be disseminated to owners of small woodlots to help them direct their forest management practices toward a sustained yield of forest products.

   c. Small woodlot owners should be provided financial incentives for maintaining forest land use and effective management practices. Both public and private sectors (especially local forest products industries) should examine long-range payment and contractual agreements with small woodlot owners to level existing tax inequities and diminish long-range cash flow problems. (Such contracts could include reseeding agreements and cost sharing proposals).

   d. State and federal representatives should be asked to explore legislation to provide assistance and incentives to small woodlot owners to insure participation in effective management programs.

   e. Public works (such as CETA or an EDA program) and other labor intensive techniques should be emlployed to accelerate seeding and replanting efforts on small woodlots. In addition, labor intensive brush clearing and seeding preparations should take precedence

where feasible over non-labor intensive techniques, especially if cleared fiber could be utilized for other purposes (energy generation).

f. Reforestation of special species should be encouraged by public incentives, especially for long maturation species such as cedar.

3. The County will work with private industry, the Port of Astoria, the Clatsop County Economic Development Committee and other economic organizations in their attempts to improve forest industry employment opportunities by:

a. Providing technical assistance and business management training to help establishment of small businesses involved in timber salvage, precommercial thinning, tree planting, pole and post cutting, etc.

b. Working with groups such as the Economic Development Administration to encourage the location of small businesses in the County which provide season long employment in the forest industry. Small businesses which would more totally process wood products from currently wasted material should be especially encouraged.

c. Utilizing local education facilities and personnel to provide training in forestry-related skills through cooperation with and knowledge of industry needs.

d. Supporting public actions (such as revenue bonding) which:

1) encourage research and development of wood-waste fueled energy generation,
2) develop technology and products made primarily from non-commercial and under utilized tree species (especially alder), and
3) assist small scale equipment development (i.e. chippers, portable specialty saw mills, etc.).

e. Considering all measures to encourage expanded local processing of locally grown wood fibre to minimize current dollar leakages, including low interest loans, CETA grants, small business assistance programs, and maximum use of the community reinvestment act.

f. Providing adequate industrial lands, an efficient permit approval procedure and adequate public facilities for forestry-related businesses.

Marine Resources

Basic Findings

Clatsop County currently has the largest marine resource sector of any coastal county. This corresponds to the Oregon State University Input/Output Model for Clatsop County which places the marine resource

sector as the area's second largest dollar generator immediately behind forest activities. However, only by developing a wider resource base will Clatsop County be able to maintain its position as the State's largest seafood processor. Hope for the future lies with exploitation of different species, such as bottom fish, rather than more exploitation of existing activities. If new species and different products are utilized, it may be possible to generate numerous employment opportunities.

Seafood processing is labor intensive and as would be expected, a direct correlation exists between the number of pounds of fish landed and employment opportunities created. Increased output in marine resource activity generates more jobs per dollra than the other leading economic sectors of the County.

Policies

1. The County shall enhance and protect the marine resource environment through participation in the Columbia River estuary regional planning process.

2. Clatsop County encourages efforts towards organizing the numerous fishing interests in Clatsop County in conjunction with OSU's Sea Grant Program, Clatsop Community College and the Clatsop County Economic Development Committee to develop methods to expand fishery activity in Clatsop County. Such activity could include:

   a. continued staff support for the Vanderveldt Pond salmon hatchery model project,

   b. expansion of the Vanderveldt Pond model project to include experimentation with other species and various food fish by-products,

   c. establishment of other model programs to utilize various fish species in different products, and

   d. provision of technical assistance to local citizens interested in attempting commercial ventures derived from model programs.

3. The County, Port of Astoria, and the Economic Development Committee should promote those public facilities and services required to increase the amount of seafood landed in Clatsop County. These activities include:

   a. Cataloging existing federal and state loan programs, production credits, and other program opportunities so that are fishermen and local financial institutions are aware of benefits and utilization procedures. (NOTE: The Economic Development Committee with financial assistance is the ideal setting for bringing finance managers and fishery personnel together).

   b. Encouraging resource agencies to continue developing information on the sustained yield of fisheries.

c. The County, through the Citizen Advisory and technical committees, should become involved in the selection of research projects in the Columbia River Estuary Data Development Study so that the research generated reflected local needs and concerns.

d. Developing and expanding land based facilities in cooperation with fishery personnel, local businessmen, and port district staff, placing special attention on cold storage, landing facilities and moorage facilities.

e. Developing a brochure of facilities available in Clatsop County to be distributed to the west coast fishing fleet in order to expand visitor landings in the area.

f. Giving priority to the development of marketing and transporttaion coopertives or associations to provide competitive advantages to local fishery personnel.

g. Encouraging cooperation of local lending institutions and provision of technical assistance to assit local boat builders in expanding building facilities.

Travel Industry

Basic Findings

The tourist or travel industry is, like the other major economic sectors of Clatsop County, based on use of the area's natural resources. These resources include the relatively unpopulated coastal beaches, forest areas, good fish and wildlife populations and clear air. In direct dollar impact, the travel industry is the third most important sector. While employment opportunities in the travel sector tend to be lower paying, these jobs provide important opportunities for new labor entrants and secondary wage earners.

The tourist industry impacts the County in both positive and negative ways. Costs borne by the community include over design of public facilities to meet peak load summer demand, highway congestion, effects of the inflationary travel dollar, and crowding of recreational areas. It is important to realize the danger of promoting any tourist activity until it surpasses the resource's carrying capacity. The beaches, rivers and forest can become so crowded that the recreational experience is diminished and tourist dollars decrease. The best strategy for the County is to level out the impacts on public services and communitites by promoting travel activity during the traditional non-tourist season.

The travel industry is the economic sector of the County most susceptible to the current national economic conditions of inflation and rising energy costs. The County can expect a significant decrease in out-of-state tourists. Due to the County's proximity to Portland, this decrease will be somewhat off-set by an increase in in-state tourists. As energy prices increase, it seems logical to expect an increase in destination oriented tourism accompanied by a decrease in self-contained recreational vehicle type tourists.

Policies

1. The County Planning Commission, in cooperation with the Recreation/Tourism Subcommittee should act in unison to insure tht future Recreation/Tourism high intensity activity is located in Urban Growth Boundaries and Rural Service Areas which have the capacity to handle them at the lowest possible public cost. Tourist facilities should be developed in these areas before developing new facilities elsewhere.

2. The County Commission, in conjunction with the Fair Board, should attempt to promote year-round utilization of the facilities at the County Fairgrounds.

3. The County should encourage local travel industry representatives and organizations to coordinate with each other to promote off-season activities. Clatsop County supports the EDC Recreation/Tourism Subcommittee efforts in developing a County-wide visitors bureau.

   The Recreation/Tourism Subcommittee of the EDC could provide a forum for the fragmented tourist industry to meet and organize their efforts. The primary goal should be to provide indoor off-season facilities to level out the current employment pattern.

4. The County should encourage Clatsop Community College, in coordination with local tourist and retail organizations, to provide programs and training for local businesses. Such training could consist of off-season workshops on needed areas of information and should be geared to the financial scope and needs of existing small businesses. Workshops could be offered in:

   a. marketing and advertising methods for small businesses,
   b. management assistance,
   c. employee/employer relations, and
   d. customer relations.

5. In order to develop and better utilize local recreational and tourist resources, the County should research, inventory and catalog existing and potential recreational resources.

Human Resources

Basic Findings

Problems of the labor market in Clatsop County include the seasonality of major occupational opportunities and traditionally high unemployment. As population during the 1970's has slowly increased, the job market has not been able to maintan a comparable rate of new job creation. Three-quarters of the new jobs created since 1960 shave been in the non-manufacturing sector (i.e. tourist industry) which traditionally has been lower paying and less skilled jobs. This is reflected in unequal County-wide income distribution patterns where 50% of those earning income in Clatsop County in 1978 earned only 16% of available income.

A substantial portion of unemployed persons in Clatsop County do not possess the skills necessary to gain employment in the higher paid skilled jobs available in the County. A major need exists to develop vocational and other job skill programs to enable local low-income residents to successfully compete with qualified people outside the area for employment in any new industrial opportunity. Without a job training program, the creation of new jobs in the County is not likely to change unemployment trends, alter the existing distribution of income or affect the population/employment ratio.

Policies

1. The County shall encourage local County-based industrial and commercial firms to cooperate with existing educational institutions to develop and utilize job training programs to hire local unemployed and underemployed individuals.

2. The Human Resources Committee of the County should serve as a liason between local business and the community college. The committee should provide information to the college on the needs of local business an dinformation to local business of services available at the college.

Community Resources

Basic Findings

A. Advisory and Technical Support Organizations:

1. Clatsop County Economic Development Committee (EDC).

The EDC is the Economic Development Administration's recognized body to do overall economic development planning for Clatsop County. This organization is comprised of numerous public officials, various special interest and business groups, business mend and women and technical personnel. They have been active and influential in determining local development strategies. One of their major accomplishments has been the establishment of a salmon-rearing hatchery on Vanderveldt Pond which will provide several million salmon per year into the Columbia, improving sport and commercial catch opportunities.

More locally initiated projects need to be generated if the area is to meet the needs of the expanding labor force. By working together the community could design projects for wood waste and hardwood utilization, fish waste and bottom fish product development, and numerous infrastructure improvements for recreation/tourism activity. The latter area has received considerable attention by the EDC and projects in this area are moved toward completion.

It seems likely that the EDC will attempt future projects similar to the salmon hatchery project where local resources are better

utilized for local residents due to the apparent success of that project. A step in that direction may be the expansion of the EDC to include areas currently not represented and support from local jurisdictions to provide the EDC with the staff necessary to maintain and expand their existing efforts.

2. Port of Astoria.

The Port of Astoria is one of the largest recreational, commercial, and cargo ports on the Oregon coast. The Port's current goals emphasize their long-range purpose of gaining an active role in the Columbia River transportation network. Its strategic location at the mouth of the Columbia River provides it with competitively advantageous economic opportunities that increase as transportation costs of ocean-going vessels rise.

However, in order to make this possible, major improvements in the railroad tracks from Portland to Astoria and upgrading of Highway 30 east of Astoria must occur.

However, the Port also needs to consider shifting some of its emphasis into short-term community development projects. By utilizing the Port's bonding capability, various projects exist that would both generate revenue for the Port and provide occupational opportunities for County residents. In order to increase its effectiveness in the area of economic development, the Port of Astoria must attempt to balance its roles of transportation of cargo and community job creator.

B. Industrial Lands:

The EDC has completed an inventory of County-wide industrial zoned land. As the inventory portrays, Clatsop County has a number of vacant industrial sites throughout the County, several being large tracts of 100-660 acres. The largest amounts of industrial land are in Warrenton, Astoria and along the Columbia River at Westport. The Alumax site of 662 acres and the industrial land at Tongue Point have been included into the cities of Warrenton and Astoria's Urban Growth Boundaries respectively. This reflects the cities' capabilities of serving these areas during the planning period.

The Estuarine Resources Goal (#16) requires identification and protection of areas especially suited for water dependent development. These areas were identified in the County through the CREST plan and are appropriately protected in this plan. Detailed information on each of the vacant industrial sites is contained in Appendix A of the Economic Background Report.

A problem exists in that the larger industrial tracts tend to be available on an all or nothing basis due primarily to ownership patterns. The only client currently capable of utilizing such a large parcel would be a heavy large industrial activity. By opening one or more of the large hundred plus acre sites for small industrial usage it may be possible to meet demand for industrial land more efficiently and also make it easier to attract smaller firms to the area.

C. Cottage Industries:

There is a need to enable small scale low-impact manufacturing activities to get a start in the County without large capital outlays for buildings, purchase of land, etc. This could be accomplished by allowing "cottage industries" on a conditional basis in parts of the rural area of the County. Cottage industries are those industries which utilize a small-scale low-impact technology in the processing of a natural resource.

* Most cottage industries are small scale family operations with no intention of growing into a major industrial use. Allowing that business to occur in conjunction with the family home can perform many beneficial funcitons such as reducing unemployment and often promoting energy conservation. The County's role is ensuring that cottage industries are compatible with the existing character of an area.

* Cottage industries are appropriate in conjunction with residences in both the Rural and Conservaion Plan designations. On Conservaiton: Forest lands an additional standard exists to ensure that there will be no impact on or from forest management practices.

* Many residences that are not resource related are located in Agricultural and Forest areas presently. New dwellings generally must be resource related. Cottage industries in conjunction with either existing residences or newly approved residences are appropriate so long as the resource is not adversely affected. The cottage industry standards ensure that the use will be compatible with the area."

* D. Commercial and Industrial Zoning Outside UGB's.

Most commercial and industrial development outside UGB's will take place on lands in the Development or Rural Service Area Plan designations. However, a limited amount of commercial and industrial development is appropriate in the Rural Plan designation. This includes developments needed to serve the rural population and commercial and industrial businesses which directly rely on nearby resource lands and are most appropriately located in close proximity to such lands.

Policies

1. The County and other local jurisdictions should continue support of the economic planning program by either:

   a. Providing staff assistance to the existing EDC which currently has the official task of County-wide economic planning and special district and municipal coordination,

   b. Integrating the existing economic planning process into the Department of Planning and Development and providing additional staff to operate a full-time economic program, or

* Amended 83-17, dated Sept 30, 1983

*9. Require an economic and fiscal impact assessment showing whether or not there are net benefits to the County as a whole for the destination resort. Such an assessment should examine and consider:

-- Changes in employment and income to the area and the county;
-- Changes in local revenues and demands for new or increased levels of public facilities and services;and
-- Indirect economic impacts on the surrounding area including the effect of the loss of resource land.

*10. Require conditions necessary and sufficient to ensure that the development is compatible with continued resource use of surrounding lands. These measures may include, but are not limited to:

-- Limiting the number of dwelling units;
-- Limiting the overall density of the development;
-- Limiting the location of structures, roads and physical alterations, or otherwise restricting layout to protect important natural features or to buffer the resort from adjacent or nearby uses; and
-- Additional planning and zoning controls on nearby land to reduce or manage pressures of offsite development created by the destination resort.

*11. Clatsop County recommends that a joint state-federal task force be appointed to examine planning for developed recreation facilities on state and federal lands. Based upon a state-wide study of potential facility needs, such a task force could suggest needs which might be met on state or federal owned lands.

* Amended 83-17, dated Sept 30, 1983

BACKGROUND REPORT

Goal 9

Economy

August 9, 1979

Prepared By

Bill Street
Clatsop-Tillamook Intergovernmental Council

For
Clatsop County Department of Planning and Development

Adopted July 23, 1980

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INTRODUCTION TO CLATSOP COUNTY'S ECONOMIC PLANNING PROGRAM

STATEMENT OF PURPOSE

The purpose for economic planning in Clatsop County is in some ways easier to ascertain than for many of the more prosperous counties in the State. It is easier to define because this area has suffered from chronic economic problems since the mid-'50s. This gradual and steady economic decline has inflicted both fiscal and psychological costs on the entire community, although, as is traditionally the case, those members of the community least able to afford this cost bear the major portion of the burdens.

These community-borne costs, elucidated throughout this document, had the effect of forging a loose social consensus as to the general direction for economic planning; a consensus based upon increasing community malaise, which accompanies economic decline.

Everyone involved in the planning process over the past year has agreed that this area should attempt to regain the economic vitality that existed in the recent past.

However, how should this be accomplished, and at what costs, and to whom? These are crucial questions which this document attempts to address. These economic development strategy decisions become more complicated when environmental considerations are introduced. Since the area's economy is substantially dependent upon the extraction and exploitation of natural resources, various costs are incurred by the community. The degree to which these costs should be incurred and who should bear the burden of these costs, is another set of considerations which separate several groups in the County.

In short, the purpose of this report is to determine a direction for economic activity in Clatsop County, a direction which reflects the desires and needs of the local residents, a direction which attempts to balance the diverse and conflicting interests of the citizens of Clatsop County.

The ultimate goal of such a program is to provide the residents of Clatsop County with a community capable of maintaining both the particular quality of life and a standard of living which can provide a chance for all residents to maximize their specific potential.

*COMMERCIAL AND INDUSTRIAL USES IN RURAL AREAS OF THE COUNTY

Different levels of commercial and industrial development are appropriate for lands in different plan designations in the County. Most of the commercial and industrial development will occur within the Development and Rural Service Area plan designations. A limited amount of commercial and industrial development is appropriate for the Rural plan designation.

The Rural designation covers lands which are built upon or committed to nonresource use. Rural homesites are the predominant uses of these lands. There are approximately = acres of land in this designation. Also, as of 1980, there are approximately 4600 homes with over 12,000 people living outside UGB's in Clatsop County, most of these in the Rural plan designation.

The residents of the rural parts of the County need a certain level of local commercial and industrial facilities. The commercial facilities appropriate in these areas are businesses which cater to the local areas, such as grocery stores, feed and seed outlets, restaurants, small "general stores", etc. Businesses which are designed to serve primarily urban areas should be located within Urban Growth Boundaries, not in the Rural plan designation.

Certain light industrial operations are also appropriate on lands in the Rural plan designation. These include industrial activities which, by their nature, are best located near resource lands. For example, repair of heavy logging and agricultural equipment requires a Light Industrial zone. This activity is best located near forest or agricultural areas, but should not occupy valuable resource land. Other industrial activities which serve local needs are also appropriate. As with commercial facilities, those industrial operations which are designed to serve primarily urban areas or which draw mainly on urban areas for employees should be located within Urban Growth Boundaries.

PLANNING AND PROJECT LIMITATIONS

Economic Forces

Clatsop County, as is common with most coastal counties in Oregon, is economically lagging when compared to State averages and has been so since the mid-'50s.

Local residents and public officials have been attempting to reverse existing conditions for over twenty years as have numerous special districts and civic groups.

* Amended 83-17, dated Sept 30, 1983

The primary limitation to effective economic planning, as with most planning efforts, stems from a lack of control. This lack of control, as far as Goal 9 is concerned, results from the arbitrary scale of the political subdivision, in this particular case, a county. A county has little control over its economic future, particularly in a non-diversified economy dominated by national and multi-national firms, mass marketing, federal fiscal policies, and various state programs. As our current economic system has created the factors that tend to increase the scale of production, substituting large-scale for small-scale which decreases traditional forms of free competition by the formation of mass integrated markets, local economies have ceased to play an important role in the national fiscal scene. Large urban corporate entities control the economy, penetrating even the most remote rural village with products, prices, and technology. This urban corporate invasion has had a tremendous impact on rural life, one which for the most part has been negative. Rural areas, much similar to underdeveloped countries, offer the fuel, raw materials, and labor for the industrialized, advanced, urban corporate areas and receive little in return. In short, rural America is burdened by many of the social and economic ills of our urban-dominated society with none of the resources at its disposal to cope or solve the problems which it had little to do with creating. Rural areas are small-scale, simple organizations in a large-scale, complex world.

Social Limitations

Urban penetration into rural markets is a recent phenomenon. Much like technological innovations, it happened more quickly than most people could adapt. The traditional rural life style, with its mores, norms and other beliefs, was intact during the socialization period of the present generation. Yet, the traditional conditions which led to the creation and support of these agrarian values have changed. Current conditions that govern the economics of rural society are much different than those that created the existing values. The existing value system was based on laissez-faire, free competition, individual rights, and extended families. Yet, current economic conditions are of oligopolistic corporations, mass society, and federalism. As a result of this rapid socio-economic change rural communities do not possess the skills necessary to adequately cope with their problems on either an individual or on an institutional level. This historic social lag results in the failure of most attempts by rural communities to solve their own economic problems which in turn creates apathy among the citizens until such a time as most efforts to re-vitalize their community are viewed as idealistic and finally unrealistic.

Out of this brief socio-economic analysis arises the broad parameters of what any program to aid rural areas must do. It must seek to educate the populace as to the economic conditions currently influencing their lives. It must be grass roots oriented, designed to work with the citizens, not for them. It must maximize local control for both economic and social reasons, and, finally, it must be designed to instill economic self-confidence in the community.

After accounting for leakages in the area's fishery industry it is estimated that approximately 40.3 million dollars is added to the Clatsop County economy annually by this industrial grouping.

However, just as a portion of each dollar is lost from the County economy, the remaining portion is respent or multiplied several times generating substantial economic activity. This indirect economic impact is demonstrated by Table M-3.

Table M-3. Estimated Indirect Economic Impact of Commercial Marine Resource Activity in Clatsop County (000)

SECTOR	DIRECT DOLLAR IMPACT	MULTIPLIERS	INDIRECT
Other fish processing	$24,671	2.06374	$50,914
Combination fishermen	3,370	2.03686	6,864
Salmon processing	5,193	2.72805	14,166
Other fishermen	5,377	3.15674	16,973
Troll fishermen	916	2.57184	2,355
Gillnet fishermen	801	2.46604	1,959
			$93,234

Source: OSU I/O Model, 1978

It is estimated that the marine sector has an indirect impact of approximately 93 million dollars annually. When combined with the direct impact of 40 million dollars the overall annual value-added income created by the marine resource sector for the Clatsop County economy is approximately 133 million dollars.

In absolute terms, Tuna is the single most important fishery activity in Clatsop County. This reinforces the I/O Model which places other fish processing as the largest economic generator of all fishery components. In descending order the relative importance of the fishery sectors would be as follows:

Tuna
Groundfish
Shrimp
Crab
Salmon
Clams

Unfortunately, this does not provide us with any analysis of efficiency nor energy expended per pound landed or dollar generated. It does, however, provide some long-term trends.

Table M-4. COMMERCIAL FOOD FISH LANDINGS in pound (lbs.) weight

by ADMINISTRATIVE DISTRICT (ASTORIA)

YEAR	SALMON	STURGEON	CRABS	CLAMS	SHRIMP	TUNA	GROUNDFISH	MISC.	TOTAL
1970	1,019,891	4,238	3,809,343	14,681	2,609,461	23,888,175	11,627,887	.....	42,973,686
1971	951,441	4,517	5,148,741	30,227	1,797,242	11,293,939	10,524,609	.....	29,750,716
1972	491,827	1,267	3,872,563	12,550	2,359,920	22,377,175	10,618,335	.....	39,733,634
1973	309,866	1,860	992,973	16,252	2,777,298	19,102,041	9,450,108	.....	32,650,398
1974	483,817	484	1,398,220	8,553	6,408,831	26,723,583	9,907,149	.....	45.230,637
1975	399,380	1,582	1,090,333	40,656	5,075,528	16,599,703	9,372,829	38	32,580,049
1976	1,177,321	9,297	1,353,092	117,476	5,700,549	16,166,021	12,653,359	551	37,164,197

ESTIMATED VALUE AT FISHERMEN'S LEVEL OF COMMERCIAL FOOD FISH LANDINGS

by ADMINISTRATIVE DISTRICT (ASTORIA) (000 dollars).

1970	559	------	952	10	313	6,086	872		8,792
1971	322	------	1,184	18	208	3,086	865		5,683
1972	242	------	1,642	9	283	6,805	1,009		9,990
1973	206	------	566	12	611	6,490	1,134		9,019
1974	340	------	210	7	1,227	9,982	1,475		14,004
1975	279	------	872	34	682	5,142	1,242		8,251
1976	1,375	3	880	105	1,140	5,093	1,910		10,506

'ce: Oregon Department of Fish and Wildlife

Groundfish or bottomfish seems to be the largest growing fishery sector. It also is the most stable as far as yearly fluctuation is concerned. This increase probably reflects an increased effort and recent political developments involving the two hundred mile limit. These activities plus the introduction of improved technologies and the development of new markets, both domestic and international, will probably continue to make groundfish the fastest growing marine sector.

As with forest productions industry, hope for further advance lies with exploitation of different species, such as bottom fish, rather than with more exploitation of existing activities. Unfortunately, the marine resource industry does not have the information necessary to develop management practices to the same extent as does the forest industry. However, it is probably because of the industry's decentralized nature that local communities and their public policies can conceivably have a greater impact on this sector than either of the two other major income generators.

External Costs

Like the forest products industry the costs generated by the fishing industry are difficult to ascertain and it is difficult to determine who exactly bears the burden of these costs.

The most obvious cost is resource depletion and management. The cost to the community of resource depletion would be and is quite large. Several processing firms have already relocated out of Clatsop County due to, among other reasons, the scarcity of fish.

A second cost in relation specifically to salmon is the State hatchery program that provides the foundation for much of the Columbia River salmon catch.

The majority of external costs relate more to the area of trade-offs between other sectors and as such are difficult to analyze. It is difficult to quantify the trade-offs between the various sectors of the area's economy. A job gained in the forest products sector, if at the expense of a fishery job, is more of a matter for elected officials than policy planners. Each sector has better and worse paying jobs with numerous associated costs. The marine resource sector, while exhibiting strengths in many areas, is weak, as will be pointed out in others. The ultimate decisions are clearly political.

EMPLOYMENT

Like the travel industry sector, it is difficult to obtain reliable information concerning the actual numbers of full-time fishermen in Clatsop County. It is difficult because of the part-time nature of many of the fishermen, the lack of accurate employment insurance reporting by fishermen, and the high mobility of fishermen who are capable of selling their product at any coastal port.

Table M-5 lists the commercial fishery licenses and income for the entire Oregon Coastal Zone. As of 1973 Clatsop County represented approximately two thirds of all coastal fishery activity and it seems unlikely that any significant activities have occurred to periodically alter that ratio. It does seem that this ratio is decreasing as other coastal ports begin to develop their land-based operations. However, for these purposes approximately two thirds of this statewide data on Table M-5 can be assumed to be an adequate description of license and income activity in Clatsop County. It is important to realize that a substantial proportion of the yearly fishery catch is garnished by a small number of fishermen. In short, many individuals fish but only a few have the ability and willingness to make a living at it.

1971-1977

	1971		1972		1973		1974		1975		1976		1977	
	Number Issued	Income	Number Issued	Income	Number Issued	Income	Number Issued	Income	Number Issued	Income	Number Issued	Income	Number Issued	Income
Albacore Tuna Landing	--	$	--	$	--	$	424	$ 4,240	458	$ 4,580	202	$ 2,020	165	$ [illegible]
Bait Dealer	17	255	29	435	29	435	27	675	31	775	28	700	42	[illegible]
Bait Fishing	11	165	35	525	40	600	59	1,475	51	1,275	39	1,275	51	[illegible]
Boat	3,487	104,610	3,314	99,420	3,567	107,010	2,978	528,260	3,067	540,030	3,452	586,840	4,093	[illegible]
Boat, Lost License	6	12	2	4	6	12	15	39	15	30	11	22	21	42
Buyer	118	1,770	135	2,025	121	1,815	103	5,150	85	4,250	101	5,050	101	[illegible]
Canner, Fish	17	2,550	18	2,700	17	2,550	17	5,100	17	5,100	13	3,900	14	[illegible]
Canner, Shellfish	4	300	2	150	1	75	1	200	1	200	2	400	2	400
Fishing	6,428	147,844	5,989	137,747	6,668	153,364	5,556	229,630	5,540	226,550	5,990	239,600	7,982	[illegible]
Fishing, Lost License	40	40	54	54	41	41	48	96	37	74	33	66	49	[illegible]
Gillnet, Nonresident	46	3,128	18	1,224	17	1,156	--	--	--	--	--	--	--	--
Gillnet, Resident	650	5,200	570	4,560	581	4,648	--	--	--	--	--	--	--	--
Setline	8	64	2	16	6	48	--	--	--	--	--	--	--	--
Setnet	130	1,040	91	728	159	1,272	--	--	--	--	--	--		
Single Delivery	203	4,669	384	8,832	382	8,786	110	8,250	106	7,950	88	6,600	69	[illegible]
Special Permit	4	6	111	166	124	186	169	507	249	747	235	675	202	606
Wholesale	165	12,375	163	12,225	151	11,325	162	16,200	164	16,640	165	1,650	197	19,730
TOTAL	11,334	$284,028	10,917	$270,811	11,910	$293,323	9,669	$799,622	9,819	$793,201	10,369	$848,998	12,985	1,042,621

Source: Oregon Department of Fish and Wildlife

Land-based operations employment data on the other hand is relatively easier to locate. Table M-6 reflects employment in food products which is primarily seafood processing. It also highlights the seasonality of this activity.

Table M-6. Food Products Wage and Salary Employment in Clatsop County

YEAR	ANNUAL AVERAGE	MONTHLY HIGH	MONTHLY LOW	DIFFERENCE
1960	1,210	1,360/Aug	1,060/Nov	300
1965	1,160	1,490/Sep	1,000/Jan	490
1970	1,360	1,740/Sep	980/Jan	780
1971	1,370	1,870/Sep	760/Jan	1,110
1972	1,450	1,830/Sep	1,120/Apr	710
1973	1,340	1,780/Sep	1,230/Mar	550
1974	1,500	1,910/Aug	1,170/Mar	740
1975	1,170	1,670/Oct	710/Feb	960
1976	1,370	1,800/Sep	790/Mar	1,010
1977	1,340	1,860/Sep	660/Mar	1,200

Source: Labor Force Trends, Employment Division

Table M-6 shows that both the annual average and the monthly high is relatively stable, however that the monthly low and the annual difference between monthly employment highs and lows is increasing. In an attempt to discover a possible correlation between the increasing employment differentials and availability of raw materials. Table M-4 shows the pounds and value of raw materials landed.

A comparison of Table M-4 with Table M-6 shows a definite relationship, as would be expected between employment opportunities and total pounds of fish landed.* As the resource supply increases employment increases. In fact, for its size, this sector is the most labor intensive of any in the area. The following table briefly outlines the amount of economic activity that needs to be generated in order to increase employment.

Table M-7. Employment Coefficients

SECTOR	NECESSARY CHANGE IN OUTPUT TO INCREASE EMPLOYMENT BY ONE PERSON-YEAR
Logging	$ 64,767
Wood Processing	113,895
Service Stations	223,714
Retail & Wholesale Services/Products	88,028
Manufacturing	65,317
Retail Services	23,127
Gillnet/Troll Fishermen	16,614
Combination/Other Fishermen	16,614
Fish Processing	82,850

Source: OSU I/O Model, 1978

Of the 26 sector model developed by OSU the lowest employment generation sector due to output increase is the fishermen sector. The processing sector, though substantially more labor intensive, rates lower than either wood processing or retail and wholesale services and products. In other words, increased output in marine resource activity would generate more jobs per dollar than either the forest products industry or the retail service travel oriented sectors, although the difference is less drastic.

Given the cultural importance of marine activity to Clatsop County and the symbiotic relationship between the marine resource sectors and the travel industry sectors it appears as if public expenditures to upgrade these areas may well be the most cost efficient development strategy to pursue, particularly in light of existing local occupational skill levels to be discussed later.

*This correlation is important because one of the larger employers in this sector imports much of what it processes.

Table M-8

Economic and Employment Impacts from Clatsop County Fishers, 1977

Conditions (1)

Type of fisher	Dragger	Shrimper	Troller	Gillnetter
Annual Landings/lbs.	1,000,000	800,000	17,000	13,000
Price per lb. to fisher	$.20	$.23	$1.80	$1.50
Processing recovery rate	25%	20%	90%	80%
Export value when processed	$375,000	$400,000	$55,000	$35,000
Multiplier	3.2	3.2	2.7	2.7

Distribution of Impacts

Sector		(Jobs)		(Jobs)		(Jobs)		(Jobs)
1.	Logging	$ 30		$ 32		$ 6		$ 4
2.	Wood processing	519		554		50		32
3.	Commercial gillnet salmon fishing	10		10		0		21,276 (1.5)
4.	Commercial troll salmon fishing	11		11		33,456 (2)		0
5.	Commercial combination troll salmon fishing	25		27		0		0
6.	All other commercial fishing	195,408	(3.5)	208,436	(4.0)	0		0
7.	Salmon processing	78		84		56,265	(.3)	38,805 (
8.	All other fish processing	380,954	(4.3)	406,351	(4.6)	187		119
9.	Agriculture	2,416		2,577		209		133
10.	Manufacturing	7,638	(.1)	8,147	(.1)	781		497
11.	Lodging	1,521		1,623		127		81
12.	Restaurants	12,639	(.7)	13,481	(.7)	1,095	(.1)	697
13.	Service stations	36,077	(.2)	38,482	(.2)	4,345		2,765
14.	Automotive sales and service	36,195	(.4)	38,608	(.5)	2,095		1,330
15.	Transportation	1,680		1,792		270		172
16.	Communication	15,280	(.2)	16,299	(.2)	1,353		861
17.	Professional services	9,683	(.4)	10,329	(.4)	979		623
18.	Financial services	6,948	(.1)	7,411	(.1)	1,111		707
19.	Construction	21,249	(.3)	22,665	(.3)	1,766		1,123
20.	Retail and wholesale goods	147,864	(1.6)	157,721	(1.7)	16,632	(.2)	10,584 (.1)
21.	Retail services	14,265	(.6)	15,216	(.6)	3,240	(.2)	2,062 (.1)
22.	Public and private schools	11,714	(.5)	12,495	(.5)	1,276	(.1)	812
23.	County government	4,058	(.1)	4,329	(.1)	358		228
24.	City government	10,949	(.2)	11,679	(.2)	1,232		784
25.	Households	272,668		290,846		21,236		13,513
26.	State or federal government	17,365	(.5)	18,522	(.6)	1,969	(.1)	1,253 (.1)
	TOTAL	$1,207,250	(13.7)	$1,287,740	(14.8)	$150,033	(3.0)	$95,461 (2.0)

(1) Data for stated conditions obtained from Marine Economics Data Sheets, Oregon State University Extension Service, 1977.

CONCLUSIONS

A. Only by developing a wider resource base will Clatsop County be able to maintain its position as the State's largest seafood processor. By utilizing new species and different products it may be possible to generate numerous employment opportunities in this sector.

In this effort the existing salmon hatchery program currently operated at Vanderveldt Pond should be expanded to include experimentation with other species and various food fish by-products.

Organizing the numerous fishing interests in Clatsop County to develop methods to expand fishery activity in Clatsop County would also help. Such activity could include:

a. continued staff support for the salmon hatchery project,

b. establishment of other model programs to utilize various fish species in different products, and

c. provision of technical assistance to local citizens interested in attempting commercial ventures derived from model programs.

As of now, the salmon hatchery project needs to be given more community support. As this program develops over time the benefits will exceed any that can be quantified in dollars and cents.

Finally, it seems as if any future EDC fishery activity should work closely with whatever natural resource agencies are currently operating in the area. In fact, future planning groups such as CREST should be made a part of a unified fishery protection and development program controlled by local Clatsop County officials and local resource users.

B. Expansion of fishery employment is needed. In order to make this possible the amount of seafood landed in Clatsop County must be improved. This could be accomplished by:

1. Cataloging existing federal and state loan programs, production credits, and other program opportunities so that area fishermen and local financial institutions are aware of benefits and utilization procedures. (NOTE: The Economic Development Committee with financial assistance is the ideal setting for bringing finance managers and fishery personnel together).

2. Development of local biomass capacity.

3. Developing and expanding land-based facilities in cooperation with fishery personnel, local entrepreneurs, and port district staff, placing special attention on cold storage, landing facilities and moorage facilities.

4. Developing a brochure of facilities available in Clatsop County to be distributed to West Coast fishing fleet in order to expand visitor landings in area.

5. Encouraging the development of marketing and transportation cooperatives or associations to provide competitive advantages to local fishery personnel. Such activity will require careful organization and should be viewed as a long-term essential project. It could include:

   a. a marketing council,
   b. investment capital creation,
   c. product differentiation such as gift packs and other specialty market items.

The two most obvious methods of increasing local landings involve improving facilities and local markets to attract non-local boats to land in Clatsop County, and to expand the size of the local fishing fleet.

In order to attract non-local boats it will be necessary to develop additional markets for existing food fish and possibly new markets for under utilized species. This could be done by experimenting with various methods of transportation in order to speed shipment of fresh seafoods to larger markets and by attempting commercial production of various new products.

Due to the unusually high risk of such activities and the traditionally low profit margins, it seems as if such activities may not be experimented with by existing private entities until such time as model projects can be demonstrated to be economically feasible. This should be the goal of the Economic Development Committee (EDC) and associates.

The second method of increasing local landings involves expanding the local fleet. This involves cooperation from local lending institutions and technical assistance from the EDC. By providing access to the Small Business Administration and other guaranteed loan programs, particularly marine oriented, it may be possible to expand locally based boats.

The current attempts by the EDC, though unaided by other local groups, to assist local boat builders establish expanded building facilities in the County appears to be a step in the right direction.

C. Wherever possible local groups should attempt to work with local resource agencies to provide them with a different perspective on local resource problems. This cooperation could also provide the resource agencies with different insights into local impacts as a result of resource agency policies.

In particular, local groups should work closely with CREST to assist them with their tasks and provide an informational dissemination network to the local community.

TRAVEL INDUSTRY

INTRODUCTION

Methodological Limitations

The tourist or travel industry is, like the other major economic sectors of Clatsop County, based on the extraction or exploitation of the area's natural resources. In this particular example the natural resource is a complex combination of relatively unpopulated forest and coastal areas, numerous fish and wildlife populations, mild climatic conditions, and an overall rural cultural orientation. Unfortunately, unlike the other resource based activities the specific relationship between the natural resource and the travel industry is more difficult to analyze.

One reason for this difficulty arises from the dual nature of many of the income generating activities. Retail stores, restaurants, service stations, and contract construction provides services required by Clatsop County residents and services utilized by tourists. As such it is difficult to determine if a particular business hires an extra employee due to heavier demand by local residents or due to the increased demand generated by out-of-County visitors.

These and other limitations make any analysis difficult to undertake. However, numerous associated indicators are available to provide the County with a fairly reliable picture of the impacts of the travel industry on Clatsop County.

General Community Attitudes

The travel industry is probably the most visible of any of the major economic sectors in Clatsop County. This visibility is a result of the large number of local residents who are directly impacted by the typical tourist visit. Numerous summer job opportunities are generated for younger family members, temporary and secondary wage earners. In addition, many cultural and leisure-time activities occur due to the larger summer population, which in turn congests highways, taxes public services, and crowds people everywhere.

One outgrowth of this high visibility is the polarization of local attitudes on the tourism issue. That is, it is difficult, if not impossible, to conduct a public discussion of any aspect of the travel industry without being categorized as either "pro" or "anti" tourist. This politicized local climate creates numerous false dichotomies involving potential public policies.

Those interested in promoting tourism are unable to see any of the negative impacts while those wishing to discourage the activity see no positive impacts. One outcome of this local situation is that travel industry impacts become distorted and in many cases praised or blamed for unrelated activities. Several examples could be cited where tourism and its associated activities has been used to bolster arguments against industrial activity, against preservation of scenic areas, for preservation of scenic areas, for improving transportation systems, against improving transportation systems, etc.

The major point is that, like the forest industry and the marine resources industry, the travel sector impacts the community both in a positive and a negative manner; and, in addition, public policies need to be developed to maximize the positive impacts while minimizing external community costs.

INCOME GENERATION

Direct Dollar Impacts

In overall direct dollar impact the travel industry ranks as the third most important sector in the Clatsop County economy. This sector generates approximately 31.167 million dollars annually in total sales to out-of-County households according to the OSU Input-Output (I/O) Model. In absolute terms this sector is a distant third. In fact, if the forest products sector and the marine resource sector were broken into their components, tourism would fall to fifth or sixth position in value-added terms. However, as shall be discussed in Section B, this sector does provide numerous employment opportunities.

It is difficult to determine the direct dollar impact actually received by the County as a result of the 31.167 million dollars in total sales due to the high leakage nature of the travel industry sector.

One traditional indicator of travel industry activity is retail sales information. As Table T-1 shows retail sales activity has made relatively steady advances since 1963.

Table T-1. Retail Sales Activity in Clatsop County

YEAR	NUMBER OF ESTABLISHMENTS	TOTAL RETAIL SALES (000)
1963	364	$38,185
1967	362	48,580
1972*	406	60,910
1973	--	81,658
1974	--	67,774
1975+	--	70,649

Source: *U.S. Bureau of the Census Census of Business 1963-1972
+Sales Management 1973-1975

The sudden decline in retail sales for 1974 represents the existing economic conditions prevalent in the entire nation during that year rather than any long-term trend as evidenced by the increase in 1975. In particular, the double digit inflation figures experienced at that time and the corresponding decrease in disposable income probably accounts for the rapid decline.

Although these figures outline retail sale activity in Clatsop County since 1963 they do not delineate the tourist dollar generated sales from the resident dollar generated sales. In order to accomplish that it is necessary to draw information from the OSU Input/Output Model of the Clatsop County economy.

Table T-2 reflects the percentages of total business that each of the traditional travel oriented sectors in the County sells to out-of-County sources.

Table T-2. Travel Industry Dollar Flows in Clatsop County

SECTOR	NON-COUNTY SALES (000)	% OF TOTAL SALES
Retail and Wholesale Products	$ 8,950	8.1
Restaurants	7,082	44.1
Retail Services	6,451	31.9
Lodging	4,053	81.0
Service Stations	4,880	17.1
Automotive	4,706	21.7
*TOTAL	$37,022	

*The reason the total of these categories exceeds the 31 million total travel industry generated sales is due to the inclusion of out-of-County non-household sales.

Source: OSU I/O Model, 1978

This table, in addition to reflecting the degree of travel industry reliance experienced by each of these sectors, can be useful in determining overall value-added dollars when compared with Table T-2 and Table T-3.

Table T-3. Amount and Percentages of Non-County Purchases (Leakage)

SECTOR	NON-COUNTY PURCHASES (000)	% OF TOTAL SALES
Retail and Wholesale Products	$ 85,969	77.6
Restaurants	5,497	34.3
Retail Services	6,380	31.6
Lodging	2,487	40.7
Service Stations	20,469	71.5
Automotive	15,986	73.7
*TOTAL	$136,788	

Source: OSU I/O Model, 1978

Table T-4. Amounts of Direct Economic Gain Experienced by Travel Oriented Sectors

SECTOR	% IMPORTED	TOTAL (000) EXPORT SALES	DIRECT IMPACT DOLLARS (000)
Retail and Wholesale Products	77.6	$8,950	$ 2,005
Restaurants	34.3	7,082	4,653
Retail Services	31.6	6,451	4,412
Lodging	40.7	4,953	2,937
Service Stations	71.5	4,880	1,390
Automotive	73.7	4,706	1,237
		TOTAL	$16,634

Source: OSU I/O Model, 1978

Table T-4, a composite of Tables T-2 and T-3 reflects the yearly annual average of value-added dollars added to the County economy. The high leakage nature of the major travel industry sectors results in an approximate tourist induced gain of 16.6 million dollars annually.

In other words, due to the specific nature of the Clatsop County economy, particularly its interpenatration by and reliance on non-local corporate entities, almost half of every dollar brought into the County by the tourist immediately leaves to cover the costs of providing whatever goods and/or services the traveler purchased.

What indirect impacts does this 16.6 million dollars have on the general County economy? To ascertain this the multiplier of each sector was applied to the value-added dollars.

Table T-5. Indirect Economic Benefit of Travel Industry

SECTOR	VALUE-ADDED DOLLARS (000)	MULTIPLIER	INDIRECT BENEFIT (000)
Retail and Wholesale Products	$2,005	1.53603	$ 3,079
Restaurant	4,653	2.59186	12,059
Retail Services	4,412	2.76187	12,185
Lodging	2,937	2.43410	7,148
Service Stations	1,390	1.55003	2,154
Automotive	1,237	1.64576	2,035
			$38,664

Source: OSU I/O Model, 1978

The indirect benefit generated by the 16.6 million value-added dollars in this area is approximately 38.6 million for an overall economic impact of 55.2 million dollars value-added per year. It is of interest to note that the restaurants and the retail services sectors comprise about 86% of the total travel industry impact.

Before attempting to ascertain a more specific picture of how the County economy captures the travel dollar and where it originates it is important to realize, as in other sectors, the information that the Input/Output Model doesn't reveal.

External Costs

In the case of the travel industry several costs or externalities are generated which directly impact the area's economy and, as stated at the beginning of this section, the area's life style.

First of all, the immediate and more obvious costs incurred by local residents due to tourism are increased municipal costs; that is, the influx of people during a short period of time generates demand for municiple services that could not be met by existing "pre-tourist" community facilities. For example, water and sewer systems must be designed to meet peak load summer demand. In most cases this initial expansion is financed by local users either through higher user fees or various bond issues. The same is also true for police, fire and transportation activities.

A second and less immediate impact results from the exposure the area receives during the summer months. This exposure tends to

break down many traditional community patterns, particularly in the more rural areas. This exposure also tends to inflate the local economy. The travel dollar generated demand often pushes up local prices since local supply cannot meet this non-local demand. This is particularly true of the coastal housing market.

Since the overall wage structure of urban employment is higher than non-urban employment and since the majority of second home demand is generated by a higher-income group than is the average for coastal Clatsop County, the local housing market price increases to the new higher limits of what the market can now afford to pay as a result of the newly introduced urban dollar.

The net result is that some local families are either priced out of the local housing market or taxed out of existing homes due to the inflationary travel industry induced dollar. Those residents in Clatsop County fortunate enough to have occupations tied to urban wage levels will fair better than the majority who are forced to live on rural wages at urban prices.

Another wage related impact of the travel dollar is seen in the overall distribution of this outside money within the local community. Table T-4 has already isolated the Retail Services and Restaurant sectors as the sectors that provide the highest direct and indirect economic gain to the community. However, it does not explain who in the community benefits nor how?

It is difficult to determine who in the community benefits and who does not. However, it seems worthy of discussion in order to arrive at some, albeit simplistic, policies to minimize community cost while attempting to maximize community gain.

As Table T-6 shows when compared with wages in other sectors in the Clatsop County economy, Retail Trade wages are significantly lower than those of other sectors.

Table T-6. Average Annual Hourly Earnings for Select Occupations for a 40-Hour Work Week

	Manufacturing	Lumber/Wood Products	Food Products	Retail Trade
1976	5.90	6.42	6.18	3.86
1977	6.43	7.05	6.68	4.17

Source: Oregon State Department of Human Resources

Unfortunately information is not available on the average wage earned for either the Retail Services or the Restaurant category. The data that is available is an estimated hour wage range for restaurant employees. This estimate merely confirms what is already common knowledge; that is, travel industry generated employment is lower paying than are the traditional Clatsop County occupations.

Table T-7. Estimated Hourly Earnings

POSITION	HOUR WAGE RANGE
Host/Hostess	$2.75-3.00
Busboy	2.65-2.80
Bartender	3.00-4.25
Cook	3.00-4.00
Assistant Cook	2.65-3.25
Dishwasher	2.65-3.65
Waiter/Waitress	2.65-3.00

Source: Wage and Hourly Fact Sheet, Employment Division

The overall community impact of these lower paying jobs is twofold. First, the existence of these positions provides occupational opportunities for new labor force entrants and secondary wage earners. This is an important function for certain types of unemployment and during periods of economic instability (inflationary/recessionary).

However, for primary wage earners in these low wage areas, Retail Trade, Retail Services, Restaurant, etc., the community impact is to generate a significant number of lower income workers forced to rely on the various community assistance programs to survive.

Due to this unique wage structure prevalent throughout much of the travel industry, the tourist dollar acts as a force to widen the gap between the top and bottom of the wage scale thereby acting to create a non-balanced county-wide distribution of income. In fact, in light of the expenditures put out by County households to subsidize tourist activities, (i.e. water, sewage, police and fire protection) and the relatively narrow range of the population which receives direct economic benefits, a negative transfer effect could be occurring. That is, that a larger portion of the County population is paying, albeit indirectly, to support the economic gain of a smaller, and generally better off economically to begin with, portion of County population.

overbuilt summer capacity for

It must be noted that the second home tourist is not included in this transfer phenomenon.

The final negative impact to be discussed here is the impact generated by sheer size alone. As more and more people each year join in some outdoor coastal activity the carrying capacity of the local resource is pressured. This continues until the beaches, rivers, fields, and forests become so crowded as to begin to diminish the recreational experience. When this point is reached the entire community is threatened by the possibility of declining travel dollars and the already overbuilt commercial structure is faced with potential recession.

It is important to realize this hidden danger in being too successful at promoting any particular activity. This phenomenon has to some extent already occurred to the razor clam beds in Clatsop County. The success in promoting the activity of sport clamming eventually led to the current restricted clamming season. This over exploitation of a natural resource is a lesson to be noted, since almost every segment of the area's economy is affected by the long-term/short-term trade-offs of immediate profits and jobs today or a steady and stable economic future.

Sources of Travel Industry Income

The importance of attempting to ascertain the origin of travel dollars to private business is obvious, that is, to further promote those areas to insure a steady future supply of tourist. A similar logic applies to public policies concerning the local travel industry. By knowing the origin of travel dollars it is possible to better formulate public policies in order to maximize public benefits.

Table T-8 shows that in-state tourists spent more money per day and spent more days in Clatsop County than did out-of-state tourists in 1972 which is the last year of available data concerning tourist comparisons. It seems safe to conclude that such data may have changed significantly due to the advent and use in popularity of recreational vehicles (RVs).

Table T-8. Origins of Tourist Activity in Clatsop County

	DOLLARS	VISITOR DAYS	% OF TOTAL COASTAL TOURIST DOLLARS SPENT
Out-of-State	15	1,549	19.0
In-State	23	2,252	19.1

Source: 1973 Economic Survey and Analysis of the Oregon Coastal Zone

This new type of low-intensity, high impact tourism (RVs) tends to decrease the real dollar expenditure per traveler while simultaneously increasing the burden on highways and municipal services. This type of tourism also is more difficult to analyze because of its increased mobility. Traffic counts assist somewhat in discovering the origin of various travelers.

Table T-9. Annual Average Daily Traffic

LOCATION	1970	1971	1972	1973	1974	1975	1976	1977
Hwy 26	3123	3169	3402	3563	3519	3671	3901	4000
Hwy 101 Gearhart	5203	5317	5751	5661	5464	6069	6619	7200
Astoria Bridge	1350	1430	1500	1560	1570	1770	2070	2260

Source: Department of Transportation

The obvious limitation of traffic counts is that local usage and tourist usage are counted equally and this needs to be kept in mind throughout this discussion.

The Highway 26 counter should reflect the major tourist impact from the Portland area on the Clatsop County coastaline, whereas the Astoria Bridge count will reflect those tourists traveling North and South on the Pacific coastline. As Table T-9 shows, Portland traffic is approximately double that of Astoria Bridge traffic. This probably represents a slightly larger in-state tourist impact due to heavier daily local use of the Portland highway. In fact, the relationship between the two counters in 1972 (the year of the Economic Survey) and the present remains approximately the same. This is good evidence that overall in-state/out-of-state ratios have remained relatively stable.

* Destination Resorts

The preceeding discussion on Travel or Tourist Industry basically reflects the desire of people to visit Clatsop County and natural resources. Most of the facilities available to the tourist are small scale projects, few are large destination oriented facilities. The following discussion is based in large part on the Report and Recommendations on Destination Resort Siting study conducted by the Joint Subcommittee of the Economic Development Commission and the Land Conservation and Development Commission.

Generally, a destination resort is "a large tourist-oriented development which provides extensive recreational facilities as an attraction to visitors in an area with high natural amenities." This is the type of facility which will provide the economic impacts the state and Clatsop County are seeking.

* AN ECONOMIC OVERVIEW OF DESTINATION RESORTS

Importance of Destination Resorts

Tourism is Clatsop County's third largest industry, behind forestry and fishing and fish processing. Visitors to the County make a substantial contribution to the County's economy. As with other sectors of the economy, the County is seeking ways to increase and improve the performance of this industry as a form of economic development.

Through the efforts of the State of Oregon Department of Transportation, the state has done much to research and promote tourism. Available information indicates that tourists to the state spend an average of $12 to $25 per person per day. For economic development purposes, increasing trip lengths and per person expenditures is perhaps as important as increasing the number of visitors to the state.

Destination resorts can be an important part of the state's efforts to increase visit lengths and per person spending. Like convention centers, destination resorts attract visitors who stay longer and spend more than the average tourist. Destination resorts provide a different and special opportunity not provided by other attractions in the state. They provide a "get away from it all" setting along with extensive recreational facilities. The size of most well known destination resorts allows them to provide more and better facilities attracting visitors for longer stays. Larger resorts are also more likely to attract visitors from longer distances. Destination resorts also provide a recreational opportunity for many citizens in the state; possibly reducing travel to similar developments in other states.

Like other tourist activities, destination resorts provide economic benefits to the state at relatively low public costs. Tourists do not demand schools, health care facilities and other government expenditures that a full-time resident population does. A further advantage of destination resorts over other types of visitor housing is that they are self-contained. They do not require government investments in sewer, water, roads and recreational facilities, because these are provided by the developer.

Amended 83-17, dated Sept 30, 1983

* Conclusion

Increasing tourism is an appropriate and necessary step in an overall state economic development program. Destination resorts, because they attract visitors for longer stays, result in higher expenditures per person per day, and because they have low public costs are an attractive and appropriate means of increasing tourism.

* Market Considerations

Development of a destination resort is a risky and very expensive proposition. A substantial initial capital outlay for recreational facilities—golf courses, swimming pools, tennis courts, etc.—is necessary to provide the attraction for individuals to visit or purchase units in a destination resort. If these facilities are not provided in sufficient quantity and quality, the destination resort is not likely to succeed.

Changing economic conditions have and probably will continue to affect the demand for destination resorts. It appears that demand for second homes has peaked because of lower disposable income, higher interest rates, and changing tax laws, which all affect people's willingness to invest in second homes, particularly expensive ones associated with destination resorts. It is expected that these trends will result in demand for smaller destination resorts which provide more shared ownership of units rather than individual ownerships. Economic improvement and growth or changes in federal tax policy may increase demand for individual ownership.

While demand for individual ownership of units is probably decreasing, it is still a very important factor in the success of destination resorts. In most cases, residential use of individually owned units is quite low a— a 13 percent average by one account. This is the case despite the fact that the great majority of units at most destination resorts are individually owned or only partially shared ownerships (i.e., three or four owners). Individual ownership is important to the economics of destination resorts for two reasons. First, the destination resorts have high vacancy rates; perhaps as high as 50 percent on a year-round basis. Most developers are unable to profitably run a development at this vacancy rate. However, individual owners are willing to make the "uneconomic" investment in an individual unit for recreational purposes. The second factor, related to the first, is that most potential buyers see the opportunity to use a unit as a full-time residence as an important reason for purchasing a unit. Many rationalize the investment as a potential retirement home, although the number that actually retire at destination resorts in Oregon is presently not that high.

The pattern of ownership at destination resorts has some important implications. Destination resorts that evolve into full-time communities, cities or retirement centers will not result in the desired economic benefits associated with tourism. In fact, a growing number of full-time residents will create demands for government expenditures for schools and health care facilities. A large resident population also demands development of a private infrastructure to service the full-time community including a range of commercial and professional services.

These costs might offset the economic benefits created by continuing tourist and visitor use of the remaining portion of the development.

* Amended 83-17, dated Sept 30, 1983

* Conclusion

Destination resorts can provide important economic activity for the County and state with little additional demand for public investments. The nature of destination resorts is changing, and will continue to change, in response to economic conditions. Regulation of destination resorts must respond to these changes. Residential development within destination resorts can offset the economic benefits of tourism and may be inconsistent with state land use objectives. This aspect of destination resorts must be dealt with carefully to balance ownership flexibility with public objectives.

* Minimum Size for Destination Resorts

The subcommittee found that a minimum acreage for a destination resort is appropriate for a number of reasons. A certain size is necessary to establish a casual, relaxed, and rural character of a destination resort. It is also necessary to provide both the area and number of units necessary to support the extensive recreational facilities, that serve as an attraction to visitors. Without these facilities, visitors, particularly out-of-state visitors, are not likely to be attracted to a resort development. A large minimum size is also important to ensure enough open space for buffering a destination resort from surrounding uses. The need for large acreage is also an important reason why destination resorts cannot be accommodated in urban areas.

While the subcommittee has recommended 160 acres as a minimum acreage, smaller acreages may provide a large enough site for a destination resort in certain areas of the state, such as the Columbia River Gorge. Somewhat smaller acreages should be considered large sites in such areas if they otherwise meet objectives of the 160 acre size—economy of scale for recreational improvements that attract visitors buffering from adjacent ownerships and substantial open space. Clatsop County will conduct a study of destination resorts on smaller acreages.

* Developed Recreational Facilities

Recreational facilities provided by destination resorts are a key ingredient distinguishing them from other types of rural planned developments. They are also important to encouraging longer visitor stays. The quantity and quality of recreational facilities needed to attract visitors is high and requires a major up-front capital investment by the developer.

* Minimum Distance From Larger Urban Growth Boundaries

Developments designed to attract commuters are essentially suburban planned developments rather than destination resorts and are generally inconsistent with the purpose of Goal 14. The Economic Development Committee-Land Conservation and Development Commission subcommittee believes it is necessary to discourage siting of such developments and recommends a distance standard from larger UGB's to accomplish this.

The Committee recommends not allowing a destination resort within 25 road miles of urban growth boundaries with a population of 50,000 or more.

*Amended 83-17, dated Sept 30, 1983

* Design and Open Space Requirements

Another important element of a destination resort is its ability to fit into and maintain the natural or undeveloped character of its site. The attraction and reason for placing destination resorts outside of large UGB areas is to provide for the "away from it all" experience. Capturing this concept in specific criteria is difficult.

The subcommittee has approached this part of the definition in two ways. First, the definition requires that a majority of the site be maintained as open space. Second, a general standard is recommended to require that the design, density, and layout of the development maintain the resource-oriented character of the site. The subcommittee recognizes that this is a general standard and subject to interpretaiton and may lead to litigation. Clatsop County will work to refine this standard in a way which will minimize this problem.

* Uses Which Do Not Qualify as Destination Resorts

Quite a number of facilities in the state and County can be argued to attract and serve the needs of visitors and tourists. However, the subcommittee does not believe that many of the activities which might otherwise fit the definition of "destination resorts" are truly destination resorts. Many of these uses are currently provided for in farm and forest lands and consequently do not require goal exceptions. It is not appropriate to establish a separate process for siting of these types of attractions. To avoid any continuing confusion about what uses qualify as destination resorts, the subcommittee has developed a list of activities which would not qualify.

There is a need to recognize and provide for smaller resort facilities which provide access to unique natural attractions. This type of resort relies primarily on a particular natural feature to attract tourists and visitors and provides much more limited recreational facilities.

The subcommittee agrees that the following definition is appropriate to provide for these smaller resorts and distinguish them from destination resorts and other types of development:

> "Other resort facilities are small scale developments which depend upon a unique natural amenity not available within or adjacent to an urban growth boundary and is the principal attraction for visitors. Examples of such outstanding natural amenities can include hot springs and year-round ski areas. Given the specific attraction of these amenities, accommodations must be 100 percent tourist oriented (i.e., all rooms or units are designed for tourists and visitors. No single family units designed for full-time residents other than employees would be allowed)."

Clatsop County will work to define other resort facilities develop plan and zoning provisions that are appropriate for Clatsop County.

* Amended 83-17, dated Sept 30, 1983

* Minimum Number of Units

Setting a requirement for a minimum number of units or accommodations is another way of assuring that the destination resorts are built at the scale necessary to provide recreational and other facilities which attract visitors. The subcommittee has not made a recommendation on this issue for two reasons. First, given the wide variety of ownership possibilities (such as timesharing) the number of ownerships can be as important as the number of units in providing the capital to develop recreational facilities. Second, the natural limitations of some sites may dictate that relatively few accommodations be provided if the development is to be compatible with site constraints and surrounding uses. The committee believes that the other criteria that it has established will assure that destination resorts are large enough to serve as an attraction to visitors.

* Limiting Full-Time Residential Development

The most difficult task in defining what a destination resort is distinguishing it from other types of housing development. Superficially, destination resorts have much in common with high quality planned unit developments. Both are self-contained, provide a high level of open spaces, and recreational facilities; both occur on large sites. Clatsop County and the state's land use planning program provides for residential development both within urban growth boundaries and on built and committed lands in rural areas. In Clatsop County up to 14,000 acres of built and committed lands will be available for rural residential development once the plan is acknowledged. Providing additional land for such residential developments is a decision appropriately made through the Goal 2 exceptions process.

Distinguishing between destination resorts and other types of rural housing must consider and distinguish between a destination resort and a residential community. An example in Oregon is Sunriver. While it is generally thought of as a destination resort, it was conceived as a planned community with extensive resort facilities. Sunriver now has a year-round population of over 1,000 providing both a business park and a school.

A similar concern is the potential, over time, for a destination resort to become a full-time community. The Urban Land Institute's definition of destination resort, in part, notes:

> "...more successful resorts enjoy substantial year long operation and often have real estate programs associated with them, eventually becoming combined resort and second-home communities" (emphasis added).

As noted above, full-time communities make different and more extensive demands for both public and private services. Such demands are generally inconsistent with the state land objectives and diminish the economic benefits desired from a destination resort.

The subcommittee carefully considered ways to assure that destination resorts are not built as rural residential developments. The subcommittee finds it a complicated issue to deal with. Most destination resorts in Oregon are composed primarily of individually owned condominiums or houses on individual lots. Further, several persons testified that successful development often depends on the developer's ability to sell individual lots to finance construction of recreational facilities and other improvements.

* Amended 83-17, dated Sept 30, 1983

In most resorts, a good portion of these individually owned units are available through rental pool arrangements. However, there are usually no requirements to use a rental pool nor are there restrictions on conversion of units to full-time residences. The existing pattern of use of these units shows about 10-15 percent of units are occupied by full-time residents.

This pattern of individual ownerships is essentially the same as that of other types of residential development which clouds the distinction between a resort development and a high quality residential development. Without a clear distinction, it is difficult to asure that proposed developments will, in fact, cater primarily to visitors or that it will not, over time, evolve into a residential development.

The subcommittee has considered the means of directly dealing with ownership and use to make this distinction clear. The restrictions considered were use limits and restrictions of types of ownerships. Use limits, most likely covenants, would restrict or prohibit occupation of some percentage of a resort's units as full-time residences. Restricting ownership types would require that a majority of units be sold in interval or time-share ownerships or held by a developer for permanent rental use. Interval or time share ownerships sell individuals the right to use a unit for from 1 to 4 weeks.

The possibility of requiring restrictive covenants or deed restricitons on length of stay and use of individual units was considered but rejected. While most units are not occupied as residences, the option to do so is often critical to an individual's purchase decision. In short, many people will not buy an individual unit if there is not at least a possibility that they can eventually use it as a residence or retirement home. Directly restricting residential use of individually owned units goes beyond the scope of current land use regulaitons. It would be a complex and perhaps unenforceable way to assure that destination resorts remain visitor oriented.

The subcommittee also considered limiting the types of units constructed and the types of ownerships sold as a means of assuring that destination resorts are constructed as and remain visitor oriented facilities. The destination resort plan would have to show that a majority of the units would be visitor oriented accommodations (i.e., units constructed and intended permanently for visitor and tourist use). These would include hotel and motel rooms and condominiums owned by the developer and available for rent, as well as time-share condominiums and time-share houses where one to four-week shares are owned by individuals. This approach would avoid regulating use of individual units and the administrative and enforcement burdens associated with it. It could be accomplished easily as part of the initial review and restrictions would guarantee that at least the majority of the units are permanently available for visitor oriented use. The subcommittee did not endorse this approach because it may adversely affect the economic feasibility of resort development.

The subcommittee expects that many, if not most, individually owned homes and condominiums would be available through rental pool arrangements as is currently the case in most destination resorts. This should not be interpreted to encourage developments which intend to construct and market dwelling units as primary residences. This provision is simply meant to recognize the pattern of ownership in existing destination resorts and to continue opportunities for indivioual ownerships.

The subcommittee agreed that destination resorts should be clearly directed to providing tourist and visitor oriented use rather than residential development. Direct controls on use of ownership to do this appear cumbersome and may frustrate resort development. Careful case-by-case review of other elements of destination resorts—such as design, location, amenities, recreation facilities and limited commercial services—may be able to assure this distinction.

In Implementation a major difficulty is providing mechanisms which assure that expensive capital investments in common recreation facilities (i.e., golf courses, swimming pools, tennis courts, etc.) are made prior to or simultaneously with sale and construction of individual lots. This is particularly important because most resorts are built on a number of phases over 5-10 years. Improvements in these mechanisms are needed to assure that destination resorts do in fact provide the developed recreation facilities necessary to attract tourists. Without these measures, the desired result of increased tourist visitation and expenditure may not be realized.

EMPLOYMENT GENERATION

The non-manufacturing portion of the Clatsop economy is by far the largest employer in the County. Retail trade services alone employ almost 30% of the total labor force. As was noted in the last section, much of this sector's employment is generated by local demand for goods and services. However, a portion can be traced to travel industry. The traditional method for determining travel induced employment is to examine the increase in summer employment in travel oriented sectors. With the beginning of year-round travel activity, this method will eventually become more unreliable. However, as shall be examined, the differences are still great enough as to provide a reliable estimate of travel employment.

Table T-10. Employment Patterns in Trade, Services and Miscellaneous

YEAR	ANNUAL AVERAGE	MONTHLY HIGH	MONTHLY LOW	DIFFERENCE
1960				
1965	2,560	2,900/Aug	2,270/Jan	630
1970	3,200	3,750/Aug	2,810/Jan	940
1971	3,310	3,890/Aug	2,840/Jan	1050
1972	3,370	3,860/Aug	2,940/Jan	920
1973	3,520	3,960/Aug	3,160/Jan	860
1974	3,570	4,110/Aug	3,130/Jan	930
1975	3,620	4,030/Aug*	3,090/Jan	940
1976	3,870	4,260/Jul	3,490/Jan	770
1977	4,220	4,650/Aug	3,820/Jan	830

*July-August, 1975 corresponded with 620-750 unemployed in Clatsop County due to Labor-Management disputes.

Source: Labor Force Trends, Employment Division

From this chart it is possible to ascertain that approximately 900-1,000 occupational opportunities are generated by the travel industry. It also is of interest to note the gradual decline in seasonal highs and lows. It is possible that a gradual increase in off-season tourism could be responsible for this trend.

FUTURE TRENDS

Of all the sectors in the Clatsop County economy, the most susceptible to current national economic conditions is the travel industry. Inflation and the current energy "crisis" are two interrelated national trends that especially impact the area's tourist trade. As the rate of inflation outpaces wage earnings, total disposable income decreases. Any decrease in disposable income is directly translated into a decrease in the travel industry, as was reflected in Clatsop County in 1974 during the last high inflation period. When questions of energy availability and high costs are combined with high inflation, trouble can be predicted for the travel industry in general.

Clatsop County is in many ways lucky in that it is located in proximity to the state's largest population center. If past inflation and energy trends continue, which seems likely, Clatsop County can expect a significant decrease in out-of-state tourists. This decrease in out-of-state tourists will be somewhat offset by net increase in in-state tourists visiting Clatsop County. The overall effect will probably be a gradual decline in total Clatsop County tourist dollars.

A second change in the travel industry in Clatsop County will be a reversal of the recent trend towards low intensity R-V oriented tourism. As energy prices increase, it seems logical to expect an increase in destination oriented tourism accompanied by a decrease in self-contained R-V type tourists. This will not happen on a sufficient scale to prevent an overall decline in the travel industry as measured in constant dollars but it will lessen the impact.

The obvious County response would be to develop both destination facilities and improve transportation systems to allow the urban tourist to arrive at the destination facility and to travel throughout the County while in the area.

CONCLUSIONS

I. The largest single impact beneficial to the overall community in the travel industry would be to level out the impacts on service systems in order to utilize capacity currently under-utilized during a major portion of the year.

This requires promoting travel activity during the traditional non-tourist season. In some ways this is beginning to occur, however, not to the degree necessary to stabilize the current seasonal nature of the travel industry.

Off-season promotions require either facilities to handle the inclement weather or some reason to venture into the ever-present winter rain. By attempting to publicize and better utilize natural resources some gains could be obtained.

For example, the recent growth in popularity of storm-watching represents a perfect case for promoting the exact activity that leads to the decrease to begin with. Other activities are whale-watching, bird watching, beachcombing, etc.

The possibility of providing a wilderness experience is something currently not available in Clatsop County. Providing long back-pack trails in natural areas could possibly attract hikers unwilling to venture into the snowy outdoors of the Cascades at this time of year.

Numerous natural activities currently exist and appear to be far below their present carrying capacity. However, as was already stated, these natural activities need to be exploited in a rational long-term nature in order to guarantee future generations of an economic livelihood in Clatsop County. Although the sport fishery was covered in the fishery chapter, it seems to also deserve mention here due to the nature of its resource orientation and its people attraction qualities.

The fishery and wildlife experiences available in Clatsop County are a saleable item. They are also the prime example of a very delicately balanced resource. Few fishermen or hunters want to be "shoulder to shoulder" as they participate in their activity. In fact, the fewer individuals who know about a certain "hot spot" the better. By controlling public access to certain areas it could be possible to improve the quality of the experience without jeopardizing the resource.

In addition to promotion of natural activities and resources, the area could also generate numerous off-season activities. Probably the most successful one-day, non-seasonal event in Clatsop County is the Seaside Marathon. This event brings several thousand people to Seaside and is growing every year. Other activities could be sponsored to attract outsiders to the County during winter months.

All of these suggestions require a type of coordination and cooperation that is seldom displayed by the tourist industry as a group. Due to narrow profit margins and higher labor intensity, many merchants and service people are trapped by a perceived competitive race with fellow tourist related businesses. This makes cooperation difficult. By working together through a neutral party like a Chamber of Commerce or other association, numerous beneficial activities could occur like off-season package activities. Several different activities could be promoted, a room reserved, and a meal or meals provided by one phone call or displayed in one pamphlet.

A second goal of public policies to promote the travel industry should be to attempt to minimize public costs to non-travel industry beneficiaries. These include minimizing costs to the community by shifting various external costs back to the prime beneficiary.

High intensity tourist type activities should be clustered within urban growth boundaries where services are available to handle the impacts. By clustering the high intensity activities in smaller spaces, larger spaces will be available to provide a quality experience and public costs would be minimized.

Travel industry beneficiaries need to take the lead in organizing and generating financial support for programs that will be beneficial to themselves.

The Seaside model is a good example of what local travel industry groups can do to promote and control their own economic future. By raising their own business taxes and pledging these receipts to build a large indoor facility, the Seaside Convention Center was brought into being. This type of organization and cooperation is required for successful projects.

II. As stated previously, the recreation and tourism sector of the local economy is fragmented and under-utilized. However, due to the natural resource orientation of Clatsop County tourism, attempts to further exploit this natural resource must be designed to maintain and enhance the integrity of not only the actual recreational experience, but also the overall resource.

A. Future Recreation/Tourism high intensity activity should be located in those areas that have the capacity to handle them at the lowest possible public cost.

Due to the current condition of Clatsop County community facilities (see section on community facilities in Comprehensive Plan) and the fragmented nature of Recreation/Tourism activities, it is vital that random development not occur since such patterns increasingly burden the community at a potentially greater rate than do the benefits they offer.

B. The structures at the County Fairgrounds are currently under-utilized. Given the reality of Clatsop County's inclement weather and the realization that the Fairgrounds contain one of the only large indoor facilities in the County, under-utilization should not occur.

In order to increase utilization of existing structures, attempts should be made to promote various traveling presentations and encourage local uses. Such promotion could include:

1. grant assistance from EDA and others for weatherization of existing structures,

2. provision of rental discounts to local groups,

3. establishment of a maintenance program to upgrade existing facilities, and

4. attempt to book traveling exhibitions and shows during winter months.

C. Local visitor industry representatives and organizations should coordinate with each other to promote off-season activities.

A forum for the gragmented tourist industry should be provided to meet and organize their efforts. Technical assistance should be provided to any travel industry group interested in promoting projects with community development impacts. The primary goal should be to provide indoor off-season facilities to level out the current employment pattern.

Examples of indoor facilities currently in demand for Clatsop County are:

a. visitor information/estuary program center,

b. conference/hotel facility, and

c. covered sport facility.

Because such projects lie beyond the scope of Clatsop County, local tourist organizations should prepare a feasibility study.

D. Programs and training for local businesses are needed.

Such training should consist of intense off-season workshops on topics of related interests and be geared to the financial scope and needs of existing small businesses. Workshops could be offered in:

a. marketing and advertising methods for small businesses,

b. management assistance,

c. employee/employer relations, and

d. customer relations.

E. In order to develop and better utilize existing local recreational and tourist resources, efforts should be made to catalogue, research, inventory, and analyze potential recreational resources.

Local organizations should research, inventory, and catalogue relevant travel industry events and activities. Such a plan could include preserving and discovering local historical places and events, researching future points of interest, and outlining viewpoints and routes for scenic auto tours. Hopefully, such guided recreation would lessen overall impacts by channeling

traffic and people to areas which are prepared to handle and have facilities for them. In addition, industrial activity must be aware of adverse impacts on tourism activity, in particular:

a. recreational values of water and land areas should not be marred by indiscriminate placement of industry on scenic, waterway, or other recreationally valuable land;

b. discourage water utilization by industrial users and appropriation of local watershed by other counties that disturb minimum flows on recreationally valuable streams; and

c. request both state and local agencies insure public access to existing and future recreationally valuable areas.

HUMAN RESOURCES

INTRODUCTION

The single best indicator of an area's economic health is obviously the economic condition of its residents. In fact, this is the very justification for most economic development activity, that is, to provide increased occupational opportunities to those unemployed or underemployed in this County.

In Clatsop County it is difficult to ascertain the conditions of local residents primarily because of conflicting interpretations of traditional indicators used to measure the economic status of the economy's labor force. Although this will be discussed at length later in this section, it seems important to mention it briefly so that the overall picture can be kept in mind while examining the individual components.

The traditional indicator of a labor force's general economic condition is the unemployment rate. In Clatsop County that indicator reflects a declining economic system; so much so that this area was recently added to the State's list of the ten most economically lagging areas.

However, if a per capita income indicator was utilized, the County ranks fifth highest in the State with an annual average household income of $17,516.00.

If, on the other hand, raw employment numbers were introduced into this rapidly clouding picture, it would project the image of an expanding labor market with increasing opportunities for much of the local labor force.

The point of this is that the indicator any particular agency or group focuses on can be utilized to support practically any public policy, be it rapid industrial expansion or a no-growth steady state. Only by analyzing all of the factors and their specific interactions with each other can this clouded picture be somewhat clarified.

EMPLOYMENT TRENDS

Since 1960 the area's total employment has slowly increased. At times total employment has grown more rapidly than those looking for work and, more recently, total employment has expanded at a slower rate than the numbers of those looking for employment. This relationship between those employed and those seeking employment is what is utilized to compute the County's employment rate.

It is important to realize that this relationship between employed and unemployed is dynamic. If ten new occupational opportunities were attracted to Clatsop County and fifty new job seekers entered the County's labor force to attempt to capture those jobs the County's unemployment rate would increase. Likewise, if a mill closure laid off 10 workers and fifty job seekers left the County, the area's unemployment rate would decrease.

In addition to new job seekers entering or exiting from the County, the movement of local residents into and out of the labor force also has a significant impact on the unemployment rate. If sixteen high school graduates or sixteen housepersons decide to seek employment they would raise the unemployment rate since they would be increasing the number of total job seekers in relation to total available jobs. All of this leads to the question of what, if any, occupational opportunities are being generated in Clatsop County for local residents, and are these adequate opportunities for all?

From 1960 to 1977, total employment in Clatsop County increased from 8,900 to 13,070. In other words, 4,170 jobs were created during this time period. Of these 4,170 jobs approximately 820 were in the manufacturing sector with the remaining 3,000 being in the non-manufacturing. This trend is important since manufacturing jobs are declining nationally and, in Clatsop County at least, the manufacturing occupations tend to be the higher skilled and higher paying opportunities.

This gives the picture of an expanding economy creating new jobs and growing. However, during the same seventeen year period the number of people looking for work also increased from 840 in 1960 to 1,270 in 1977. The unemployment rate during this time period is portrayed by Table H-1.

Table H-1. Labor Force Data for Clatsop County

YEAR	UNEMPLOYMENT RATE	NUMBER OF UNEMPLOYED	EMPLOYED
1960	8.7	840	8,900
1961	7.6	700	8,450
1962	8.0	770	8,850
1963	6.6	640	9,060
1964	5.3	580	10,390
1965	5.1	620	11,560
1966	5.7	700	11,580
1967	5.4	650	11,320
1968	5.4	660	11,470
1969	7.9	960	11,120
1970	9.2	1,150	11,390
1971	7.9	1,000	11,730
1972	7.1	930	12,240
1973	7.5	990	12,160
1974	10.8	1,420	11,750
1975	9.3	1,250	12,190
1976	8.9	1,270	13,070

Source: Labor Force Trends, Employment Division

The preceding chart leads to numerous theoretical speculations. For example, those years during the early '60s when population decreases occurred, the unemployment rate was lowest. Whereas, during the '70s as the population of the County slowly increased, the job market was not able to maintain a comparable rate of new job creation.

Unfortunately, it is not possible, given existing information, to ascertain the particulars of this dynamic relationship other than stating the obvious. Clearly, during times of population decreases the labor market is not meeting the needs of local residents since it is forcing new labor force entrants to find occupational opportunities elsewhere. However, it is difficult to make the same statement during times of population increases without knowing who is causing the increase. It could be that new job opportunities are allowing new entrants to find jobs in the area or it could mean that experienced non-residents are winning new positions while local residents continue to be displaced.

Without careful social mitigation such as local hiring preferences, local training programs, and considerable outreach programs by existing employment placement agencies, it seems unlikely that job creation would, in and of itself, either alter the existing distribution of income in Clatsop County, change unemployment trends, or affect the population/employment ratio.

Either way it seems that any public policy which leads to an increased population growth rate, given the existing economic growth patterns, will continue to increase both the unemployment rate and the number of unemployed.

While this tends to run contrary to the labor market principles of supply and demand, it does tend to account for the rise in importance to various individuals of non-economic criteria. Numerous native residents would prefer to live at less than normal economic conditions in order to remain in Clatsop County and many non-local job hunters tend also to demonstrate similar behavior. During the past decade it is estimated that approximately 860 local residents between the ages of 20-39 left Clatsop County.* Yet, the general population increased during this period. If population trends level off during the next several years the job market may be able to catch up. However, it seems unlikely since non-economic criteria will continue to bring people into the area and keep unemployment statistics above State averages.

Since it is difficult to determine future employment trends due to the complexity of factors operating in Clatsop County perhaps a better indicator of the condition of local residents would be income data.

As was stated in the introduction to this section, the annual average household income for Clatsop County last year was $17,516.00 giving the County the fifth highest median family income in the State. This represents an increase from $9,430 in 1969 to $13,786 in 1975.

However, median income figures do not adequately reflect the conditions of either end of the income scale. For example, 34% of all households in Clatsop County have household incomes below $5,000 annually.** In order to obtain a clearer picture of household income in Clatsop County it is necessary to examine both aggregate and individual income data.

Table H-2 portrays the total earned income for every wage and salary worker in Clatsop County.

Table H-2. Total Personal Income

YEAR	Millions of Dollars Clatsop County ACTUAL	CONSTANT
1967	91.7	91.7
1968	93.9	90.7
1969	98.3	90.5
1970	107.8	95.2
1971	115.1	99.1
1972	123.6	103.4
1973	136.6	107.3
1974	148.3	100.0
1975	159.0	101.0
1976	167.0	104.0

Source: U.S. Dept. of Commerce, C.P.I.

*Clatsop County Plan Phase I, p. 128
**HUD - Housing Unit Occupancy Characteristics

In actual unadjusted dollar terms the County's income reflects an annual growth rate from 1970 of approximately 7.8%. This corresponds to an annual population increase of .6%. In short, while the population increased by 40% during the seven year period, the income they had at their disposal increased by over 50%, meaning a few more people shared a much larger economic pie.

However, when inflationary trends are controlled this changes radically. During the time the population increased by 4% the value of the County's total personal income actually declined by approximately 3.5%. This means that more people living in Clatsop County had to share a pie of smaller size. Given current inflationary trends, it seems likely that this phenomenon will continue unless public actions are taken to reverse the situation.

Finally, it is important to realize that different segments of local residents share varying sized portions of this decreasing economic pie. Table H-3 reflects the existing distribution of income in Clatsop County.

Table H-3. Clatsop County Adjusted Gross Income

ADJUSTED GROSS INCOME	% OF RETURNS			% OF INCOME		
0 - 1,999	14.8	29.3	50.1	1.5	5.5	16.8
2 - 3,999	14.5			4.0		
4 - 5,999	12.1			5.6		
5 - 7,999	8.7			5.7		
8 - 9,999	7.0			5.9		
10 - 11,999	6.9			7.1		
12 - 14,999	10.0		36.2	12.7		70.3
15 - 24,999	19.2			34.1		
25 - 49,999	6.2	7.0		18.2	23.5	
50+ over	.8			5.3		

Source: State of Oregon Community Service Administration

This distribution of income reflects that 50% of those earning income in Clatsop County last year garnished 16% of the County's total economic pie whereas 7% of the County's citizens received 23% of the County's income.

That over half of the County's labor force was only able to earn less than one fifth of the available income is a matter for considerable public debate. This unequal distribution of income, when compounded over years would tend to aggravate matters even more so.

The human resource picture is further darkened by the realization that 26% of the County population has not received a high school education. These 7,562 residents place Clatsop as the 10th county

in the State for percentage of population not receiving a high school education.*

Unfortunately little information is available on the specific income status of those not receiving a high school education. It is not currently possible to accurately assess the vocational skills of the underemployed and unemployed in the area.

What does seem clear is that the mere creation of new occupational opportunities in Clatsop County would have little impact on the overall conditions of the poor and low-income residents in Clatsop County.

In conclusion, the human resource picture in Clatsop County is complex to say the least. The labor market has been and is plagued by high unemployment and seasonal fluctuations. The local economy although expanding, has been unable and seems unlikely to be able to keep pace with the expanding labor force. As such low-income residents bear a principal portion of the burden of population increases in Clatsop County. Unless vocational and other job skill programs can be developed it seems unlikely that local low-income residents could, on the whole, successfully compete for employment in any new diversifying industrial opportunity. In fact, it appears as if any industrial attraction program will serve only to increase the growing gap between the County's population base and its available income.

*Oregon Community Service Administration, 1978.

CONCLUSIONS

The single most under-utilized resource in Clatsop County and one of the largest obstacles to economic development is the existing labor force.

Currently, a substantial portion of all unemployed persons in Clatsop County do not possess the basic skills necessary to maintain viable full-time employment. In addition, few opportunities are available to upgrade existing skills or learn new ones.

During the recent year several steps have been taken to provide basic educational opportunities and specific vocational training programs. Numerous special service agencies have also entered or expanded programs designed to maximize currently under-utilized human resources. Vocational rehabilitation programs--Adult Parole and Probation, Clatsop Community College, and other related agencies--have designed and implemented new or expanded programs into the Clatsop area this year. Such activities are to be supported. However, new programs need to be designed to assist the majority of the County's population who do not qualify for special programs. A major step towards unifying and coordinating the area's human resource delivery system is the expansion of Columbia County's Community Action Program into Clatsop County. Cooperation with the Community Action Program is essential to insure that low-income residents receive basic services.

I. A recent survey conducted by the Clatsop-Tillamook Intergovernmental Council reveals that the majority of the area's low-income citizens are either employed full-time or retired. This means that job creation per se may not be the area's most important goal, but rather, a particular type of job, one paying a living wage, may be more crucial than the mere quantity of jobs. This survey also reveals that low-income Clatsop County residents spend an inordinate amount of their total income on food and housing. As such, these issue areas should be the initial effort of any human resource program.

II. Local human service delivery programs should attempt to design programs that provide both lower food and housing costs for local residents, and provide average wage-paying jobs for local residents. Such programs could include:

1. food cooperatives--where local consumers could buy direct from local farmers and food warehouses,

2. housing cooperatives--where housing could be provided at lower costs since interest rates and down payments are decreased,

3. skill pools--where local skills can be exchanged for each other.*

III. Currently, numerous outside individuals who possess better skills are able to move into the area and qualify for occupational opportunities by competing against less-trained and skilled residents. The overall impact of this results in the expansion of the chronic unemployed sector of the labor pool. This in turn puts increased burdens on social service delivery agencies, many of which are under-funded and under-staffed.

Local firms, by cooperating with educational institutions, could guarantee themselves a stable quality work force and simultaneously decrease the number of chronically unemployed persons in the area.

A Human Resources Subcommittee has a vital role to play in coordinating and guiding the above policy. By serving as a liaison between local business and the community college, the Human Resources Subcommittee should be able to provide information to the college as to the needs of local businesses and to local businesses as to the services available at the college.

Finally, the Human Resources Subcommittee should assist the community college by disseminating information to the general public and whatever other services that will lead to the establishment of a full-time program.

*Portland, Eugene, and Berkeley, CA. all have food and housing cooperatives as well as numerous neighborhood skill pools. The housing area in particular has tremendous potential for providing both lower costs to consumers and considerable job generation opportunities. Considerable cost savings can be passed on to low-income residents when finance costs are either stabilized or subsidized and speculation is controlled.

COMMUNITY RESOURCES

INTRODUCTION

The natural and human resources that either potentially or actively comprise the Clatsop County economy as discussed in previous sections rely heavily on the existence or non-existence of numerous community resources. Without the local economic leadership and the support of public officials, technical personnel, and area residents existing economic activity would , in all likelihood, remain mere potential and existing potential activity would, in all likelihood, never be realized. It is the interactions and cooperation of the entire County-wide community that ultimately determines the effectiveness of the local economy given the various national and international market forces previously discussed.

Community resources consist of concrete physical infrastructure type facilities such as schools, water systems, sewage systems, transportation, police and fire protection, housing, energy availability, and other direct services. However, and equally as important, community resources include amorphous characteristics such as community pride, initiative, support, local official's and technical support staff's attitudes toward various types of economic activity.

In short, a community needs to not only be able to build and improve infrastructure facilities, it must have the community support and the institutions and organizations required to mobilize and generate the support and to focus that support to critical areas in order to remove developmental barriers.

This section will discuss those organizations and institutions currently active in economic development activity in Clatsop County and briefly analyze their impacts given their access to local resources. A brief discussion of community facilities will also be included. For a detailed analysis of these infrastructure services please refer to Community Facilities portion of the Comprehensive Plan (Goal #).

LIMITATIONS

Before launching into a discussion concerning the potential that the County's community resources provide it seems necessary to review some of the existing limitations.

Although the Clatsop County labor force is more diversified than most coastal areas, there still exist serious limitations as to vocational skills available to any new industrial activity.

Secondly, the three major economic sectors are more or less dominated by non-local corporations or non-local agencies, especially the forest and marine sectors. The tourist sector on the other hand relies heavily on the percentage of disposable income that is available to metropolitan Portland and neighboring state's residents.

Finally, numerous geographic conditions act to isolate the area from nearby major markets due to certain transportation disadvantages. Of particular concern is the adequacy of Highway 30 and the railroad to handle increase usage. Highway 30 needs improvements in the vicinity of Astoria to offer a swift and essential corridor to Portland. The railroad is somewhat limited in its design for needed diversification - major improvements are needed.

Any activity must be aware of the numerous ramifications of each. In addition, however, are other limitations which can be directly impacted so as to either improve or worsen the area's development potential.

ADVISORY AND TECHNICAL SUPPORT ORGANIZATIONS

Clatsop County Economic Development Committee (EDC)

The EDC is the Economic Development Administration's recognized body to do overall economic development planning for Clatsop County. This organization is comprised of numerous public officials, various interest groups, business men, and women and technical personnel. They have been active and influential in determining local development strategies.

One of their major accomplishments has been the establishment of a salmon-rearing hatchery on Vanderveldt Pond. This project will provide in excess of million salmon per year into the Columbia, improving sport and commercial catch opportunities.

This salmon hatchery project is a model project worth considering at length due to its excellent utilization of existing community resources. (See I/O study on fish hatchery project) By utilizing local user groups, the number of salmon available for catch is being increased by a comprehensive local approach and with coordination with numerous federal, state and local agencies.

More locally initiated projects need to be generated if the area is to meet the needs of the expanding labor. By working together the community could design projects for wood waste and hardwood utilization, fish waste and bottom fish product development, and numerous infrastructure improvements for recreation/tourism activity. The latter area has received considerable attention by the EDC and projects in this area are moving toward completion.

In addition to the fish hatchery project and the submitting of the annual Overall Economic Development Program report with its various projects, the EDC is also conducting an industrial attraction program.

This program is aimed at locating potential industrial clients and providing them with the information necessary to convince them to relocate or expand into Clatsop County. Unlike other

industrial attraction programs throughout the State, the EDC program is designed to concentrate on those industries that could profitably operate in the Clatsop County economic environment and that are compatible with Clatsop County's cultural and biological environment. By adopting such stringent criteria the program is assured that those clients who qualify will not generate and magnify those problems that the EDC is attempting to rectify in the first place. This is in contrast to the Brown and Root Pacific Fabricator type project where both scale and scope, without careful planning, could create as many different problems as it solves.

In conclusion it seems likely that the EDC will attempt future projects similar to the hatchery project where local resources are better utilized for local residents due to the apparent success of that project. The first step in that direction may be the expansion of the EDC to include areas currently not represented and, hopefully enough, County support to provide the EDC with the staff necessary to maintain and expand their existing efforts.

2. Port of Astoria

The Port of Astoria is one of the largest commercial, recreational and cargo ports on the Oregon Coast. Its strategic location at the mouth of the Columbia River, the second largest river in the United States, provides it with numerous competitive economic advantages that increase as transportation costs of ocean-going facilities rise.

As a cog in the Columbia River transportation network and thus with access to international markets, the Port of Astoria (POA) handles primarily forest products exports. Approximately 80% of POA annually revenues are generated by forest products export. As such it is subject to some degree to the fluctuations that plague the timber industry. The variations in POA revenues over the past eight years adequately trace this trend.

Table C-1. POA Gross Annual (000) Revenues

YEAR	1971	1972	1973	1974	1975	1976	1977
AMOUNT	548	203	462	227	389	522	533

Source: Port of Astoria Revenue Summary.

The fluctuation in revenues is a result of the fluctuation in Port activity. The following chart shows POA's tonnage comparisons for the past twelve years. It is clear that forest products dominates the Port tonnage and that forest products activity corresponds to national and international market conditions.

Table C-2.

PORT OF ASTORIA TERMINALS

FOUR YEAR TONNAGE SUMMARY COMPARISON

1968

	1968	1967	1966	1965
NO. OF VESSELS	234	225	158	161
TONS OUTBOUND	1,398,513 Tons	1,101,674 Tons	923,371 Tons	614,061 Tons
TONS INBOUND	69,994 Tons	61,910 Tons	47,007 Tons	73,678 Tons
TOTAL TONNAGE	1,468,507 Tons	1,163,584 Tons	970,378 Tons	687,739 Tons
COMMODITY		OUTBOUND OCEAN TONNAGE		
LOGS FBM	456,087,217 FBM	359,817,458 FBM	279,076,733 FBM	193,179,750 FBM
LUMBER FBM	61,488,259 FBM	24,883,573 FBM	33,697,279 FBM	36,568,604 FBM
LOGS	1,213,192 Tons	957,113 Tons	743,141 Tons	515,896 Tons
LUMBER	102,070 Tons	41,303 Tons	55,936 Tons	60,702 Tons
PLYWOOD	2,593 Tons	12,618 Tons	16,543 Tons	10,332 Tons
WHEAT	45,982 Tons	83,551 Tons	106,018 Tons	25,285 Tons
GENERAL CARGO	812 Tons	3,698 Tons	290 Tons	554 Tons
BULK PEAS	4,779 Tons	2,323 Tons	- - -	- - -
CANNED SALMON	33 Tons	31 Tons	443 Tons	396 Tons
FLOUR	11,936 Tons	1,037 Tons	1,000 Tons	- - -
WOODPULP	648 Tons	- - -	- - -	896 Tons
FEED PELLETS	5,776 Tons	- - -	- - -	- - -
NEWSPRINT	1,786 Tons	- - -	- - -	- - -
UREA	8,906 Tons	- - -	- - -	- - -
TOTAL OUTBOUND	1,398,513 Tons	1,101,674 Tons	923,371 Tons	614,061 Tons
COMMODITY		INBOUND OCEAN TONNAGE		
PETROLEUM	27,883 Tons	13,208 Tons	32,922 Tons	51,062 Tons
FROZEN FISH	9,186 Tons	11,974 Tons	7,043 Tons	11,241 Tons
WOODPULP	6,009 Tons	25,465 Tons	- - -	5,523 Tons
PLYWOOD	6,928 Tons	6,067 Tons	- - -	- - -
GENERAL CARGO	1,694 Tons	510 Tons	2,508 Tons	36 Tons
CANNED FISH	1,296 Tons	1,419 Tons	4,534 Tons	5,816 Tons
NEWSPRINT	16,998 Tons	3,267 Tons	- - -	- - -
TOTAL IN[illegible]UND	69,994 Tons	61,910 Tons	47,007 Tons	73,678 Tons

Table C-2 (cont'd) PORT OF ASTORI' T INALS

FOUR YEAR TONNAGE SUMMARY COMPARISON

	1972	1971	1970	1969
O. OF VESSELS	227	222	220	190
ONS OUTBOUND	1,626,868 Tons	1,246,629 Tons	1,423,935 Tons	1,031,973 Tons
ONS INBOUND	42,789 Tons	32,065 Tons	46,375 Tons	77,373 Tons
OTAL TONNAGE	1,669,657 Tons	1,278,694 Tons	1,470,310 Tons	1,109,346 Tons
OMMODITY		OUTBOUND OCEAN TONNAGE		
OG FBM	438,185,121 FBM	326,731,787 FBM	360,536,042 FBM	318,478,250 FBM
UMBER FBM	59,948,860 FBM	47,529,209 FBM	46,199,930 FBM	58,268,246 FBM
OGS	1,165,572 Tons	869,106 Tons	959,026 Tons	847,152 Tons
UMBER	99,517 Tons	78,898 Tons	76,692 Tons	96,726 Tons
LYWOOD	550 Tons	51 Tons	3,839 Tons	5,421 Tons
LOUR & ROLLED OATS	25,468 Tons	21,659 Tons	6,516 Tons	13,816 Tons
RAIN PRODUCTS	314,687 Tons	240,838 Tons	323,544 Tons	44,326 Tons
ULK PEAS	12,203 Tons	10,953 Tons	2,670 Tons	1,923 Tons
EED PELLETS	6,417 Tons	9,180 Tons	17,502 Tons	928 Tons
OOD PULP	- - -	3,339 Tons	6,802 Tons	1,468 Tons
APER PRODUCTS	2,454 Tons	12,522 Tons	5,697 Tons	2,964 Tons
ENERAL CARGO	- - -	83 Tons	3,955 Tons	7,441 Tons
ANNED SALMON	- - -	- - -	- - -	11 Tons
REA	- - -	- - -	17,692 Tons	9,797 Tons
OTAL OUTBOUND	1,626,868 Tons	1,246,629 Tons	1,423,935 Tons	1,031,973 Tons
OMMODITY		INBOUND OCEAN TONNAGE		
ETROLEUM	12,884 Tons	11,534 Tons	18,960 Tons	13,186 Tons
ROZEN FISH	5,387 Tons	3,768 Tons	3,320 Tons	5,536 Tons
OOD PULP	24,518 Tons	13,741 Tons	11,560 Tons	49,855 Tons
LYWOOD	- - -	- - -	- - -	994 Tons
ENERAL CARGO	- - -	430 Tons	1,492 Tons	139 Tons
ANNED FISH	- - -	- - -	5,818 Tons	3,271 Tons
EWSPRINT	- - -	2,592 Tons	5,225 Tons	4,392 Tons
OTAL INBOUND	42,789 Tons	32,065 Tons	46,375 Tons	77,373 Tons

Table C-2 (cont'd)

PORT OF ASTORIA TERMINALS

FOUR YEAR TONNAGE SUMMARY COMPARISON

	1976	1975	1974	1973
NO. OF VESSELS	183	146	161	180
TONS OUTBOUND	1,585,397 TONS	1,439,610 TONS	1,235,649 TONS	1,263,511 TONS
TONS INBOUND	34,478 TONS	8,817 TONS	42,074 TONS	42,666 TONS
TOTAL TONNAGE	1,619,875 TONS	1,448,427 TONS	1,277,723 TONS	1,306,177 TONS

OUTBOUND OCEAN TONNAGE

COMMODITY				
S FBM	263,515,457 FBM	259,128,155 FBM	173,782,258 FBM	142,674,245 FBM
LUMBER FBM	40,111,030 FBM	39,461,720 FBM	59,635,211 FBM	65,062,807 FBM
LOGS	1,191,089 TONS	1,171,259 TONS	785,842 TONS	645,173 TONS
LUMBER	66,585 TONS	65,507 TONS	98,993 TONS	108,005 TONS
PLYWOOD	73 TONS	---	661 TONS	369 TONS
GRAIN PRODUCTS	323,223 TONS	201,024 TONS	347,567 TONS	494,168 TONS
FLOUR	1,700 TONS	---	---	---
BULK PEAS	---	---	---	5,757 TONS
FEED PELLETS	---	---	---	3,159 TONS
PAPER PRODUCTS	2,537 TONS	1,820 TONS	2,303 TONS	6,112 TONS
GENERAL CARGO	---	---	282 TONS	768 TONS
FROZEN FISH	---	---	1 TONS	---
PULP	190 TONS	---	---	---
TOTAL OUTBOUND	1,585,397 TONS	1,439,610 TONS	1,235,649 TONS	1,263,511 TONS

INBOUND OCEAN TONNAGE

LOGS (Brereton)	---	---	---	2,671,708 FBM
LOGS	---	---	---	7,107 TONS
FROZEN FISH	4,058 TONS	5,410 TONS	5,686 TONS	7.132 TONS
WOOD PULP	11,212 TONS	3,132 TONS	33,607 TONS	28,127 TONS
GENERAL CARGO	---	80 TONS	---	300 TONS
SAWMILL EQUIP.	---	---	4 TONS	---
BUNKERS	---	---	1,012 TONS	---
CONTAINERS	---	195 TONS	1,765 TONS	---
FERTILIZER	19,208 TONS	---	---	---
TOTAL IN[illegible]	34,478 TONS	[illegible],817 TONS	42,074 TONS	42.[illegible] NS

Table C-2 (cont'd) PORT OF A' TERMINALS

FOUR YEAR TONNAGE SUMMARY COMPARISON

	1977		1976		1975		1974	
NO. OF VESSELS	143		183		146		161	
TONS OUTBOUND	1,345,465	TONS	1,585,397	TONS	1,439,610	TONS	1,235,649	TONS
TONS INBOUND	2,251	TONS	34,478	TONS	8,817	TONS	42,074	TONS
TOTAL TONNAGE	1,347,716	TONS	1,619,875	TONS	1,448,427	TONS	1,277,723	TONS

OUTBOUND OCEAN TONNAGE

COMMODITY								
LOGS FBM	237,248,784	FBM	263,515,457	FBM	259,128,155	FBM	173,782,258	FBM
LUMBER FBM	27,296,939	FBM	40,111,030	FBM	39,461,720	FBM	59,635,211	FBM
LOGS	1,072,364	TONS	1,191,089	TONS	1,171,259	TONS	785,842	TONS
LUMBER	45,313	TONS	66,585	TONS	65,507	TONS	98,993	TONS
PLYWOOD	----		73	TONS	----		661	TONS
GRAIN PRODUCTS	226,026	TONS	323,223	TONS	201,024	TONS	347,567	TONS
FLOUR	----		1,700	TONS	----		----	
PAPER PRODUCTS	1,547	TONS	2,537	TONS	1,820	TONS	2,303	TONS
GENERAL CARGO	215	TONS	----		----		282	TONS
FROZEN FISH	----		----		----		1	TONS
PULP	----		190	TONS	----		----	
TOTAL OUTBOUND	1,345,465	TONS	1,585,397	TONS	1,439,610	TONS	1,235,649	TONS

INBOUND OCEAN TONNAGE

COMMODITY								
FROZEN FISH	2,168	TONS	4,058	TONS	5,410	TONS	5,686	TONS
WOOD PULP	----		11,212	TONS	3,132	TONS	33,607	TONS
GENERAL CARGO	83	TONS	----		80	TONS	----	
SAWMILL EQUIPMENT	----		----		----		4	TONS
BUNKERS	----		----		----		1,012	TONS
CONTAINERS	----		----		195	TONS	1,765	TONS
FERTILIZER	----		19,208	TONS	----		----	
TOTAL INBOUND	2,251	TONS	34,478	TONS	8,817	TONS	42,074	TONS

The Port of Astoria's role is to assist in the development of the economic well-being of Clatsop County. This role applies to both water-borne and non-water-borne related development. As a governmental body there are diverse options available to the Port which enhances its ability to promote this well being. Private individuals and industry desiring assistance in industrial development can take advantage of Port facilities, properties or the Port's ability to provide low-interest revenue bonding for development in Clatsop County.

Although the cost of transportation, including dredging to Portland, is expected to become more prohibitive and thereby make the Port of Astoria facilities more attractive does not mean in and of itself that the Port will receive this traffic. Economic competitive advantage is also dependent upon the planning and development of facilities. Additional facilities need to be constructed and the removal of other economic restraints (i.e. improvement of rates, etc.) are necessary to develop the Port to its fullest potential. In order to prepare the Port of Astoria for future activities the Port is putting considerable time, money, and energy into long-term cargo trans-shipment facilities. The existing Port facilities have become outdated; revenues have not kept up with the rising costs, and as a result costs will eventually exceed revenues.

The extent of the committment of time and money required by the Port of Astoria may well be beyond its own fiscal capabilities. The facilities required to trans-ship containers and other upriver products must be built in cooperation with private investors, the State of Oregon, the Federal Government and the Port of Astoria, or more likely, a combination of all four. Potential projects that provide the Port with a substantial return on its investment of time and money and simultaneously provide for community gain are obviously to be supported. However, those that do not support the Port financially but would provide for some especially desirable community goal need not be excluded.

The Port also has responsibilities to the fishing industry and recreation. Enhancement of the fishing industry by providing improved facilities and revenue bonding is also certainly within the scope of Port-related activities. Providing facilities for the promotion of recreational water-borne activities is also a primary function of the Port district.

With the overall well-being of a community being contingent upon economic diversification, the Port also has an obligation to the community to provide industrial, commercial and tourist facilities for non water-borne related activities. Governmental assistance to provide facilities, site preparation, and utilities for potential industrial and commercial developers should be pursued and considered one of the Port's roles. The Port also, through its revenue bonding capabilities, can provide a source of capital at a low-interest rate to firms or individuals who can secure the bonds through existing assets, anticipated revenues, or other means.

The Port can also provide facilities and sites for new small scale development which is unable to obtain low-interest revenue bonds. For example, existing buildings and sites at the Clatsop County Airport can be used for small scale development.

The Clatsop County Airport which is owned and operated by the Port of Astoria is also a viable link in promoting recreational, tourism, industrial, and commercial growth in Clatsop County. Improvements at the airport should also be recognized as an important function of the Port.

Due to the significant rising costs as compared to revenues, the Port realizes that all avenues necessary to promote and diversify economic development must be pursued. The neglect of any area whether it be the fishing industry, deep-draft trans-shipment of cargo, non water-borne related industry, tourism, or commercial would hinder the overall effort towards economic diversification and growth in Clatsop County.

It has been apparent for many years that if the Port of Astoria is to become a major, deep water port, there must be improved rail and highway transportation down the Columbia River from Portland to Astoria. Part of any transportation improvement will be rebuilding the Burlington-Northern trackage to Astoria.

Other Special Districts

Numerous local water, sewer, communication and educational districts and corporations have intrinsic interests in economic development. These organizations need to be recognized and brought into the EDC program.

Without the input from these groups, economic planning is incomplete. In particular, school, water, and sewer districts must be brought into the planning apparatus since they receive the most direct impact of any new economic activity.

By involving them in the process on an on-going basis it will be possible to ascertain the basic costs incurred by any proposed development project to determine if such a project is a benefit or detriment to the overall community.

CONCLUSIONS

I. As mentioned earlier, community resources represent one of the most visible economic development barriers for Clatsop County. The major barrier results from the fragmented approach to economic development strategies. The EDC is the only body working toward a comprehensive strategy and they do not have the staff nor tools to do the job. Providing professional staff assistance to the EDC could occur either through a cost sharing agreement with Tillamook County, who has similar needs, or through a cost sharing arrangement with any interested municipality.

The local pay off or return to the residents of Clatsop County would far exceed whatever personnel cost that would be incurred. Depending upon the degree of interest, numerous share-payments could be adopted. A minimum participation bare-bones program might include a 50-50 split between the two counties where each county would generate $12,000 annually.

In Clatsop County it may be possible that the cities of Astoria, Warrenton, Hammond and, possibly, Seaside and Cannon Beach may want to share in the services such a program could generate.

For example, a maximum participation program would look like this:

	$12,000 Annual
Clatsop County	$ 4,750
Astoria	2,750
Warrenton	1,500
Hammond	1,500
Seaside	750
Cannon Beach	750

Of course those not participating would merely raise the fees for the others.

Even if none of the municipalities participated the County alone should seriously consider adopting such a program in order to increase the chances of improving the economy of Clatsop County.

II. In addition, due to the lack of a comprehensive approach, each municipality goes its own way generating considerable impacts. One primary problem arises from increasing residential demand on water and sewage capacity coupled with new governmental regulations. The principal obstacle preventing the area from solving its own problems is insufficient economies of scale. A number of water and sewage distrcits have under three hundred hook-ups, well below the 1,000 hook-ups used as a rule of thumb by EPA to estimate a cost efficient system. The alternatives facing the community appear to be small systems with expensive rates or some type of regional system with less expensive rates. However, water and sewage are only a portion of the community facilities problem. Solid waste also represents a serious growth obstacle as does low-cost housing supply, transportation services (air, sea and land), and local community structures.

Due to the rural nature of most of Clatsop County, economies of scale are difficult to obtain for public services. In order to obtain these economies of scale, activities must be concentrated in specific geographic locations. In those cases where individual preference runs contrary to such efficiencies, the cost of providing services for such individual preferences must be borne by the individuals, not at public expense. Such a policy of concentration implies local cooperation and coordination with those special districts where such concentration will occur. This is especially true for the Port District activity and the more urban County water and sewer districts.

A secondary long-term consideration for both the Planning Commission and the Board of County Commissioners is to obtain information relating to systematic carrying capacities. At what point, given limited resources both financial as well as natural, will the existing public service infrastructure reach its cost effective limits. Will new residential or industrial development patterns force expansion of existing systems to such an extent that the projects to be served will, in effect, be subsidized at public expense. Such cost information would be useful for future planning decisions and could be provided by local technical economic staff if such local expertise existed.

In the area of highest population and economic densities, water supply seems not to be the problem. Rather, the problem becomes one of water quality. This quality problem relates primarily to turbidity during heavy winter run-off for those water systems with surface sources and untreated, uncovered reservoirs. The estimated cost to provide quality water to larger areas is substantially lower than to smaller systems. The numerous systems surrounding Astoria should seek some method of regionalizing their system, providing some political method of sharing control, and cost could be worked out.

In particular, the urban County water districts should consider the formation of a regional wholesale water board designed similarly to the BPA model, where each local water district could have representation on the regional water board guaranteeing local autonomy and preventing any one district from gaining control of the water supply.

Some of the organizational alternatives for regional cooperation under existing statutes are:

a. County Service District,

b. Special District for Water Service,

c. Ports and PUDs, and

d. Intergovernmental Agreement.

By giving priority to those areas which cooperate and coordinate, user rates would be lowered whereby an incentive is created for such activity.

In line with attempting to provide the best quality water at the lowest public expenditure in areas of high concentration and attempting to discourage inefficient sprawl development, the County should request the OSU Extension Service and Bureau of Governmental Research to explore and research alternative methods for providing quality water to existing small water districts in order to preserve the integrity of outlying, already developed rural service areas.

Alternatives must be found for surface sources other than costly treatment facilities, especially in light of the fact that long-term solutions usually incur higher initial costs. These small systems need to be developed to meet the demand for the future without acting to accelerate sprawl, especially when adjacent to agricultural and forest activities.

INDUSTRIAL LAND USAGE

INTRODUCTION

The need for industrially zoned land is as much a result of local economic policies and economic development strategies as it is market demand. The purpose in providing a supply of manufacturing land is to guarantee the economic well-being of a community. In those areas where manufacturing opportunities are decreasing this seems somewhat ineffectual--just as ineffectual as reserving large industrial tracts for a single client when other public policies attempt to discourage large heavy-scale industrial activity.

In short, the type, location, and amount of industrial land desired by any community should reflect not only long and short-term estimated demand but should also reflect other community considerations such as available labor force, transportation, energy demand, and the whole range of community aspirations.

It is also important to consider the impacts of over, as well as under, supply of industrial land on the property owner and local municipalities.

SPECIFIC INDUSTRIAL SITE UTILIZATION IN CLATSOP COUNTY

Nowhere is the lack of a coordinated comprehensive economic planning strategy more apparent than in the area of manufacturing zoned land.

Until the EDC took upon itself to categorize existing vacant land, no single agency had ready access to industrially available vacant land.

The EDC, with the cooperation of the county and several municipalities, has completed and is currently updating its inventory of county-wide industrial zoned land. A copy of their map follows this section. As the map portrays, Clatsop County has a number of vacant industrial sites throughout the County ranging in size from the largest of acres to the smallest of acres with the majority of the smaller sites being adjacent to the Columbia River.

Given the community's expressed desire to vitalize its river front area, this allocation of industrial land seems appropriate, particularly with the favorable per dollar impact that marine oriented activity has on the County's economy and labor force.

Unfortunately, the larger industrial tracts due primarily to ownership patterns tend to be available on an all or nothing basis. The only client currently capable of utilizing such a large parcel would be a heavy large industrial activity. Due to this restriction, all of the larger parcels are vacant and will, in all likelihood, remain so in the future as they have in the past.

This ineffective utilization of manufacturing land tends to create added costs to both local municipalities and local property owners.

By preventing existing zoned and, in many cases, serviced industrial sites from being utilized by smaller clients an artificial hardship may be created since new tracts re-zoned to allow industrial usage will not be serviced nor have the same locational advantage as the older sites. The municipalities will have the added expense of servicing newer less cost-efficient locations while more centralized sites remain vacant not generating the additional municipal income for which they are capable.

The existing situation may also act to discourage smaller clients since the only site economically feasible for them may place them in such isolation they they may prefer to locate elsewhere. This very real possibility generates an additional hardship on some local property owners who currently hold industrial zoned land. In many cases their land was zoned industrial by a municipality looking for a quick fix to their own financing dilemma. By creating some industrial zoned land within their boundary they hope to rapidly increase their assessed valuation. Unfortunately, more often than not the sites they designate are done so without rhyme or reason leading to the creation of an undesirable small industrial parcel. This has occurred in several of the local municipalities in the past and is on the verge of occurring again as the new comprehensive plans are being designed.

The next step in the evolution of these small isolated industrial sites in Clatsop County has been that the pressure to develop these parcels is increased yet no clients exist. Finally, the property owner claiming hardship, which may or may not exist, petitions to develop the site as commercial. Since most sites are located in relatively isolated areas, these spot-zoned commercial utilizations develop which, in turn, are followed by pressure for residential development.

This trend has occurred too many times to be sited in both the County and numerous municipalities. It results from the over supply of poorly located small industrial sites. Despite the fact that manufacturing activity is increasing, the demand for manufacturing parcels does not appear to be growing.

CONCLUSIONS

I. By opening one of the large two hundred plus acre sites for small industrial usage it may be possible to meet projected demand more efficiently and also ease the task of attracting smaller firms to the area. The smaller parcels would have a more attractive price and it may be possible to attempt to cluster similar types of firms in one area. Or, by seeking numerous grant sources, it may be possible to develop a light industrial park with services and possibly a speculative building or warehouse. However, until small, centrally located parcels are available it will continue to be difficult to attract appropriate industry into Clatsop County.

II. There is a present lack of appropriately sized parcels zoned for industrial development in the County primarily outside of the urbanized areas adjacent to either the Columbia River or coastal plan areas. This is especially tru for central County upland locations. There are significant advantages for centralizing economic development to allow industry to take advantage of transportation facilities and labor markets and to allow sufficient economies of scale for handling community infrastructure impacts. However, many types of manufacturing are neither dependent on urban locations nor so intensive as to generate a significant service demand impact. Economic activity or other non-farm activity which could be sited in rural areas, outside of urban or urbanizable areas, includes activities which:

- depend on a unique site specific resource which is located outside of planned urbanizable land.
- do not need or desire an urban level of services or facilities
- cannot budget the costs of unneeded urban services and maintain the comparative advantage necessary to market their product.
- are compatible with the accepted farm or timber management practices of adjacent activities
- have necessary facilities already in place
- existed prior to adoption of Comprehensive Plan or LCDC goals
- are not labor intensive, and therefore do not require a large number of employees to travel from urban areas over rural roads

The lack of technology and small capital outlay favors occupancy in established buildings near or with access to small commercial centers throughout the County. Thus, cottage industry as defined below, which is compatible in scale with the existing character of surrounding land use and does not adversely affect the human and natural environment, would be permitted as a conditional use in rural zones subject to approval by the Planning Commission.

Cottage Industry Definition: Small-scale industrial uses which do not alter the essence of the particular zone in which they wish to locate and do not detract from the livibility of the surrounding land uses. As such, conditional use standards would vary depending upon the zone for which they are proposed. Uses anticipated under this category would include but not be limited to small boat building, wood working, electronic assemply, crafts, furniture construction, and similar activities.

FOREST PRODUCTS

APPENDIX A

USDA Forest Service
Resource Bulletin PNW-78

April 1978

1976 OREGON TIMBER HARVEST

by

J. D. Lloyd, Jr., *Supervisory Forester*

The 1976 Oregon timber harvest of 8.15 billion board feet ended a 3-year decline. The cut was 783 million board feet (10.6 percent) above the 1975 harvest. The western Oregon harvest rose 812 million board feet (15 percent) while eastern Oregon declined 29 million board feet (15 percent). The proportion of total harvest which comes from eastern Oregon has gradually increased from about 12 percent in the early 1950's to about 24 percent in recent years. After falling below the private cut in 1975, harvest on public lands accounted for 56 percent of the total in 1976.

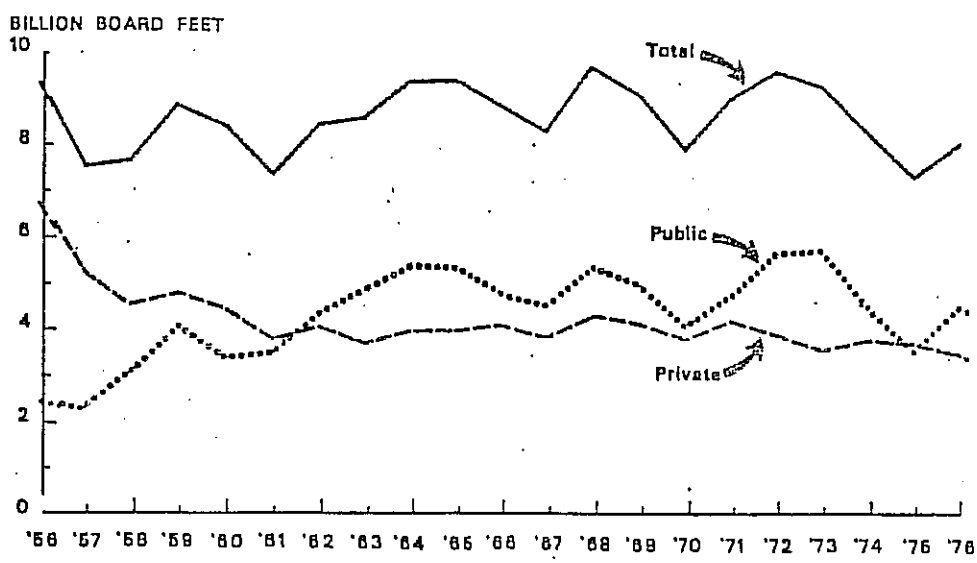
Logging on public lands gained 888 million board feet in western Oregon and 114 million board feet in eastern Oregon. Harvest increased on Bureau of Land Management (BLM) lands 456 million board feet (73 percent) and on National Forests 513 million board feet (19 percent). Indian land was the only nonprivate owner group which decreased in 1976; log sales fell 15 million board feet.

The private log harvest declined 76 million board feet in western Oregon and 144 million board feet in eastern Oregon. Nearly all the loss was on forest industry lands. Other private owners harvested 63 million board feet more than 1975 in the western half-State, but decreased 11 million board feet in the eastern half.

In 1952, Douglas County assumed the lead from Lane County as the top log-producing county in the State. Except for 2 years, it has kept this position. For the last 25 years, these two counties combined have produced 35-45 percent of the harvest for the western half-State area, and 30-35 percent of the harvest for the total State.

Volume of timber sold on National Forest, BLM, and State lands declined 22 percent to 3.8 billion board feet. This occurred despite rising prices. Prices rose $11.10 in western Oregon to $147.73 and $15.19 in eastern Oregon to $50.92.

OREGON TIMBER HARVEST 1956—76



PACIFIC NORTHWEST FOREST AND RANGE EXPERIMENT STATION

Forest Service
U.S. Department of Agriculture

P.O. Box 3141
Portland, Oregon 97208

COMMUNITY RESOURCES

APPENDIX B

PORT OF ASTORIA

GOALS AND OBJECTIVES

In order to define the immediate and future goals of the Port of Astoria including potential areas of expansion, the Port of Astoria Commission, at it's regular meeting of Thursday, August 19, 1976, adopted the following statement outlining requirements for the continued growth of the Port:

(1) Tongue Point:

Acquire the declared surplus property, including piers and land, from the U.S. Department of Labor through General Services Administration. Dredge the entrance channel to a depth of at least 40 feet and develop and adapt the hangar areas for cargo movements, both inward and outward. Develop and attract light industries or assembly plants in the area. Ultimate preparation of the site would also include blacktopping of the area presently leveled but not surfaced.

(2) Fill an Additional 80 Acres West of Pier 3:

This fill would complete expansion of our present Port complex area and would be used for container facilities, including pier and crane, movements of steel products and possible construction of a bulk loading facility.

(3) Tansy Point:

Acquire the Tansy Point area from present owners. Work toward zone changes favorable to attracting water-borne cargo facilities. Develop bulk movements of export/import cargoes, most probably in the form of a grain elevator. Develop light industry.

(4) Fill a Portion of the Present Slips Between Piers 2 & 3:

This would be the inward section of the slip and would provide additional storage area and reduce the maintenance repair costs of the present piers. Such fill could be hastened by the lessening of the export log market.

(5) Develop the industrial park presently planned for Airport property in accordance with the approved airport master plan. This park would be used for light industries, assembly plants and similar projects.

(6) Attempt to purchase the present Alumax land site in Warrenton, to be developed for light industry or a heavy industry which meets all environmental standards set forth by Federal, State and Local agencies.

The present Port Commission believes that the 80 acre fill west of Pier 3 is of the utmost importance. With this fill, one of the Port's aims could become a reality. For a number of years, the aim of the Port of Astoria has been the diversification in the types of cargoes which it has traditionally handled. The Port can no longer continue to rely solely upon the export of logs, lumber and grain. Government regulations and other circumstances could make this continued reliance upon the traditional cargoes risky at best. The fill area would complete a complex of over 100 acres and has been the subject of a potential import/export customer's desire for a lengthy period of time. This fill, as presently can be determined, would fulfill our present and future needs. It could be the last major fill required by the Port.

We also believe that Brown & Root may be the last heavy industry the Port would solicit for the area. Although the Port would prefer light industry at the Alumax site, we cannot rule out the possibility of a heavy industry locating there. However, in keeping with our policy of diversification, the Port would much prefer several small industries.

We further believe that the two ways by which to develop the Port facilities are by developing the industrial areas the Port can realistically serve or promoting efforts in the field of bulk cargoes that have a rate parity with other ports in the area.

Finally, the Port of Astoria does not want Clatsop County to become an overpopulated industrial area. While we feel the Port of Astoria will not become a huge port in our time, we do strongly feel that with the help of elected officials of the public agencies of Clatsop County and with some aid from the various State agencies, we can become a good, sound Port in the matter of a few years.

INDUSTRIAL ZONED LAND

APPENDIX C

EXHIBIT "A"

ORD 96-9
28 Aug 1996

June 11, 1996
DRAFT

CLATSOP COUNTY INDUSTRIAL SITES INVENTORY

Introduction

The Clatsop County Economic Development Council (CEDC) performs inventories of industrial sites on a periodic basis for the Clatsop County area, including sites within city limits. The most recent report was completed in 1993. The site descriptions, which are included as part of this report, are brief overviews of the property, including their location, history, zoning, physical characteristics, utilities, access, public services, adjacent land use, taxes, ownership, financial incentives and sources of additional information. CEDC is the local clearinghouse and economic development information source for the County.

According to the data sheets for each site, Clatsop County contains approximately 1100 acres of vacant industrially-zoned land and water throughout its area. In addition, the largest industrial use in the County, the James River pulp mill at Wauna, has an indeterminate amount of land surrounding the plant which could be use for expansion. The vast majority of industrially zoned land in the County, approximately 1000 acres, is within the city limits of Astoria and Warrenton, and to a much lesser extent, Seaside. Only 103 acres are identified in the unincorporated areas of the County, and of that figure, 55 acres (the Drucker site) have recently been approved for residential development. This total does not take into consideration the hundreds of thousands of acres of commercial forest lands where a wide range of forestry related industrial activity can be carried out.

The sites and acreages described in the report have a wide variety of zoning and other restrictions. Certain sites are exclusively reserved for deep water marine dependent development, such as the Port of Astoria docks, East Bank Skipanon, and North Tongue Point. Other sites have freshwater wetlands restrictions, or pending developments, such as the Mill Pond site in Seaside.

There has been relatively little development of the area's industrial land base in the last ten years. The most significant recent proposal has been the utilization of the North Tongue Point industrial areas, and the Tansy Point development in Warrenton. The proposed development of the Drucker and Seaside Mill Pond developments could further reduce the industrial site inventory by approximately one hundred acres. However, there remain several large industrial sites, including the Port of Astoria airport industrial park, the Clatsop County (former Alumax) site, and the east bank of the Skipanon River which are largely undeveloped. The total amount of remaining acreage appears to be sufficient to serve industrial growth requirements for the foreseeable future. Industrial development will likely occur in those communities best able to support it, e.g. Warrenton and Astoria.

Recent Changes in Status of Individual Sites

The Seaside "Mill Pond" or Kohl Lumber site is planned for construction of a business or light industrial park and the new Seaside Public Works yard. The approximately 15 acres of land contain the former mill ponds and some wetlands. Development of the business park is largely dependent on the construction of the proposed "factory outlet mall" at the site of the Seaside Public Works yard on US 101.

The Astoria "Fluhrer" site, consisting of approximately three acres of uplands, is being considered as the site of an assisted living facility, (housing for elderly persons). The submerged tidelands adjacent to the site are owned by DSL and have little utility to the site unless major dredging is carried out.

The Astoria "Pacific Power" site is contaminated by coal tar residues, and has limitations for marine related use, since access from the Youngs Bay channel would entail significant dredging.

The Astoria "Bergerson" site is being considered for a residential development at this time.

The 45 acre "North Tongue Point" site in Astoria's urban growth boundary has recently been leased to Cresmont, Inc., a marine industrial company, who will in turn sublease portions of the site to other marine related firms. Pacific Marine and Steel is the first tenant scheduled for start up in September of 1995, with approximately 150 employees.

The "Drucker" site has received approval for a 76-unit residential complex on the undeveloped portion of the site. The old Navy hospital structure and other buildings in the vicinity are still available for lease for commercial or light industrial uses, but the balance of the 55 acre site is effectively unavailable. Significant commercial or industrial use of the property will be constrained as homes are built.

In summer 1995 Horizon Air discontinued air service to Astoria. No replacement has been found.

In late 1995 Burlington Northern/Santa Fe railroad 'abandoned' their line in Astoria from the Port Docks east to Tongue Point. It is being 'rail-banked'; the area is proposed as a waterfront trail but could be reactivated if a need were shown.

In late 1995 twenty acres of the Alumax site were selected by the Oregon Youth Authority as the location for a 100 bed regional Juvenile Detention Facility. Construction is expected to begin in July 1996.

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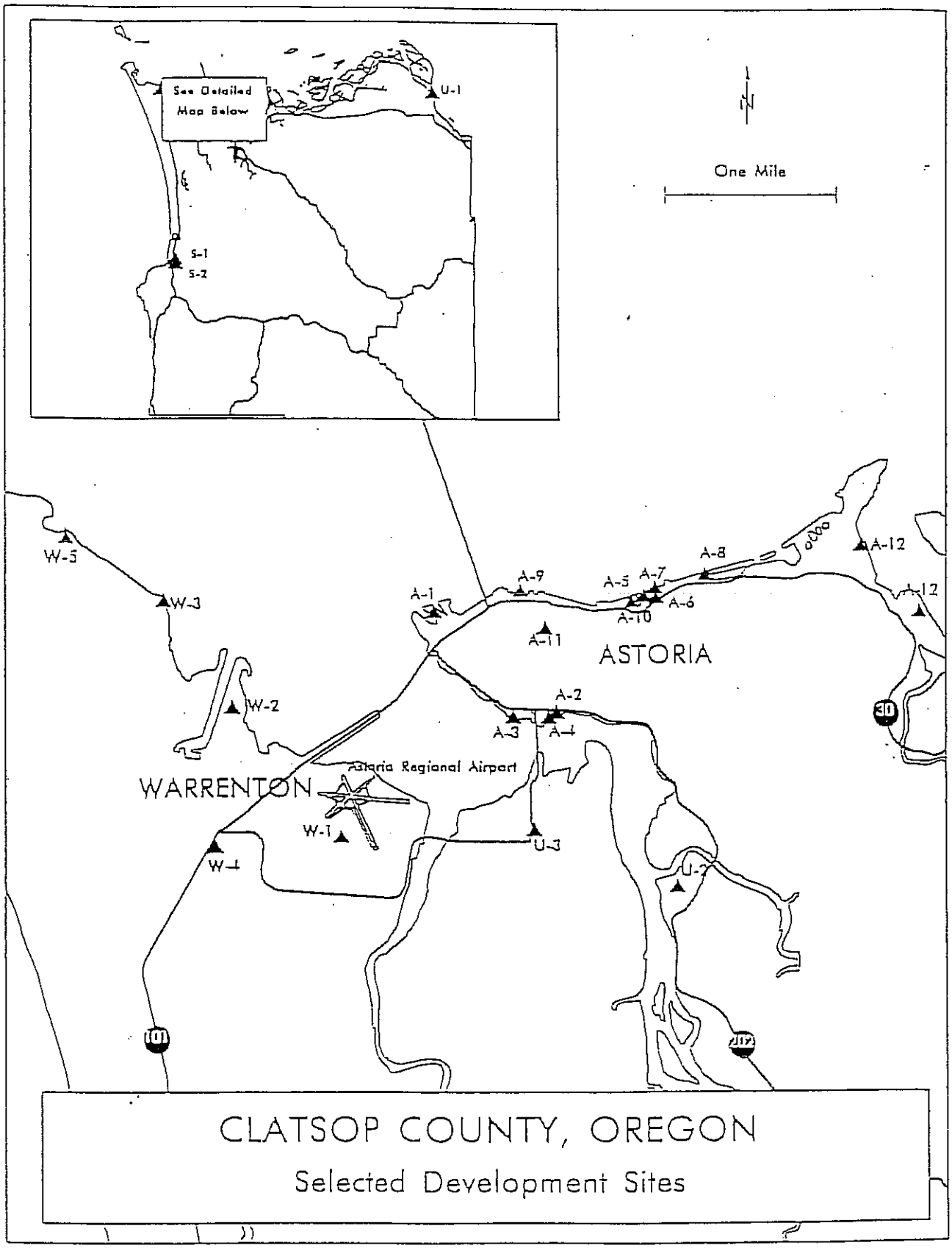

CLATSOP COUNTY, OREGON

Selected Development Sites

DEVELOPMENT PROPERTIES

SITE NAME	SIZE (ACRES)	ZONING	WATER	SEWER	NAT GAS	RAIL ACCESS	RIVER ACCESS
SEASIDE							
S-1 Mill Pond Business Park	15	Ind	Y	N	Y	N	N
S-2 Halvorson	8	Com	Y	N	Y	N	N
WARRENTON							
W-1 Airport	50	Ind	Y	Y	Y	N	N
W-2 East Bank Skipanon	250	Ind	Y	Y	Y	N	Y 1
W-3 Tansy Point	10	M Ind	Y	Y	Y	N	Y 1
W-4 North Coast Ind. Park	275	Ind	N	N	Y	N	N
							Y
ASTORIA							
A-1 Port of Astoria	165	Ind	Y	Y	Y	Y	Y 1
A-2 Fluhrer	2	Com	Y	Y	Y	N	N
A-3 PP&L Plant	7	Com	Y	Y	Y	N	N
A-4 Bumble Bee Shipyard	6	Com	Y	Y	Y	N	Y 2
A-5 Utti/Van Horn	1	Com	Y	Y	Y	Y	Y 2
A-6 Brugh	9	Com	Y	Y	Y	Y	Y 2
A-7 Stempel/Beach	<1	Com	Y	Y	Y	Y	Y 2
A-8 Bergerson	8	Gen Ind	Y	Y	Y	Y	Y 2
A-12 N Tongue Point	155	M Ind	Y	Y	Y	Y	Y 1
A-12 S Tongue Point		M Ind	Y	Y	Y	Y	Y 2
UNINCORPORATED COUNTY							
U-1 Bradwood	40	M Ind	N	N	N	Y	Y 1
U-2 Drucker	55	Ind/PD	Y	Y	N	N	N
U-3 Miles Crossing/Brugh	8	Ind	Y	N	Y	N	N

NOTES
1 Deep draft river access
2 Limited draft river access

SEASIDE - MILL POND BUSINESS PARK

LOCATION

Seaside is located on the Pacific Ocean, 16 miles south of Astoria and 85 miles west of Portland, Oregon. U.S. Highway 101/26 passes through Seaside. The city has one area zoned for industrial use at the south end of the city. This site is about 500 feet east of US Highway 101 and roughly between Avenue S on the north and Avenue U on the south. The property is outside of the Seaside city limits and within the Seaside Urban Growth Boundary.

CURRENT ZONING

The majority of the site is in the Seaside Urban Growth Boundary MI industrial zone. The southeast portion of the site (about 20-25%) is currently in the Seaside Urban Growth Boundary A-3 freshwater wetlands zone. The city is reviewing a wetland conservation plan that might expand the identified freshwater wetlands area to about 50% of the site.

SITE DESCRIPTION

The business park is comprised of approximately 11 acres of what was formerly the 31-acre site utilized by Kohl Lumber for a small alder lumber until January of 1989. Centers West Realty, Inc., is scheduled to begin construction soon on 100,000 square feet of "flexible use space" geared for start-up businesses, offices, warehousing, and light manufacturing. Up to 200,000 square feet of space can be constructed. Construction will be concrete tilt-up walls with the wall height being 27 feet to accommodate most uses. The business park will be constructed to suit the needs of tenants and the space size will range from 600 square feet to 20,000 square feet.

UTILITIES

Seaside provides water to the property via a privately owned six-inch line. There is sufficient supply and considerable room for expansion of the system's capacity. The method of treatment is sedimentation, chlorination and fluoridation.

Seaside's sewage treatment plant has been expanded to meet the city's projected needs through the year 2020. The city sewer line is approximately 300 feet from the site at the intersection of US 101 and Avenue S site and the area would need to be annexed to extend sewer service. A private hauler provides collection service to a garbage transfer station in Seaside where the waste is prepared to be sent to a landfill site outside of Clatsop County.

All electrical power is provided by Pacific Power and Light Company. Seaside's main substation is located just east of U.S. Highway 101/26 and south of 10th Avenue which is about 3/4 mile north of the property. This substation is served with a 115 KV line and the facility reduces it to 12.5 KV three-phase. Gas is provided by Northwest Natural Gas Company with a six-inch high pressure main running through Seaside.

ACCESS

The property is one block east of US Highway 26. Horizon Air serves the Astoria Regional Airport, 15 miles away in Warrenton. The Seaside Airport accommodates light planes. The nearest deep draft port facility is 16 miles to the north in Astoria. Burlington Northern rail service is also available in Astoria.

SERVICES

Police service is provided by the county sheriff and Oregon State Police. Fire protection is provided by Seaside's volunteer fire department. The fire insurance rating is 4. U.S. West Communications provides communication services.

ADJACENT LAND USES

Residential and commercial areas are adjacent.

TAXES AND VALUE

The entire site, 31 acres, had a total assessed valuation for 1991 of $258,560. The 1994-95 tax rate for the property which is outside the city limits of Seaside was $12.60 per $1,000 of assessed value.

OWNERSHIP

Contacts for leasing information: Bob Smith or Jan Wright at Centers West Realty, Inc., 1693 Mollala Avenue, Oregon City, Oregon 97045. Telephone: (503) 657-1370.

FINANCIAL INCENTIVES

Qualifying businesses planning to start, expand or relocate in Clatsop County can take advantage of a variety of financial incentives including reduction in property taxes, lower than conventional rate financing programs, partially funded employee training programs, project specific grants, and low-interest loans for on-site infrastructure improvements provided by federal and state agencies, the Port of Astoria, and county government. The Clatsop County Economic Development Council will provide information and assistance to firms.

FOR FURTHER INFORMATION CONTACT

Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

SEASIDE - HALVERSON

LOCATION

The Halverson Property is located at the south end of the City of Seaside adjacent to Highway 101. Seaside is located on the Pacific Ocean, 16 miles south of Astoria and 85 miles west of Portland, Oregon.

CURRENT ZONING

The site is entirely within the City of Seaside. The majority of the site is zoned C-3, General Commercial. The south central portion of the site is zoned A-3 freshwater wetlands. The site has significant wetland and flood hazard development limitations.

SITE DESCRIPTION

The 7.88 acre parcel fronts on Highway 101. It is unimproved and with some trees. Highway 101 serves as the eastern boundary, Pete Anderson Realty is to the north and vacant land is to the south and west.

UTILITIES

The City of Seaside provides water via a 24-inch main across the highway. A sewage pump station is located approximately 500 feet from the site. A line would need to be laid in order for the site to have a sewer system. A private hauler provides collection service to a garbage transfer station in Seaside where the waste is prepared to be sent to a landfill site outside of Clatsop County.

Pacific Power and Light provides power. Northwest Natural gas is available on an interruptible basis with a six-inch high pressure main running through Seaside.

ACCESS

The site is on the west side of Highway 101, 3/10th of a mile south of Avenue U, before the Necanicum Bridge. The nearest deepwater port facility is 25 minutes to the north in Astoria. Burlington Northern Railroad also serves Astoria. Horizon Air serves the Port of Astoria Airport, 15 miles away in Warrenton. The Seaside Airport accommodates light planes.

SERVICES

Seaside provides security and fire protection. Fire insurance classification is a four. U.S. West Communications provides communication services.

ADJACENT LAND USE

Commercial and unimproved land is adjacent to the site.

TAXES AND VALUE

The 1992 assessed value for the entire 7.88 acre tax lot was $45,800. The 1994-95 tax rate was $15.45 per $1,000 of assessed value. While Oregon law requires assessed value to represent 100% market value, all properties are not physically appraised annually.

OWNERSHIP

The land is owned by Carl Halverson, Halverson-Mason Corp., P.O. Box 1449, Portland, Oregon 97207. The sale price of the parcel is $450,000. Fax: (503) 738-6410.

FINANCIAL INCENTIVES

Qualifying businesses planning to start, expand or relocate in Clatsop County can take advantage of a variety of financial incentives including reductions in property taxes, lower-than-conventional rate financing programs, partially funded employee training programs, project specific grants, and low-interest loans for on-site infrastructure improvements provided by federal and state agencies, the Port of Astoria and county government. The Clatsop County Economic Development Council will provide information and assistance to firms.

The Halverson site is located within the Seaside Enterprise Zone. Eligible businesses locating in an enterprise zone receive a 100% property tax exemption on nearly all kinds of new business investments for a minimum of three years and a package of local incentives. At the discretion of the zone sponsor, a business meeting special criteria may receive a program extension for up to two years.

FOR FURTHER INFORMATION CONTACT

Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

WARRENTON - EAST BANK SKIPANON

LOCATION

The East Bank Skipanon is in the City of Warrenton, adjacent to East Harbor Drive, one mile west of U.S. Highway 101. It is surrounded on three sides by water: the Skipanon waterway, the main Columbia River navigation channel, and Youngs Bay.

HISTORY

During the mid-1970's, when Brown and Root planned to construct an oil drilling platform fabricating plant, complete environmental impact statements (EIS) were prepared for the site and published by the U.S. Army Corps of Engineers. The EIS is available from the Port of Astoria, CREST, or the City of Warrenton. Astoria Oil Services, Inc., a division of Morrison-Knudsen, had an option during the mid-1980's to exercise a 30-year lease on the property to develop a module fabrication yard. Thermo Energy Systems Corp. proposed building a $42 million power generating plant on 30 acres of the site in 1993, but the firm's proposal was not pursued by Portland General Electric.

CURRENT ZONING

The site falls under the CREST Mediation Agreement (East Bank Skipanon Mediated Development Zone). It is designated I-3, water-dependent industrial. Tentative wetland delineation maps prepared as part of the Warrenton wetland conservation planning process indicate the presence of large areas of regulatory freshwater wetlands on the site. With the exception of a narrow band of uplands along the north side of East Harbor Drive, the southern half of the site is an apparent freshwater wetland area.

SITE DESCRIPTION

The site consists of approximately 250 acres of diked upland and tidelands. The soil is silt and sand dredged from the Columbia and Skipanon rivers. The site is impermeable because of clay substrata and is diked to protect against flooding. Cavenham's Warrenton sawmill is built on the same geologic base and soils as the East Bank Skipanon site.

The site is one of the few on the Columbia River which has river access on two sides. The Skipanon River channel is capable of accommodating vessels up to 18 feet in draft as currently dredged and the main Columbia River channel is approximately 1,500 feet distant to the north.

Also, it is one of the few sites on the West Coast of the United States that can accommodate construction of large offshore drilling and production structures due to the fact that there are no natural or man-made obstructions between the site and the Pacific Ocean.

The site is cleared and currently being used for cattle grazing.

The Port of Astoria is promoting water-dependent industrial development on the majority of the site with some potential commercial development sites along southern portion of the site where the property fronts onto East Harbor Drive.

UTILITIES

The City of Warrenton has adequate water capacity to serve an industrial user at this site. There is a six-inch line adjacent to the site at the intersection of East Harbor Drive and King Street. The water treatment system consists of chlorination/fluoridation and lime.

There is a 10-inch sewage line adjacent at the intersection of East Harbor Drive and King Street to the property. The City of Warrenton operates its own waste collection system. Waste is hauled to a transfer station in Astoria where it is prepared for trucking to a landfill outside of Clatsop County.

Electrical power is provided to the site by Pacific Power and Light Company. An area substation converts 115 KV to 12.5 KV three-phase power. Northwest Natural Gas provides service on an interruptible basis. The line runs along East Harbor Drive.

ACCESS

The site is one mile from U.S. Highway 101/26 with access off East Harbor Drive. Truck traffic would not have to travel through downtown Warrenton to get to the site. Horizon Air serves Astoria Regional Airport, two miles from the site. An access corridor to the main Columbia River channel through intertidal area to the site has been designated. The Skipanon River has an authorized channel depth of 30 feet.

SERVICES

Police and fire protection are provided by the City of Warrenton. The fire insurance rating is 6. U.S. West Communications provides telephone service.

ADJACENT LAND USE

The site is across the Skipanon from Cavenham's Warrenton sawmill and adjacent to the city's marina, and East Harbor Drive and Highway 101 retail/commercial development.

TAXES AND VALUE

Since the site is publicly owned by the Port of Astoria, Clatsop County, the City of Warrenton, and the Oregon Division of State Lands, no taxes are levied. The County Assessor's Office estimates the 1990 market value of industrial land in the area to be in the range of $15,000 to $18,000 per acre. The 1994-95 tax rate in Warrenton is $14.27 per $1,000 of assessed value. While Oregon law requires assessed value to represent 100% market value, all properties are not physically appraised annually.

OWNERSHIP

The Port of Astoria owns the majority of the site, approximately 165 acres. Additional property owned by the Port, approximately 85 acres, is submerged and submersible land. Contact: Jonathan Krebs, Executive Director, Port of Astoria, 1 Portway, Astoria, OR 97103. Telephone: (503) 325-4521. Fax: (503) 325-4525. The Oregon Division of State Lands also asserts title to the submerged and submersible acreage adjacent to the Skipanon Peninsula. Clatsop County owns the southwest portion (7.2 acres) and the City of Warrenton owns the area adjacent to the mooring basin. The Port of Astoria has an agreement to joint market the state land.

FINANCING

Qualifying businesses planning to start, expand, or relocate in Clatsop County can take advantage of a variety of financial incentives including reduction in property taxes, lower-than-conventional rate financing programs, partially-funded employee training programs, project specific grants, and low-interest loans for on-site infrastructure improvements provided by federal, state, and local agencies.

The East Bank of the Skipanon industrial site is located within the Astoria Area Enterprise Zone. Eligible businesses locating in an enterprise zone receive a property tax exemption for a minimum of three years and package of local incentives. At the discretion of the zone sponsor, a business meeting special criteria may receive a program extension.

FOR FURTHER INFORMATION CONTACT

Port of Astoria, 1 Portway, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

ADJACENT LAND USES

There are residences, a city park, industrial activities and vacant land between Tansy Point and the Warrenton western city limits. A City of Warrenton owned industrial park which contains a log sorting, processing, and chipping operation and barge moorage facility occupies approximately 38 acres is under lease to Martin Nygaard for 30 years (1986).

TAXES AND VALUE

In 1990, prime waterfront land at Tansy Point is appraised at about $20,000-$24,000 per acre with a lesser value assigned non-waterfront land. The 1994-95 tax rate for property in the City of Warrenton is $14.27 per $1,000 of assessed value.

OWNERSHIP

The 10-acre site is owned by the City of Warrenton. If interested in leasing this land, please contact Gilbert Gramson, City Manager, Warrenton City Hall, Warrenton, Oregon 97146. Telephone: (503) 861-2233.

FINANCIAL INCENTIVES

Qualifying businesses planning to start, expand or relocate in Clatsop County can take advantage of a variety of financial incentives including reduction in property taxes, lower-than conventional-rate financing programs, partially funded employee training programs, project specific grants, and low-interest loans for on-site infrastructure improvements provided by federal and state agencies, the Port of Astoria and county governments. The Clatsop County Economic Development Council will provide information and assistance to firms.

The Tansy Point industrial site is located within the Astoria Area Enterprise Zone. Eligible businesses locating in an enterprise zone receive a 100% property tax exemption on nearly all kinds of new business investment (new buildings, renovations, and expansions, machinery and equipment, and increases in land values through site preparations) for a minimum of three years and a package of local incentives. At the discretion of the zone sponsor, a business meeting special criteria may receive a program extension for up to two years.

FOR FURTHER INFORMATION CONTACT

Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

The Columbia River Estuary Study Taskforce (CREST), 750 Commercial, Room 214, Astoria, Oregon 97103. Telephone: (503) 325-0435

ADJACENT LAND USES

There are residences, a city park, industrial activities and vacant land between Tansy Point and the Warrenton western city limits. A City of Warrenton owned industrial park which contains a log sorting, processing, and chipping operation and barge moorage facility occupies approximately 38 acres is under lease to Martin Nygaard for 30 years (1986).

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Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

WARRENTON - PORT OF ASTORIA AIRPORT INDUSTRIAL PARK

LOCATION

The Astoria Regional Airport is located in Warrenton forming that city's southeast boundary. It is 5 miles southwest of Astoria separated by Youngs Bay and 100 miles to Portland by either U.S. Highway 101/26 or 30. The airport is bordered on the west by three creeks and U.S. Highway 101/26; on the south by the Airport Road and U.S. Highway 101 Alternate; on the north by Youngs Bay; and on the east by the Lewis and Clark River.

HISTORY

The Port of Astoria Airport is owned and operated by the Port. Construction of the airport began in late 1933. It has three runways. With the exception of the main runways, most of the improvements were constructed by the Navy when it occupied the airport from early 1942 until 1948. Scheduled air carrier services began in 1944. Several commercial carriers have served the airport intermittently since 1978 with the latest being Horizon Air in 1994. The Coast Guard, since 1966, has been the largest user of the airport since construction of an air station in 1966. A significant portion of the acreage has been leased for agricultural use.

CURRENT ZONING

The majority of the airport property is zoned I-1 (General Industrial). The city of Warrenton has permit authority for zoning and building permits at the airport. The Port of Astoria's Airport Master Plan has set aside land for general aviation, future aviation, commercial airport, airport and aviation-related facilities; and light industrial compatible with air transportation.

SITE DESCRIPTION

The Port of Astoria Airport covers a total of about 860 acres. Within this overall area about 50 acres to the south of the Coast Guard Station and north of the airport access road has been set aside for industrial park developments compatible with the existing airport operations. The airport is built on diked estuarine land, filled swampland, and sandy soils. The airport is at 10' above sea level in elevation and as a result the water table is at or near the surface. Approximately 25% of the 50 acres industrial park area has been identified as a freshwater wetland.

Five manufacturers and UPS are located at the airport. The Port recently completed construction of a 31,000 square foot building to serve as the world headquarters for Ag-Bag, the manufacturer of farm bagging equipment and storage bags for sealed feed storage.

UTILITIES

The airport is served by the Warrenton water system. An eight-inch water line runs along the north side of Airport Road. Water is treated with chlorination/fluoridation and lime.

The airport is connected to Warrenton's sewage treatment system with an eight-inch pressurized line. The City of Warrenton operates its own waste collection system. Garbage is hauled to a transfer station in Astoria to prepare waste for trucking to a landfill site outside of Clatsop County.

Electrical power is provided by Pacific Power and Light. The nearest 115 KV substation is two miles away. The airport is provided with a 12.5 KV three phase line. Natural gas is provided on an interruptible basis by Northwest Natural Gas. A four-inch line runs along the north side of Airport Road.

ACCESS

Existing access to the airport is primarily via Alternate U.S. Highway 101 to Airport Road. This route directs traffic through a residential area. The Port is pursuing approval and development of a new access road into the airport which would connect to US Highway 101. When constructed, this access route would open additional Port properties for commercial and industrial development. There is no water access to the airport because of the dike and shallow water. The Port of Astoria's docks are five miles away as is Burlington Northern Railroad service.

SERVICES

Security is provided by the Warrenton city police, the Clatsop County sheriff, and the Port of Astoria security force. The industrial park is within the City of Warrenton's volunteer fire district. The fire insurance classification is six. U.S West Communications provides communication services.

ADJACENT LAND USE

Rural residences, agriculture land, recently logged forest land are adjacent.

TAXES AND VALUE

Port property becomes taxable when it is leased to a private firm. Current market value of the airport property ranges between approximately $5,000 and $30,000 per acre according to recent GNAT appraisals. Property within the City of Warrenton was taxed at a rate of $14.27 per $1,000 of assessed value in 1994-95.

OWNERSHIP

It is the Port of Astoria's policy to lease its land rather than to sell it. Contact: Jonathan Krebs, Executive Director, Port of Astoria, 1 Portway, Astoria, Oregon 97103. Telephone: (503) 325-4521. Fax: (503) 325-4525.

FINANCING

Qualifying businesses planning to start, expand, or relocate in Clatsop County can take advantage of a variety of financial incentives including reduction in property taxes, lower-than-conventional rate financing programs, partially-funded employee training programs, project specific grants, and low-interest loans for on-site infrastructure improvements provided by federal, state, and local agencies.

The Port of Astoria Airport Industrial Park is located within the Astoria Area Enterprise Zone. Eligible businesses locating in an enterprise zone receive a property tax exemption for a minimum of three years and a package of local incentives. At the discretion of the zone sponsor, a business meeting special criteria may receive a program extension of up to two years.

FOR FURTHER INFORMATION CONTACT

Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

WARRENTON - NORTH COAST BUSINESS PARK

LOCATION

The North Coast Business Park site abuts Highway 101/26 in Warrenton, five miles southwest of Astoria and 10 miles north of Seaside. It is approximately 100 miles to Portland by either U.S. Highway 30 or 26.

HISTORY

The current 275 acre Clatsop County ownership is a portion of the 660 acre industrial tract that was consolidated by Pacific Power and Light in the 1960's and then sold to the Alumax Corporation. Alumax invested over $2 million in site preparation during the early 1970's, including land clearing, grading, and installation of drainage. When Alumax subsequently abandoned its plans to build an aluminum reduction facility on the site, it donated the property to the San Francisco YMCA. The property was then purchased by Western Resources and traded to Clatsop County for the site of a new county fairgrounds. However, the fairgrounds were located on other county property in 1995.

CURRENT ZONING

The site is outside of the Warrenton city limits but within thee Warrenton Urban Growth Boundary and it is zoned for general industrial use. Recent wetland delineations completed during the development of Warrenton's wetland conservation plan indicated that about 25% of the site is covered by regulatory freshwater wetlands.

SITE DESCRIPTION

The majority of the site was cleared and graded in the 1970's and is now covered with stands of young alder trees and underbrush. The southern and eastern portions of the site consist of recently logged forest land and freshwater wetlands. The elevation of the site is 50' above sea level. It is on a base of clay and sandstone which is strong enough to support heavy construction. It does have drainage problems, however, the clay base is only slightly permeable and during heavy winter rains can collect some standing water. A system of surface drainfields would have to be installed.

UTILITIES

The City of Warrenton provides water via an eight-inch line at the north border of the site and a 12-inch interconnection point 2,000 feet to the west. Water is treated with chlorination/fluoridation and lime.

The City of Warrenton has existing sewer lines at the intersections of Marlin Avenue and Alternate US 101 (about 1,500 to the northeast) and Main Street and alternate US 101 (about 3/4 of a mile to the northwest). Because the Marlin Avenue sewer line is a pressure line that has less capacity than the 12-inch gravity line on Main Street, a proposed connection at the Main Street would need to be considered. The City of Warrenton operates its own waste collection system. Waste is transported to a transfer station in Astoria for preparation for hauling to a landfill site outside of Clatsop County.

Electrical power is provided by Pacific Power and Light. The nearest substation is at the north edge of the site adjacent to S.E. Jetty Avenue. It converts 115 KV to 12.5 KV three-phase for Warrenton and the site.

Northwest Natural Gas provides service on an interruptible basis. An eight-inch high pressure line runs along the southern border of the site with an interconnection point at the southwest corner.

ACCESS

The site has approximately one-half mile of frontage on U.S. Highway 101/26. The site is bordered on the northeast side by Highway U.S. 101 Alternate. Access is off Dolphin Road, and S.E. Jetty Avenue and 12th Street. There are small access roads on the site. The Port of Astoria's docks are four miles away. Burlington Northern Railroad serves Astoria which is four miles away. Horizon Air serves the Port of Astoria Airport, is two miles away from the site.

SERVICES

Security is provided by the Warrenton city police, the Oregon State Police, and the Clatsop County sheriff's department. The industrial site is partially within the City of Warrenton's volunteer fire district. The area's fire insurance classification is 6. U.S. West Communications provides communication service.

ADJACENT LAND USE

Residential and commercial areas, forest lands, Pacific Power and Light's service station and the State of Oregon Highway Division maintenance shops border of the site.

TAXES AND VALUE

The property was assessed at an average value per acre of $2,322 in 1990 by the County Assessor's office. The 1994-95 tax rate is $14.27 per $1,000 of assessed value within the city limits and the tax rate outside the city limits is $12.94 per $1,000 of assessed value. While Oregon law requires assessed value to represent 100% market value, all properties are not physically appraised annually.

OWNERSHIP

Clatsop County: Contact William Barrons, County Manager, P.O. Box 179, Astoria, Oregon 97103. Telephone: (503) 325-1000.

FINANCIAL INCENTIVES

The North Coast Business Park is located within the Astoria Area Enterprise Zone. Eligible businesses locating in an enterprise zone receive a minimum three-year property tax exemption and package of local incentives. At the discretion of the zone sponsor, a business meeting special criteria may receive a program extension for up to two years.

Qualifying businesses planning to start, expand or relocate in Clatsop County can take advantage of a variety of financial incentives including reduction in property taxes, lower-than-conventional rate financing programs, partially-funded employee training programs, project specific grants, and low-interest loans for on-site infrastructure improvements provided by federal, state, and local agencies.

FOR FURTHER INFORMATION CONTACT

Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

WARRENTON - TANSY POINT

LOCATION

Tansy Point refers to the area in Warrenton between the boundary line for the community of Hammond and NW 13th Street. It is about three miles from U.S. Highway 101/26. Tansy Point is ten river miles from the mouth of the Columbia River.

CURRENT ZONING

Tansy Point is designated on the comprehensive plan and zoning map as I-3, Water Dependent Industrial, and uses are restricted to those requiring a waterfront location. The adjacent aquatic area out to the pierhead line is in a Development Aquatic designation. The site subject to provisions of the CREST Mediation Agreement which specifies certain conditions for the development of the area.

SITE DESCRIPTION

The area referred to as Tansy Point on the Columbia River has been identified as one of the best marine industrial sites on the lower Columbia because it is adjacent to the main ship channel and natural water depths of approximately 48 feet occur close to shore due to river and tidal current scouring.

An approximately 10-acre parcel between N.W. Warrenton Drive and the Columbia River and west of the Eben Carruthers Park is a available for development. It is generally flat. This industrial site is on a base of sand and fill and is relatively high. The shoreline west of Tansy Point has been riprapped to retard erosion.

UTILITIES

The City of Warrenton provides water via a 10-inch line that parallels the main highway to provide service to the site. Water is treated with chlorination/fluoridation and lime.

Tansy Point is connected to the City of Warrenton's 15-inch line sewer line which is adjacent to NW Warrenton Dive. The secondary treatment plant is 3/4 of a mile from the site. The City of Warrenton operates its own waste collection system. Garbage is hauled to a transfer station in Astoria to prepare waste for trucking to a landfill site outside of Clatsop County.

Electrical power is provided to the site by Pacific Power and Light. Tansy Point has 12.5 KV three-phase power. Northwest Natural Gas provides service on an interruptible basis. A six-inch high pressure line is at the site.

ACCESS

The site is marine oriented with water depths in excess of 40 feet adjacent to the shore and can provide quick turnaround time for deepdraft ocean-going ships due to the site's proximity to the river mouth. Rail service is available in Astoria from Burlington Northern Railroad. Tansy Point is about three miles from the nearest major highway, U.S. 101/26. Traffic to Tansy Point must pass through downtown Warrenton. Horizon Air serves the Astoria Regional Airport, five miles to the southeast.

SERVICES

Security is provided by the city's police department with help from the Clatsop County sheriff's department. Tansy Point is within Warrenton's volunteer fire department district. Fire insurance classification is six. U.S. West Communications provides communication services.

PORT OF ASTORIA

LOCATION:

The Port of Astoria is located on Smith Point, the westernmost point of Astoria, next to the Columbia River's 40-foot channel, just 13 miles from the ocean. Present port-owned land is bounded on the west by Youngs Bay, on the North by the main channel of the Columbia River, on the south by Burlington Northern, and on the east by the Astoria Bridge.

HISTORY:

Founded in 1912, the Port of Astoria is ideally suited for shippers and terminal companies to distribute cargo to the heartland of the U.S.A. or the Pacific Rim. Over the years, the great majority of cargo movements through the port have been determined by the county's economic base. From 1965 to the present, the vast bulk of the Port activity has been the shipment of raw logs. Currently, Cavenham Forest Industries leases space on Pier 3 for a log sorting and loading operation.

CURRENT ZONING:

The water area is designated A-1, Aquatic Development and A-4, Aquatic Natural, and the land area is in a S-1, Marine Industrial designation.

SITE DESCRIPTION:

This waterfront site covers approximately 165 acres of shoreland and water area available for shipping and water-orientedcommerce. The shoreland consists largely of fill material obtained from the river and is almost entirely developed for port facilities.

The Port of Astoria's marine terminals, consisting of five berths, are the most convenient in the Pacific Northwest to the Pacific Ocean's shipping lanes.

Existing facilities can accommodate a high level and broad range of shipping activity without further modification. Three piers extend to the main ship channel. The port provides a full-range of services: one million square feet of open dock space, 170,000 square feet of covered warehouse, a 50-ton capacity barge ramp, handling equipment, ship repair and bunkering services. The dredged depth of the slips is from thirty-five to forty feet. The Port's Pier 1, which is parallel to the Columbia River main steam, can accommodate ships up to 1,200 feet long and is specifically reinforced to provide for heavy-lift and unloading.

From 1984 to 1986, Astoria Oil Services, a division of Morrison Knudsen, leased this site for fabricating oil drilling and oil field service modules. The Pier 3 area fabrication yard is surfaced with asphaltic concrete and is further equipped with yard lighting, storm drains, and underground fire mains with hydrants at 300 feet spacings. Utility systems have been installed to distribute power (480V and 120 V), water, compressed air, oxygen, and acetylene underground in the construction yard as well as in the adjacent warehouse. A barge slip, which can accommodate 100' x 400' flat deck barges, is located in the northwest corner of the yard. One of the advantages of this yard for module construction is that it is not limited by overhead clearance between the site and the ocean.

UTILITIES:

The Port facilities are served by the City of Astoria with an eight-inch water line and a 30-inch sewer line. Waste is transported to a transfer station in Astoria for preparation for hauling to a landfill outside of Clatsop County. All electrical power is provided by Pacific Power. Northwest Natural Gas supplies natural gas on an interruptible basis and a six-inch line runs along West Marine Drive.

ACCESS:

Highway 101/26 is immediately south of the Port of Astoria facilities via Portway Street. Burlington Northern Railroad tracks run along the southern boundary of the facility. The Port's piers are adjacent to deep water and the main navigation channel. Horizon Air serves Astoria Regional Airport, five miles away.

SERVICES:

The City of Astoria provides police and fire protection. The Port does have its own security force. The fire insurance classification is five. Communication services are provided by U.S. West Communications.

ADJACENT LAND USE:

A mooring basin for commercial and recreational vessels, a restaurant and motel, and commercial/industrial businesses are adjacent.

OWNERSHIP:

It is the Port's policy to lease its land rather than to sell it. Contact: Jonathan Krebs, Executive Director, Port of Astoria, 1 Portway, Astoria, Oregon 97103. Telephone: (503) 325-4521. Fax: (503) 325-4525.

FINANCIAL INCENTIVES:

Qualifying businesses planning to start, expand or relocate in Clatsop County can take advantage of a variety of financial incentives including reduction of property taxes, lower-than-conventional-rate financing programs, partially funded employee training programs, project specific grants, and low interest-loans for on-site infrastructure improvements provided by federal and state agencies, the Port of Astoria, county government, and the cities. The Clatsop County Economic Development Council will provide assistance to firms.

The Port of Astoria is located in the Astoria Area Enterprise Zone. Eligible businesses locating in an enterprise zone receive a 100% property tax exemption on nearly all kinds of new business investment (new buildings, renovations, and expansions, machinery and equipment, and increases in land values through site preparation) for a minimum of three years and a package of local incentives. At the discretion of the zone sponsor, a business meeting special criteria may receive a program extension of up to two years.

FOR FURTHER INFORMATION CONTACT:

Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

SOUTH ASTORIA

South Astoria bordering Youngs Bay has three areas available for development. All three of the sites are located in the Astoria Area Enterprise Zone. There is no rail service adjacent to these sites. The 1994-95 tax rate in Astoria is $18.71 per $1,000 of assessed value. While Oregon law requires assessed value to be 100% market value, all properties are not physically appraised annually.

(A) A 12.52 acre parcel, much of which is submerged and tidelands, lies between the Fluhrer Brother's Cedar Shake mill and former Bumble Bee Shipyard. Highway 202 (Olney Avenue) forms the northern border and Youngs Bay forms the southern border. This parcel is unimproved and brushy, with approximately two to three acres of dry land. This property is zoned C-3, General Commercial. Water, sewer and electrical services are adjacent to the site. The 1992 assessed value is $73,120. The property is part of an estate and is owned by Russell Fluhrer, Fluhrer Brothers, 10th and Olney, P.O. Box 263, Astoria, Oregon. Telephone: (503) 325-4011. The State claims ownership to all submerged lands.

(B) The site of Pacific Power and Light's old steam generating plant is another available location for development. This facility was decommissioned and shut down after 50 years of operation. An electrical substation is in use. The site is zoned C-3, General Commercial. Any development of the site must be approved by the Department of Environmental Quality. The parcel is on the south side of Astoria just west of the old Youngs Bay Bridge. It is bordered on the north by West Marine Drive. There are approximately seven acres from the top of the bank and about ten acres of tidelands. Water and sewer service and natural gas are available at the site. For further information contact: Pacific Power and Light, 988 Commercial, Astoria, Oregon 97103. Telephone: (503) 325-2088.

(C) The site of the former Bumble Bee ship repair yard, located on the south side of the Astoria peninsula adjacent to the old Youngs Bay Bridge and south of Highway 202 (Olney Avenue) totals 12.75 acres of land and water area, buildings, three marine ways ranging in capacity from 30 to 100 tons, docks, and floats. The buildings are of wood frame, metal clad construction. This site includes six acres of uplands. The parcel is zoned A-1, Aquatic Development, and S-2, Shorelands General Development, and is located on an authorized 12-foot channel which is not maintained to depth because of lack of use. Water and sewer service and natural gas are available on the site. In 1992, the assessed value was $187,830. The sale price for the entire parcel is listed at $857,000 and negotiable.

It is owned by Corderman Oregon, Inc., P.O. Box 950, Astoria, Oregon 97103. Contact: Robert Corderman, telephone: (503) 325-5205.

The Port's policy is to lease rather than sell its land. If you need more information, contact: Jonathan Kreibs, Executive Director, Port of Astoria, 1 Portway, Port Docks, Astoria, Oregon 97103. Telephone: (503) 325-4521. Fax: (503) 325-4525.

The property owned by Bergerson Enterprises is available for lease or sale. The sale price is $450,000 with owner financing available. For more information, contact: Dennis Bjork, Bergerson Enterprises, 55 Portway, Corner of Basin & Industry, Astoria, Oregon 97103. Telephone: (503) 325-7130.

EAST ASTORIA

East Astoria identifies the area which starts at 21st Street and runs east along the waterfront to the city's sewage lagoon at about 54th Street. Most of these waterfront sites are the result of filling former water areas with sandy dredged material. Shallow draft boat access is available throughout the area, but there is no direct deepwater access to the ship channel approximately 3,000 feet away. Four areas are available for development. The sites are fully serviced with rail access available. The land areas are designated General Commercial and Marine Industrial and the water areas Development Aquatic. All sites are located in the Astoria Area Enterprise Zone. The 1994-95 tax rate in the City of Astoria was $18.71.

(1) The first site is a little over one acre of vacant and an additional two acres of tidal flats and open water in the Columbia River between 29th and 30th Streets. It lies one block north off of Marine Drive. It is bounded on the south by a bottling company and on the north by the Burlington Northern's railroad tracks. The land area is zoned C-3, General Commercial and the water area is zoned A-1, Aquatic Development. There is direct access to the river if a marine-related industry should need it. It was valued in 1992 at $179,650 by the County Assessor's office. The site may be entered from three different access ways. Adjacent to the site is a 40,880 square foot building of steel, clear span, concrete floor, two loading docks with doors. The building is currently leased to Columbia River Truss Company. There is a direct rail line into the building which borders U.S. Highway 30. The building is zoned marine industrial. This site is owned by Fred Van Horn, 437 30th Street, Astoria, Oregon 97103. Telephone (503) 325-4472.

(2) The second site, located at 32nd and Leif Erickson, is a 8.98-acre parcel with four buildings. The site is bounded on the south by Leif Erickson (Highway 30), the Columbia River on the north and is adjacent to the Clatsop Educational Service District office. The site is zoned C-3, General Commercial and A-1, Aquatic Development. The 1992 assessed value was $212,190. The total assessed value of the buildings is $104,670. Included among the buildings are the A-1 Ready Mix and Bee-line Roofing warehouses. All buildings can be removed if desired. The sale price is listed at $830,000. The property is owned by George Brugh, Bee-Line Roofing, 425 40th Street, Astoria, Oregon 97103. Telephone: (503) 325-3701.

(3) The third site is 6.5 acres of tidal flats and open water in the Columbia River with about .2 of an acre of shoreland north of the railroad. A large number of pileheads are available to build on. That is this site's main advantage. It has road access along 33rd Street which forms its east border. The land area is zoned C-3, General Commercial and the water area is zoned A-1, Aquatic Development. The 1992 land value was $4,000. This site is owned by a partnership of three persons: Ernest Stempel, Dennis Beach, and Ray Beach. For more information contact Dennis Beach: 7238 SW 13th Avenue, Portland, Oregon 97219. Telephone: (503) 246-2621.

(4) The East End Mooring Basin site is an assembled site of approximately 19 acres bounded on the west by 35th street and on the east by 41st street. The Columbia River forms the northern boundary and Highway 30 the southern boundary. Burlington Northern Railroad tracks run along the site on the edge of the shore. The land area is zoned S-1, Marine Industrial, and G-1, General Industrial, and the water area is A-1, Aquatic Development. The site is fully serviced with a 12-inch diameter water main and an 18-inch sewer collector adjacent to the site. The Port of Astoria maintains a mooring basin for commercial fishing vessels. The Port of Astoria owns the land between 35th and 36th streets and the OSU Seafoods Lab is found between 36th and 37th streets. The area between 37th and 41st is owned by the Port of Astoria, Howard Lowold, and Bergerson Enterprises and the City of Astoria. While much of the land is vacant, a portion of it is being used as a mobile home park. The largest unimproved tract between 39th and 41st is 9.21 acres owned by the Bergerson Enterprises and the City of Astoria and had an 1992 assessed value of $292,650.

UNINCORPORATED CLATSOP COUNTY - MILES CROSSING

LOCATION:

The Miles Crossing site is located three miles from the downtown area of Astoria. It is located on Alternate U. S. Highway 101, formerly the main southerly entrance to Astoria, just a few hundred feet north of the intersection of the same name. The area is reached by following West Marine Drive east along Youngs Bay in Astoria, taking a right at the "Y" intersection, and heading south across the old Youngs Bay Bridge.

CURRENT ZONING:

The site is designated L-I, light industrial. Clatsop County is responsible for its zoning and building permits.

SITE DESCRIPTION:

The 14.46 acre site is a low area between Alternate U.S. Highway 101, which forms its southern boundary and Nowlen's Slough, which bounds it on three sides. A gravel access road has been developed into the site. Four parcels have been sold in recent years and a total of about eight acres remain for sale. The adjacent water and low land mean that the site is considered to be on a floodplain. The Miles Crossing site is situated on a clay subsoil base that is on a broad peninsula between the Youngs River and Lewis and Clark River. Elevation is 10 feet above sea level.

UTILITIES:

Water can be supplied by a six-inch feeder line at Highway 101. The site is serviced by the Lewis and Clark Water district. Large water users on the site would probably not be able to obtain water service.

The site has no sewer system. Lying outside the Astoria city limits and across the Youngs River means a sewer system would be costly to install. The Oregon Department of Environmental Quality will review sewerage alternatives for this site. Solid waste disposal is provided by a private hauler to transfer stations in Astoria to prepare the waste for hauling to a landfill outside of Clatsop County.

All electrical power is provided by Pacific Power and Light. The nearest line is a 230 KV, adjacent to the site. Natural gas is available on an interruptible basis from Northwest Natural Gas by an eight-inch high pressure feeder line.

ACCESS:

Access is from Alternate U.S. Highway 101. Horizon Air serves the Astoria Regional Airport, two miles away. Also two miles away is the deepwater Port of Astoria. Burlington Northern Railroad serves Astoria, but not the site.

SERVICES:

Police protection is provided by the Clatsop County sheriff's department and the Oregon State Police. The site lies within the Lewis and Clark volunteer fire district. The fire insurance rate is 8. U.S. West Communications provides telephone service in the area.

ADJACENT LAND USE:

This site is in an area of small commercial establishments, residences, and land set aside for exclusive farm use.

TAXES AND VALUE:

The assessed value of this industrial land was $182,540 for 1992. The site was taxed at a rate of $11.95 per $1,000 of assessed value in 1994-95. While Oregon law requires assessed value to represent 100% market value, all properties are not physically appraised annually.

OWNERSHIP:

The industrial location is owned by George Brugh. He intends to develop the land through leases or sales. Rates and prices are negotiable, and it is suggested that he be contacted directly at 425 40th, Astoria, Oregon 97103. Telephone: (503) 325-3701

FINANCIAL INCENTIVES:

Qualifying businesses planning to start, expand or relocate in Clatsop County can take advantage of a variety of financial incentives including reduction in property taxes, lower than conventional rate financing programs, partially funded employee training programs, project specific grants, and low-interest loans for on-site infrastructure improvements provided by federal and state agencies, the Port of Astoria and county government. The Clatsop County Economic Development Council will provide information and assistance to firms.

FOR FURTHER INFORMATION CONTACT:

Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

ASTORIA WHARF AND WAREHOUSE

LOCATION:

The Astoria Wharf and Warehouse site is located on the Columbia River in Astoria, just north of Marine Drive (U.S. Highway 30) on Fourth Street.

HISTORY:

This site is the location of what is thought to be the oldest remaining building on the city's waterfront. Between 1892 and 1949, seven different can companies used the brick warehouse primarily for a storage facility for tin plate and other materials used to make cans for the salmon industry. The building since has been used to store a variety of products such as cars, seed and construction gear. The adjacent wood and concrete pier was used by Astoria Seafoods until 1984, when fire destroyed its processing plant. The present owners, in 1987, proposed converting the building into professional and retail space and a restaurant.

CURRENT ZONING:

The land portion of the site is zoned C-2, Tourist Commercial and the water portion is A-2A, Aquatic 2A Development.

SITE DESCRIPTION:

The property has 200 feet of Columbia River frontage, is 310 feet deep on the east line and 330 feet on the west, and has a wharf which has space for approximately 30 cars. Heavy timber piers cover the majority of the property. They can be capped and expanded wharf facilities can be built.

There are two buildings: a newer building which is under a long-term lease for fish buying and processing and the warehouse which is on the National Register of Historic Places. The 98-year-old brick warehouse has approximately 10,000 square feet with 5,000 on the main level and 5,000 upstairs. There is a concrete treatment over the brick exterior. There are 14-inch walls on the main level and 10-inch walls on the upper level. The foundation is 36-inch thick stone, with heavy timber piers. The dimensions of the exterior are 50 feet by 105 feet.

UTILITIES:

The City of Astoria provides water and sewer to the site. A six-inch water line and an eight-inch sewer line serve the site. A private hauler transports garbage to a transfer station in Astoria where waste is prepared for trucking to a landfill site outside of Clatsop County.

Electrical power is provided by Pacific Power and Light Company. Northwest Natural Gas provides service on an interruptible basis.

ACCESS:

Access to the site can be gained by following Marine Drive west and turning north onto Fourth Street, which forms the site's eastern boundary. The Columbia River forms the northern boundary with the main shipping channel adjacent. Burlington Northern Railroad forms the southern boundary. The Port of Astoria is less than five minutes away. Horizon Air serves the Astoria Regional Airport, six miles away.

SERVICES:

The City of Astoria provides security and fire protection. Fire insurance classification is five. U.S. West Communications provides communication services.

ADJACENT LAND USE:

The site is adjacent to the Columbia House Condominiums, Burger King, other commercial establishments and a hotel, convention and restaurant facility has been proposed nearby.

TAXES AND VALUE:

The 1992 assessed value according to the county assessor's office was $71,330. The 1994-95 tax rate within the City of Astoria is $18.71 per $1,000 of assessed value. While Oregon law requires assessed value to represent 100% market value, all properties are not physically appraised annually.

OWNERSHIP:

Astoria Wharf and Warehouse is selling the site for $850,000. For more information contact: Pat Lavis, 1139 Exchange, Astoria. Telephone (503) 325-8600.

FINANCIAL INCENTIVES:

Qualifying businesses planning to start, expand or relocate in Clatsop County can take advantage of a variety of financial incentives including reduction in property taxes, lower than conventional rate financing programs, partially funded employee training programs, project specific grants, and low-interest loans for on-site infrastructure improvements provided by federal and state agencies, the Port of Astoria and county government. The Clatsop County Economic Development Council will provide information and assistance to firms.

The Astoria Wharf and Warehouse site is located in the Astoria Area Enterprise Zone. Eligible businesses locating in an enterprise zone receive a 100% property tax exemption on nearly all kinds of new businesses investment (new buildings, renovations, and expansions, machinery and equipment, and increases in land values through site preparation) for a minimum of three years and a package of local incentives. At the discretion of the zone sponsor, a business meeting special criteria may receive a program extension for up to two years.

FOR FURTHER INFORMATION CONTACT:

Clatsop Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

ASTORIA - TONGUE POINT

LOCATION

Tongue Point forms the northeastern city limits of Astoria. The site is located near river mile 18 on the south bank of the Columbia River and 1/2 mile off Highway 30. The "Point" is a promontory or peninsula which extends into the deep water of the Columbia River estuary.

HISTORY

Tongue Point was originally occupied as an U.S. Naval Base before and during WWII and later as a MARAD storage basin.

CURRENT ZONING

Tongue Point has a special plan and zoning designation, "Tongue Point Development Zone". Development is regulated by the Marine Industrial Shorelands Zone, S-1, and an Aquatic Development Zone, A-1. Generally, the area must be developed as a water-dependent industrial site, although some non-water dependent development is permitted under certain conditions. However, some of the adjacent water area to the southern site is zoned Aquatic Conservation, which would require rezoning for development.

SITE DESCRIPTION

The Tongue Point area consists of approximately 155 acres of land and a large area of water. Tongue Point has the potential to become one of the best deepdraft marine industrial sites on the Columbia River. It consists of two sections, North and South Tongue Point. Soils are clay with basaltic base rock. The southern area is filled tidelands created when the Navy dredged in World War II.

The North Tongue Point site consists of approximately 45 acres of upland, plus the first five finger piers. Thirty acres of the property is paved with a six-inch non-reinforced concrete apron on sand fill which a geo-technical study shows can sustain module movement loading of 11.5 kips per square foot. Fifteen acres at the south end is unpaved.

There are large two hangar buildings. Both are steel-frame construction with transite, brick, reinforced concrete. Located at the north end is hangar 2, which contains 38,400 square feet of open space and 16,450 square feet of office space. Located in the center of the site is hangar 3, with 86,400 square feet of open space and 19,200 square feet of office space. There are four towers with four stories each at the corners of both hangars. The open bays of both hangars are approximately 35 feet high. Each building has full-height rolling access doors; ceiling height in the work area is approximately 32 feet. The larger hangar was remodeled to serve as four sound stages for movie production work in 1992.

A barge slip is in place. The concrete piers are founded on steel piling and in good condition. They are approximately 30 feet wide and 1,350 feet long. The distance between the piers is about 550 feet, and the water depths average 12 feet at low tide. There are various chain link fences throughout the property. All fencing is 6' and extension fencing contains strands of barbed wire on the top for security.

South Tongue Point includes approximately 60 acres of uplands and 50 acres of tidelands. Federal funding has been received to establish Phase I of a Marine Environmental Research and Training Station which will be the anchor tenant. Construction of 13,000 square feet of space for Clatsop Community College's existing maritime science program and office and work space for Oregon Graduate Institute and Portland State University is underway. The Marine Environmental Station will provide a valuable resource for marine and environmentally-related commercial and industrial enterprises. Other partners will be the Coastal Studies and Technology Center and Oregon Graduate Institute's Center for Coastal and Land-Margin Research.

UTILITIES

Water is available from the City of Astoria, which has a large amount of excess capacity in its water system. A main would have to be extended some distance for large users although the city presently provides water to the adjacent Job Corps Center. Two 400,000 gallon water tanks located west of the site supply water via a 12" steel and a 6" transite pipe. A fire protection system of 16 hydrants, positioned throughout the site, will supply water at a measured pressure of 125 pounds per inch.

Sewer service is provided by the City of Astoria. There is also considerable excess capacity in the sewage treatment system. Both hangars have individual sewer pump stations that were reconditioned in 1985. Each pump station contains two submersible pumps that are responsible for pumping sewage from the hangars to a mainline. The mainline runs north to the Job Corps site where sewage is pumped again to the Astoria Sewage Treatment Plant. Garbage is hauled to a transfer station in Astoria to prepare it for trucking to a landfill site outside of Clatsop County.

Pacific Power and Light provides service to the site. Electricity enters the site at the north and south ends of the property. The electricity is in a "loop" allowing uninterrupted power in the event one of the lines is damaged or otherwise disconnected. The power services the two hangars and a quonset, both located south of hangar 3. The electrical supply at hangar 2 is a 277/480 500 KVA 3-phase transformer with three step down transformers inside the hangar. Hangar 3 has a smaller transformer that keeps the sewer pump station active at all times. Northwest Natural Gas provides service on an interruptible basis via a six-inch high pressure feeder line.

ACCESS

In addition to its deepwater port potential, Tongue Point also is adjacent to a Burlington Northern rail line and U.S. Highway 30. The 1.75 mile channel (34' depth) and turning basin (25' depth) which connects the piers of the North Tongue Point site with the Columbia River ship channel was dredged in 1989 by the Corps of Engineers as a part of the proposal for a car import facility. Horizon Air serves the Astoria Regional Airport, 9 miles away.

SERVICES

Astoria provides police and fire protection. Astoria's fire insurance rating is five. Telephone service is provided by U.S. West Communications.

ADJACENT LAND USE

The property is located between the federal Tongue Point Job Corps facility on the west, Mill Creek and the Corps of Engineers Field Station on the east.

TAXES AND VALUE

North Tongue Point as a publicly owned site is subject to property taxes when leased to a private firm. The 1.7 acres, including hangar 2, leased by the Ogilvie Company for steel fabrication was assessed at $468,570 for 1992. The tax rate in 1994-95 was $18.71 per $1,000 assessed value.

OWNERSHIP

North and South Tongue Point are owned by the State of Oregon. The land is administered by the Division of State Lands, 775 Summer Street, Salem, Oregon 97310. Telephone: (503) 378-3805.

Cresmont, a Seattle-based marine industrial company has a 30-year lease with the Oregon Division of State Lands to market the North Tongue Point site for new business tenants including marine construction,

bioremediation, a tug boat fleet, and a Burlington Northern railroad terminal and repair facility. Pacific Marine and Steel, Inc., announced it would locate its marine division and prefabricated building division at the facility in May 1995. The firm has a five-year lease, with a five-year option for hangar 3, 4.5 acres of outdoor space, including the use of the piers and launching ramp as needed.

Contact: William J. Kelley, Cresmont, 1300 Dexter Avenue North, #205, Seattle, Washington. Telephone (206) 284-2188.

FINANCIAL INCENTIVES

Qualifying businesses planning to start, expand or relocate in Clatsop County can take advantage of a variety of financial incentives including reduction in property taxes, lower-than-conventional-rate financing programs, partially-funded employee training programs, project specific grants, and low-interest loans for on-site infrastructure improvements provided by federal and state agencies, the Port of Astoria, and county government.

The Tongue Point industrial site is located within the Astoria Area Enterprise Zone. Eligible businesses locating in an enterprise zone receive a 100% property tax exemption on nearly all kinds of new business investment (new buildings, renovations, and expansions, machinery and equipment, and increases in land values through site preparations) for a minimum of three years and a package of local incentives. At the discretion of the zone sponsor, a business meeting special criteria may receive a program extension of up to two years.

FOR FURTHER INFORMATION CONTACT

Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

Clatsop Community College, Tony Laska, 1653 Jerome, Astoria, Oregon 97103. Telephone: (503) 325-0910.

City of Astoria Community Development Department, City Hall, 1095 Duane, Astoria, Oregon 97103. Telephone: (503) 325-5821.

Columbia River Estuary Study Taskforce, Post Office Building, 750 Commercial, Room 214, Astoria, Oregon 97103. Telephone: (503) 325-0435.

Division of State Lands, David Blum, 775 Summer Street, Salem, Oregon 97103. Telephone: (503) 378-3805.

UNINCORPORATED COUNTY - BRADWOOD

LOCATION

Bradwood is approximately 24 miles east of Astoria and three miles north of U.S. Highway 30 on the Columbia River. Bradwood is located 38 river miles from the mouth of the Columbia. The nearest communities to the east are Wauna (four miles) and Westport (eight miles). Farther east are Longview, Washington (27 miles) and Portland, Oregon (72 miles).

HISTORY

Bradwood is the former location of a large lumber mill. The site's name is derived from the mill's original owners, Bradley and Woodard.

CURRENT ZONING

Bradwood, from the railroad tracks to the river and south of the railroad tracks to the Bradwood Cliffs, is zoned M-I, Marine Industrial. The existing mill pond and the Columbia River frontage along the industrial site are zoned A-D Aquatic Dependent.

SITE DESCRIPTION

Approximately 30-40 acres of shoreland, a mill pond and a 200' wide access channel make up the Bradwood industrial site. This industrial site is only a small portion of the Bradwood area. Most all usable land has been filled with sandy dredged material. The site's base is on clay, soil, silt, and sand over a layer of basaltic bedrock. The industrially zoned portion of the property is a relatively flat bench area with an average elevation about 10 feet above the Columbia River high water level. The remainder of the property slopes steeply uphill to the south and it is zoned for forest use. Clatsop County land use approval has been obtained for commercial rock quarrying of the basalt rock deposits that adjoin the industrial area to the immediate southeast. Freshwater wetland areas along the Hunt Creek marsh adjoin the industrial area to the southwest. Bradwood is suitable for industry that needs marine access combined with railroad siding but limited highway access and limited or self-contained public facilities. The site has been identified as suitable for port development in the Lower Columbia River Ports Region Development Study by the Oregon Department of Transportation (1975).

UTILITIES

Utility availability is limited at Bradwood. There is no water system in the area. Hunt Creek provided power and water for the Lumber Mill. However, little is known about its stream flows. The area has direct access to the Columbia River which, although tidal, is free from salinity intrusion and usable for industrial purposes. Any use of Hunt Creek or the Columbia would require county, state, and federal permits. What water the residents of the area have is from local springs and Hunt Creek by residual water rights.

Bradwood has no sewage or waste treatment other than septic tanks. Since this is an area of high groundwater, this form of disposal is no longer acceptable. An industry locating here would have to install its own treatment plant to comply with county, state, and federal standards. Service is available from private haulers to transport garbage to a transfer station in Astoria to prepare the waste for trucking to a landfill site outside of Clatsop County.

Single-phase electrical power is provided to the site by Pacific Power and Light. The nearest substation is four miles away at the James River Wauna Mill and is fed by a 115 KV line. Gas is provided by Northwest Natural Gas with a pipeline (12 inches in diameter) 3 miles south of Bradwood. Currently, the area is not served by Northwest Natural Gas and would require installing three miles plus of pipe.

ACCESS

Bradwood has about 6,000 feet of river frontage on the 40-foot main Columbia River ship channel with about 2,500 feet adjacent to the industrial land. The site has about 7,000 feet of railroad frontage with about 2,200 feet accessible from both sides and another 1,300 feet accessible on the southwest side only. The other 3,500 feet of railroad frontage is of limited use due to steep and/or narrow flatland along side.

Bradwood is at the end of a three-mile long asphalt county road connects with U.S. Highway 30 due south. Improvements to this County road would be necessary to accommodate any significant industrial traffic loads. Since the railroad passes through the site and the Columbia borders it, barge and rail traffic may be the preferred method of transportation.

SERVICES

Police protection is provided by the Clatsop County sheriff's department and Oregon State Police. Bradwood is not within a fire protection district. The nearest district is four miles away in Wauna. The fire insurance classification is 10, highest in the county as are all areas outside a fire protection district. U.S. West Communications will provide communication service.

ADJACENT LAND USE

The adjacent land is forest land, portions of which have been recently logged.

TAXES AND VALUE

In 1990, the Clatsop County Assessor's office estimates place the value of a portion of the industrial land at an average of approximately $16,000 per acre. The 1994-95 tax rate was $10.74 per $1,000 of assessed value. While Oregon law requires assessed value to represent 100% market value, all properties are not physically appraised annually.

OWNERSHIP

The Bradwood property is owned by Bradwood Incorporated, K. Leahy, R. Culberson and V. Surface. Inquires regarding the property can be made to Ken Leahy, Ken Leahy Construction, P.O. Box 489, Cornelius, Oregon 97113 (503) 357-2193.

FINANCIAL INCENTIVES

Qualifying businesses planning to start, expand or relocate in Clatsop County can take advantage of a variety of financial incentives including reduction in property taxes, lower-than-conventional rate financing programs, partially-funded employee training programs, project specific grants, and low-interest loans for on-site infrastructure improvements provided by federal and state agencies, the Port of Astoria, and county government.

FOR FURTHER INFORMATION CONTACT

Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.

UNINCORPORATED COUNTY - DRUCKER PROPERTY
(River Point Commercial Center)

LOCATION

The Drucker property is as an industrial site located in a rural neighborhood, approximately three miles south of Astoria, on State Highway 202, at the junction of the Youngs and Walluski Rivers.

HISTORY

The Drucker industrial site was a World War II, U.S. Navy Hospital complex. In 1956, the Drucker Company moved from St. Louis to manufacture centrifuges at the site. The company was sold to Coulter in 1973, which moved the centrifuge manufacturing operation to its facility in Florida.

CURRENT ZONING

The Drucker property is zoned as Light Industrial-Planned Development. Clatsop County is responsible for its zoning and building permits. This site is ideal for a light industry or housing development.

SITE DESCRIPTION

The 55-acre site is situated on a clay-sandstone base that slopes slightly downward in a westerly direction. Its highest elevation is 56 feet above sea level and its lowest is 14 feet above sea level. It has good drainage characteristics, especially owing to its storm sewers, and no possibility of sliding.

Currently, only four buildings of the hospital complex exist with two maintained in good condition. Some concrete foundations of former buildings still exist and are connected by concrete walks and asphalt roadways. The maintained buildings are: (1) the main building, formerly the hospital's food complex, and (2) a gymnasium/auditorium. Other structures are: a usable incinerator building and a brick building.

The main building is wood-frame construction with millboard siding. Its 50,000 square feet are in an L-shaped floor plan. Interior ceilings vary from 11 feet to 16 feet depending on the area. There is a finished basement under half of the building. Most floors are concrete as are the foundations. This building has two truck loading docks, one on the main level and one on the basement level. The gymnasium/auditorium is also a wood-frame structure on a concrete foundation. It has hardwood floors and a 23-foot ceiling and is 7,200 square feet with some basement space. A brick-walled building is a third structure. It is approximately 7,000 square feet with a concrete floor, 13-inch thick walls, and a 28-foot ceiling with a concrete and asphalt floor.

The site has an internal paved road system.

UTILITIES

The site's facilities are capable of handling approximately 2,000 people. The site does have an installed water system for both drinking and fire purposes. It receives water service from the City of Astoria. The site is served by a ten-inch main with 180 pounds of pressure reduced to 65 pounds for usage. The lateral water lines are eight-inches and the perimeter ones are ten-inches. This water is treated by both chlorination and fluoridation.

The Drucker site is serviced by its own sanitary facilities. The sewer plant is now operating and is approved by the Department of Environmental Quality. The system is an aerobic secondary treatment plant suitable for 900 people. It is immediately expandable to service over 1,000 people. Modernizing and updating of the system was completed in 1978. Further modification and/or expansion of either the treatment plant or the collection system would require approval by the DEQ. A separate storm sewer system services the site.

The on-site incinerator probably will not meet DEQ air quality regulation and upgrading may be necessary. Garbage is hauled to a transfer station in Astoria for trucking to a landfill site outside of Clatsop County. All electrical power is provided by Pacific Power and Light. The nearest line is 230 KV less than one-half mile away. At present, electric power to the site is 12.5 KV three-phased reduced to 120/220. Natural gas is provided to the area on an interruptible basis by Northwest Natural Gas and the Drucker site is less than one-half mile from an eight-inch high pressure feeder line.

ACCESS

The Drucker site is three miles south of Astoria and six miles from the downtown district and Burlington Northern Railroad. Horizon Air serves the Astoria Regional Airport, ten miles away. There is approximately 200 feet of frontage on Youngs River. An authorized channel exists in Youngs River next to the site, but little traffic has used it in recent years. The channel was last dredged in 1967. The nearest deepwater facilities are the Port of Astoria six miles distant.

SERVICES

Police protection is provided by the Clatsop County sheriff's department. The industrial site has 24 fire hydrants installed and 21 are pressurized. The main building complex has a complete sprinkler system and the auditorium has a separate water line and hose stands for fire protection. The fire insurance classification of the site is excellent with local protection having been furnished by a state agency one mile away. U.S. West Communications provides communications to the site.

ADJACENT LAND USE

Residential and farm areas are adjacent to the site.

TAXES AND VALUE

The Drucker site's assessed value in 1992 was $923,100 according to the County Assessor's office. The site was taxed at a rate of $10.74 per $1,000 of assessed value in 1994-95. While Oregon law requires assessed value to represent 100% market value, all properties are not physically appraised annually.

OWNERSHIP

The site is owned by the "Three D Corporation" contact: Ken Drucker, Three D Corporation, 786 Fifth Street, Astoria, Oregon 97103. Telephone: (503) 325-2874 or 325-4986. The listing agent is Ron Still, John C. Scott Real Estate, Suite 250, 10260 S.W. Greenburg Road, Portland, Oregon 97223; Telephone: (503) 245-5200.

CURRENT LEASES

Harry Henke IV currently leases the property with an option to purchase. Mr. Henke has proposed a 76-unit residential development for the property along with a commercial center. There are three tenants leasing portions of the main building. The light industrial/commercial center has spaces ranging in size from 600 square feet 18,000 square feet available. Contact: Harry Henke IV Land Development, 905 26th Avenue, Seaside, OR 97138. Telephone: (503 738-5977. Fax: (503) 738-6055.

FINANCIAL INCENTIVES

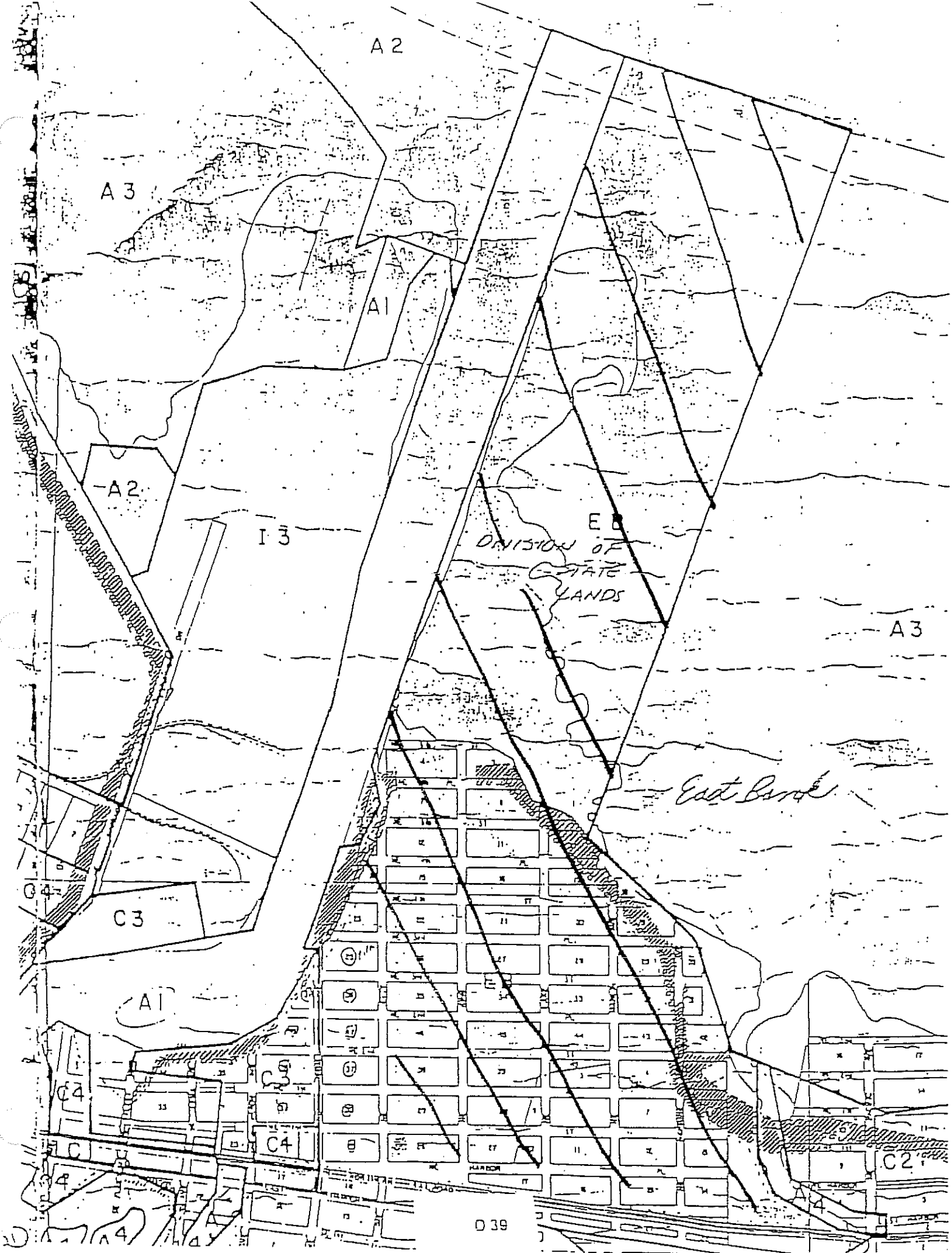
Qualifying businesses planning to start, expand or relocate in Clatsop County can take advantage of a variety of financial incentives including reduction in property taxes, lower than conventional rate financing programs, partially funded employee training programs, project specific grants, and low-interest loans for on-site infrastructure improvements provided by federal and state agencies, the Port of Astoria and county

government. The Clatsop County Economic Development Council will provide information and assistance to firms.

The Drucker industrial site is located within the Astoria Area Enterprise Zone. Eligible businesses locating in an enterprise zone receive a 100% property tax exemption on nearly all kinds of new business investment (new buildings, renovations, and expansions, machinery and equipment, and increases in land values through site preparations) for a minimum of three years and a package of local incentives. At the discretion of the zone sponsor, a business meeting special criteria may receive a program extension of up to two years.

FOR FURTHER INFORMATION CONTACT

Clatsop County Economic Development Council, 100 16th Street, Astoria, Oregon 97103. Telephone: (503) 325-7870. Fax: (503) 325-2989.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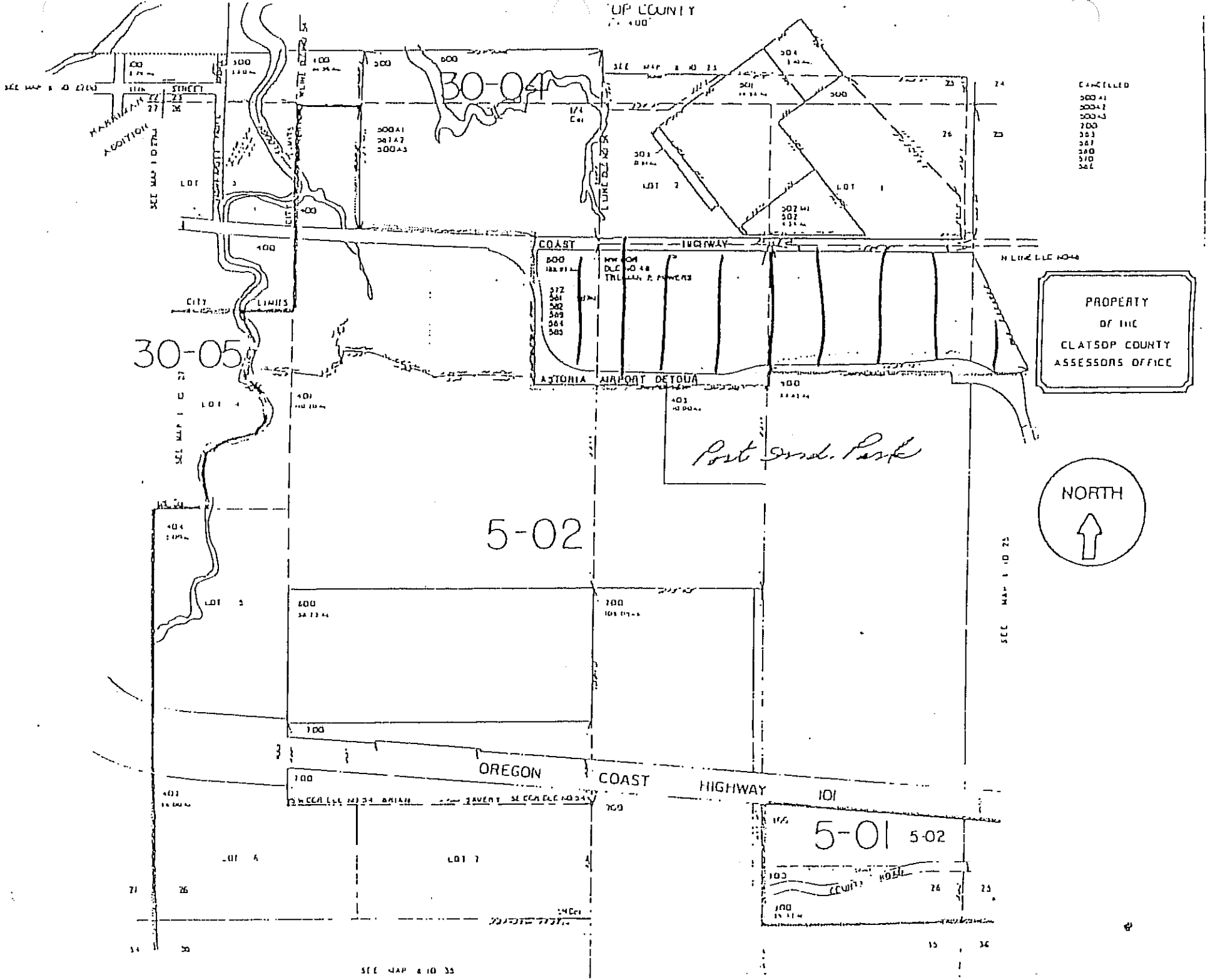
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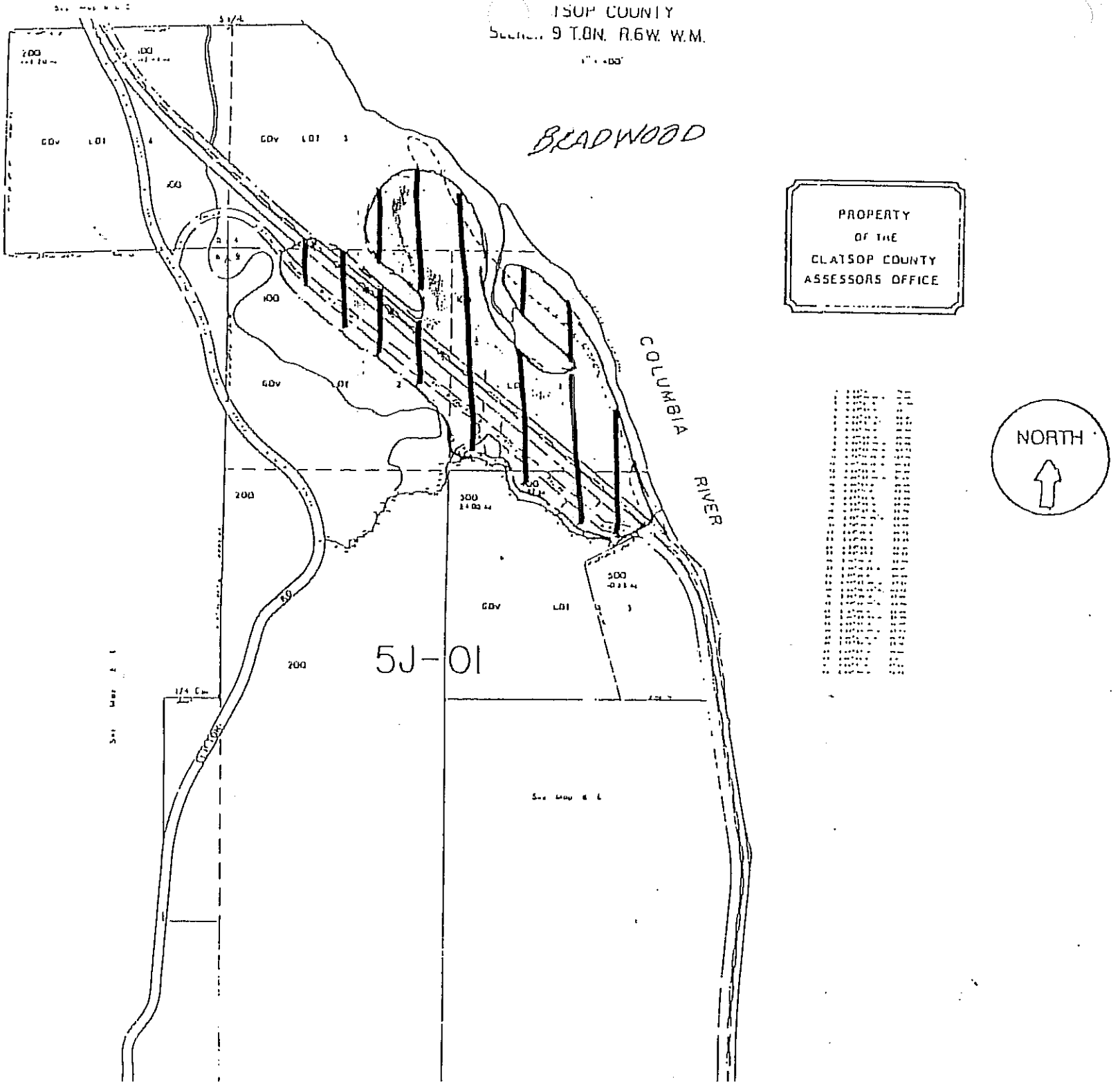
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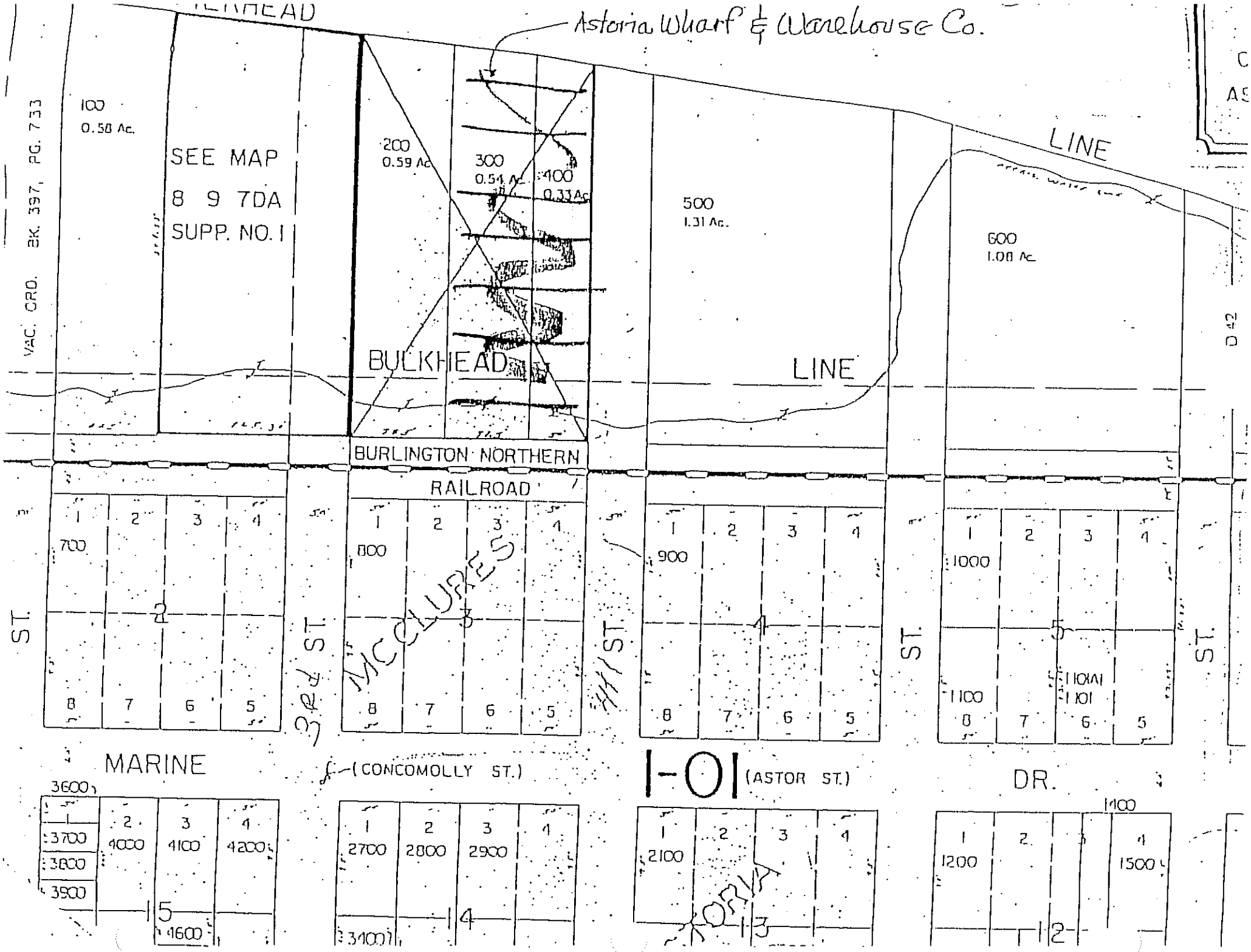
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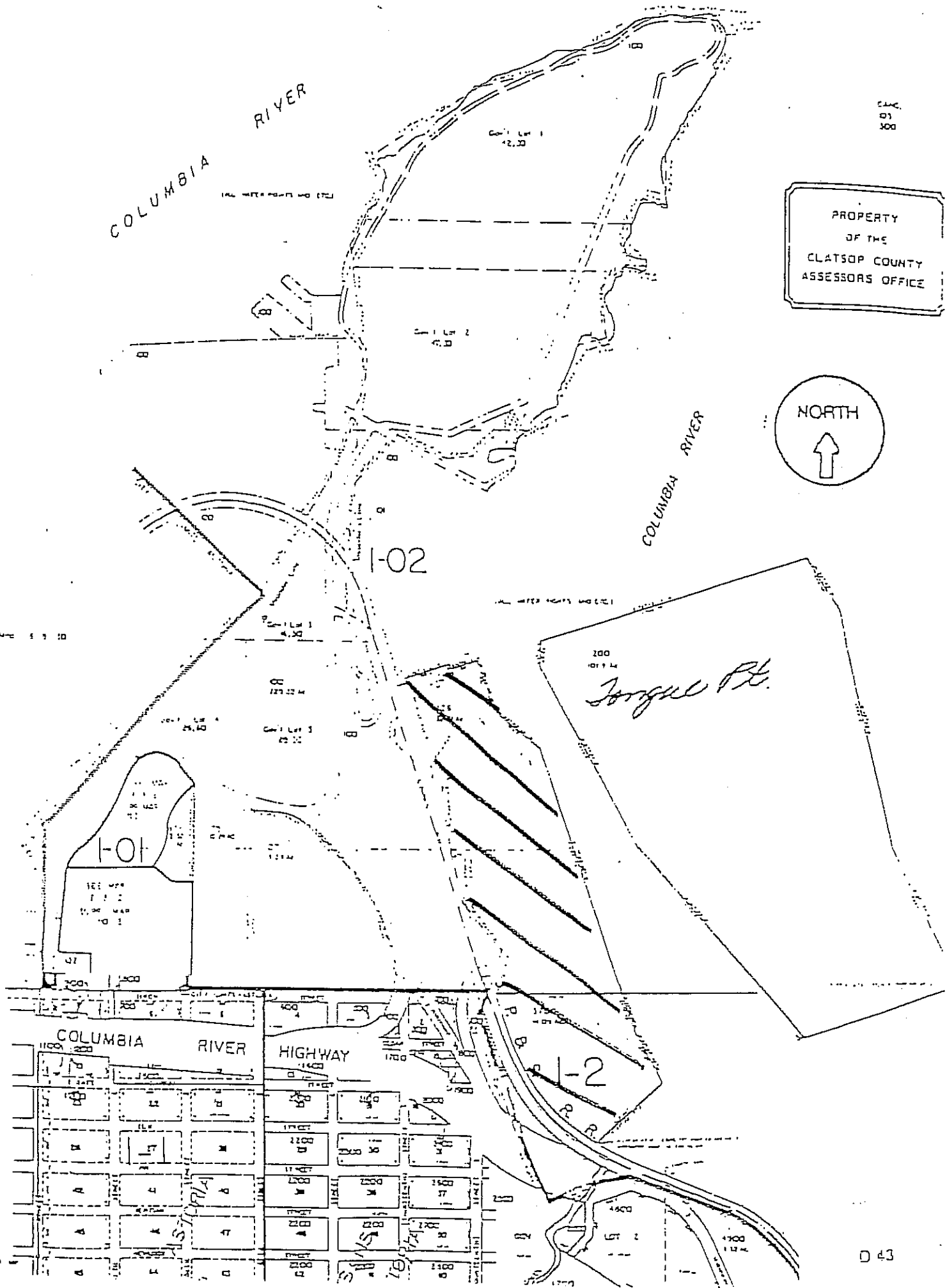

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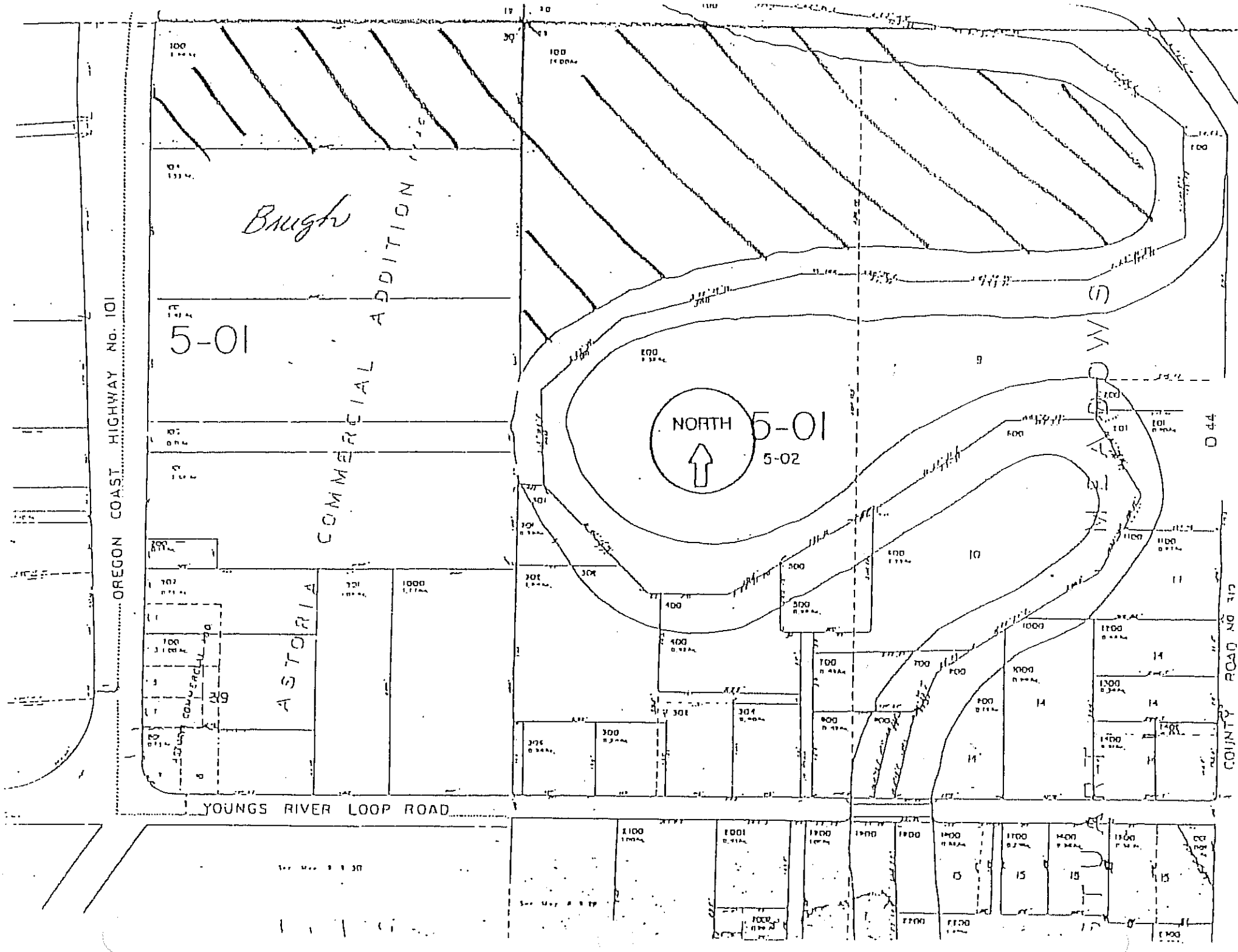
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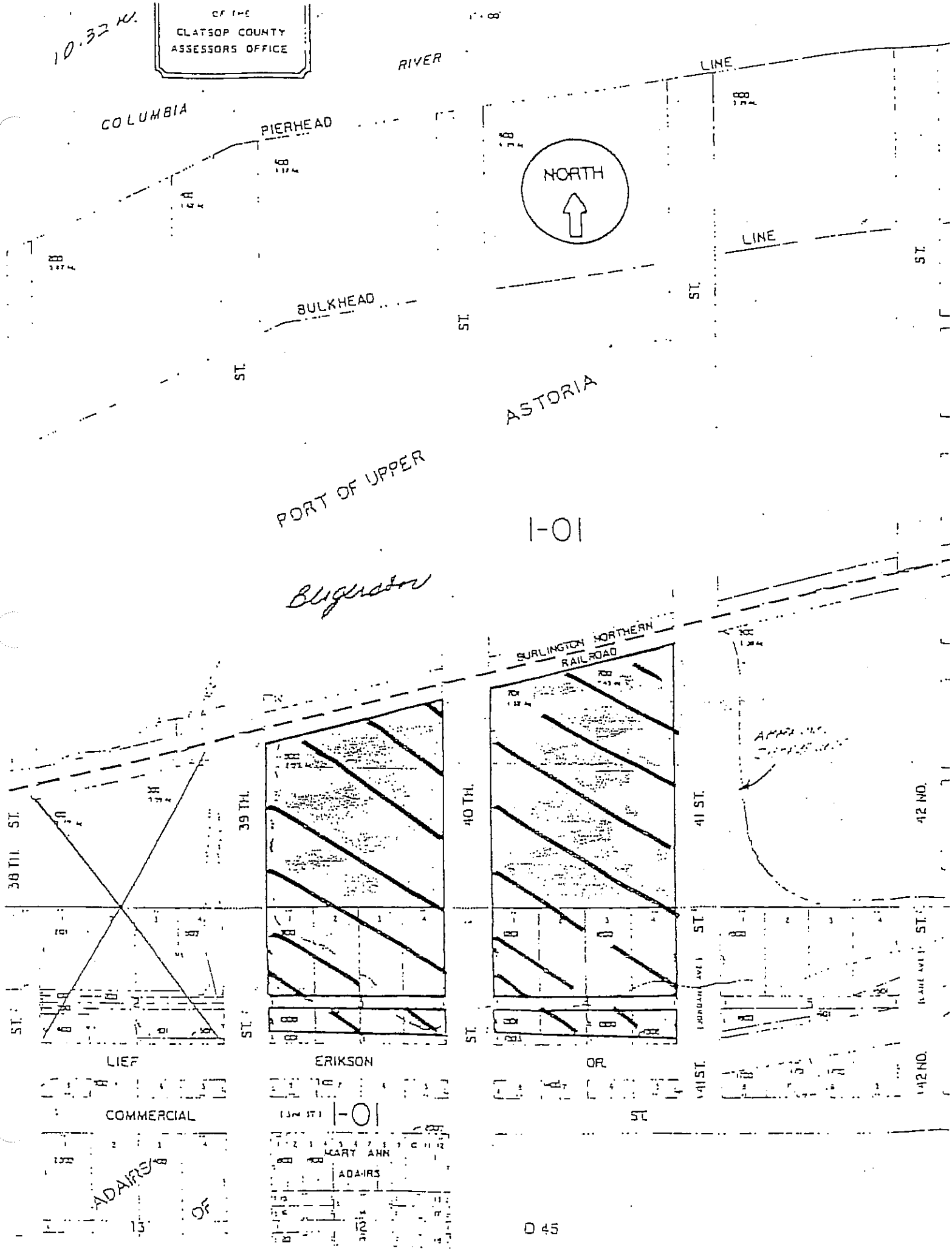

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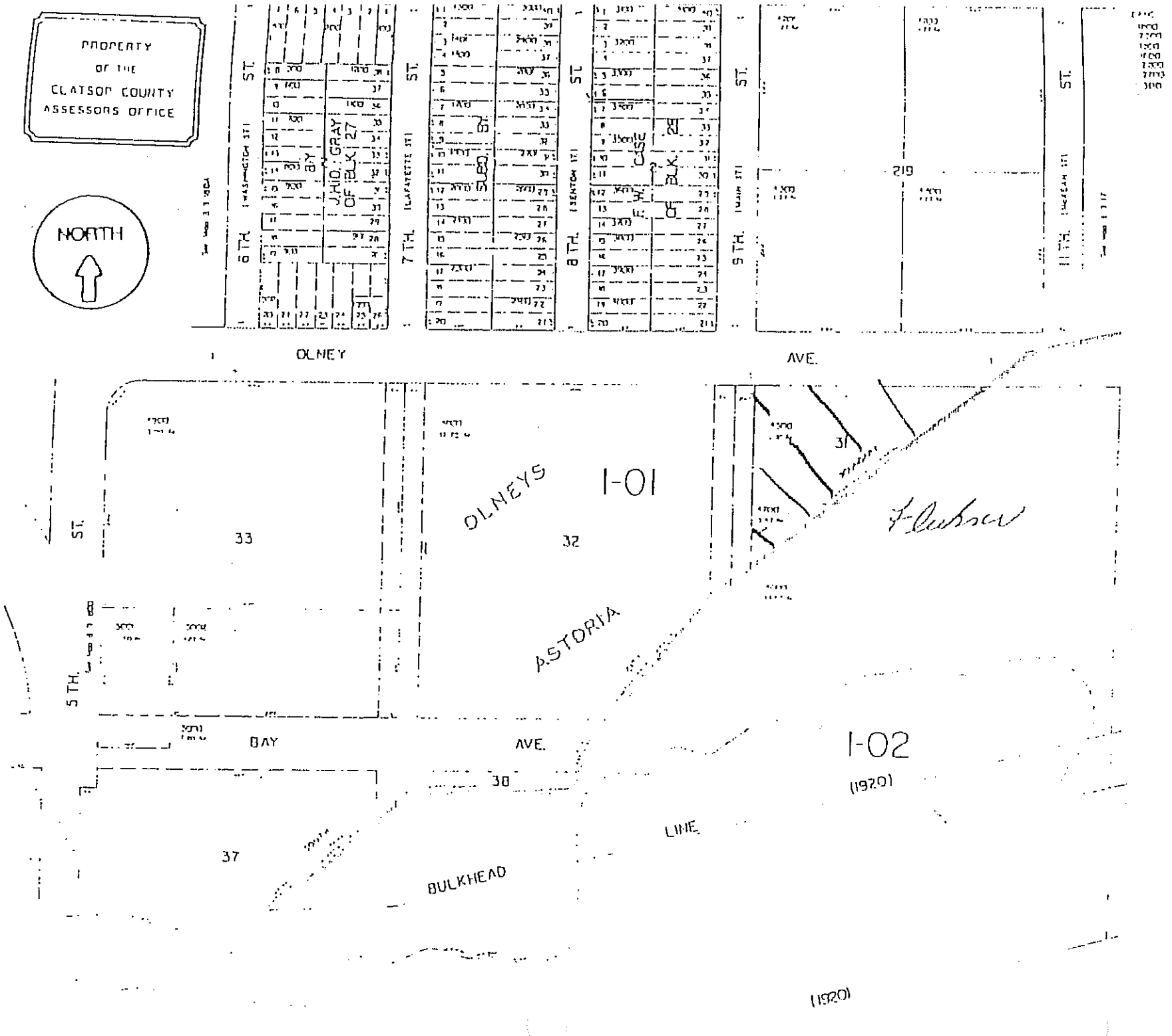

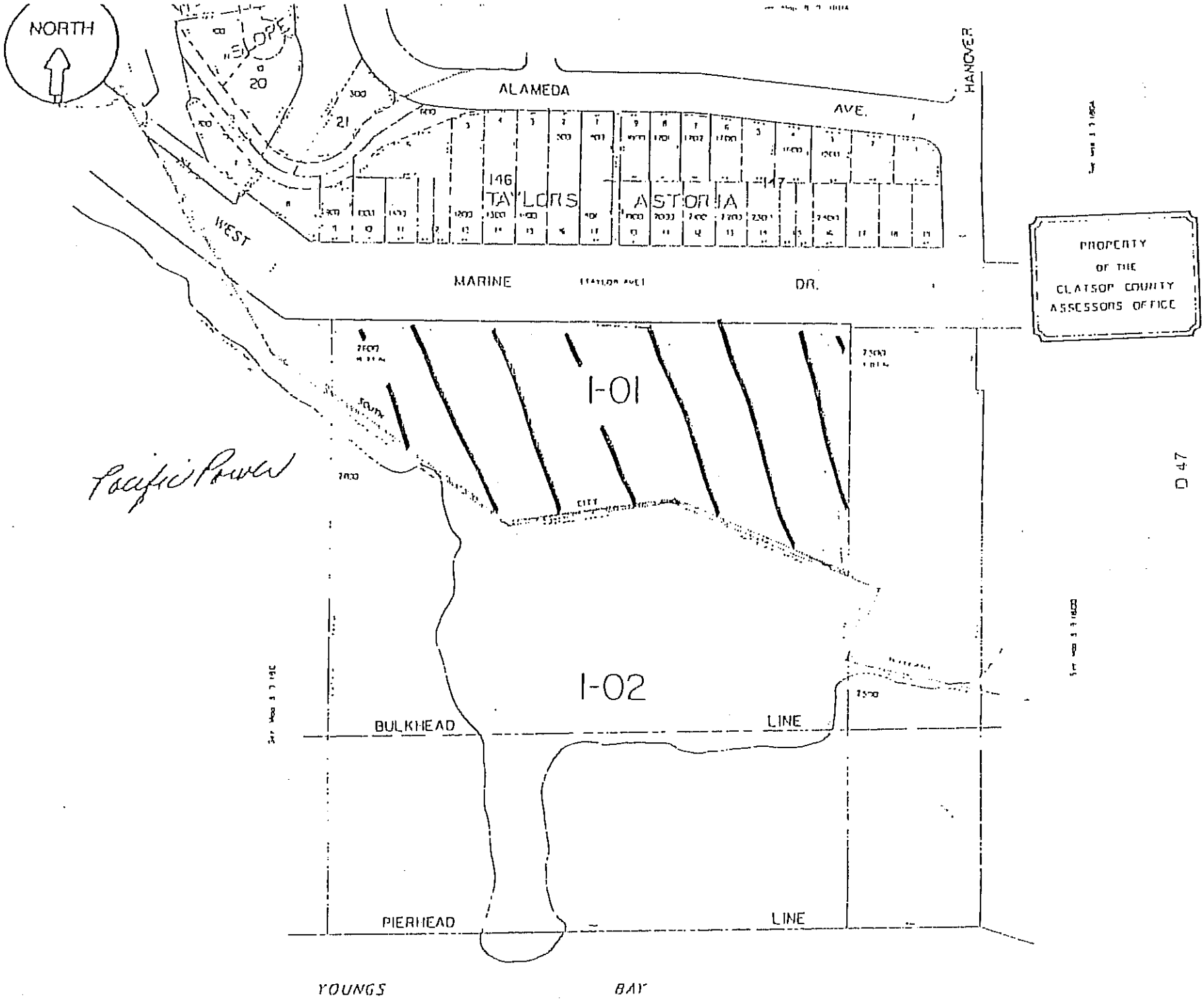
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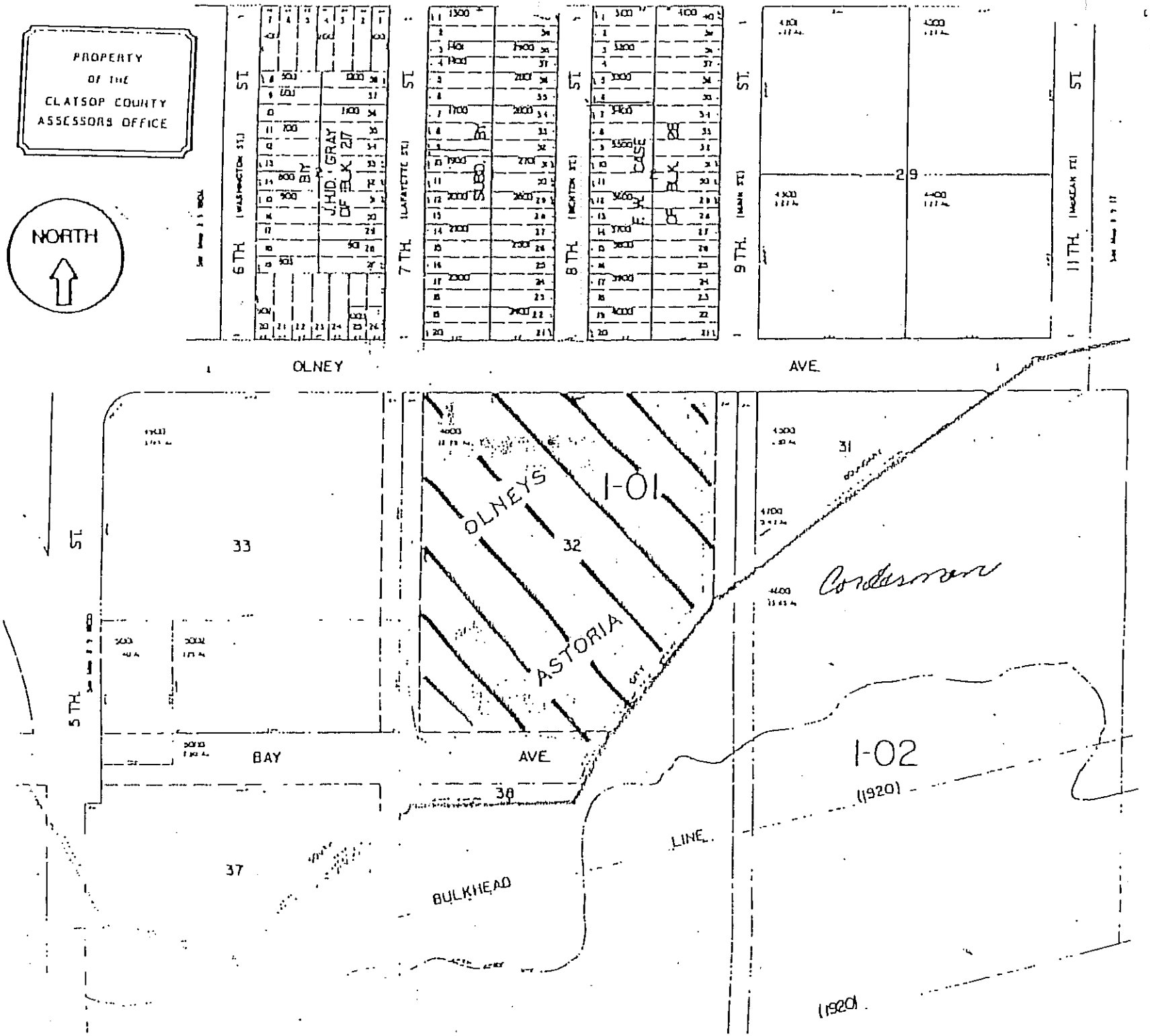
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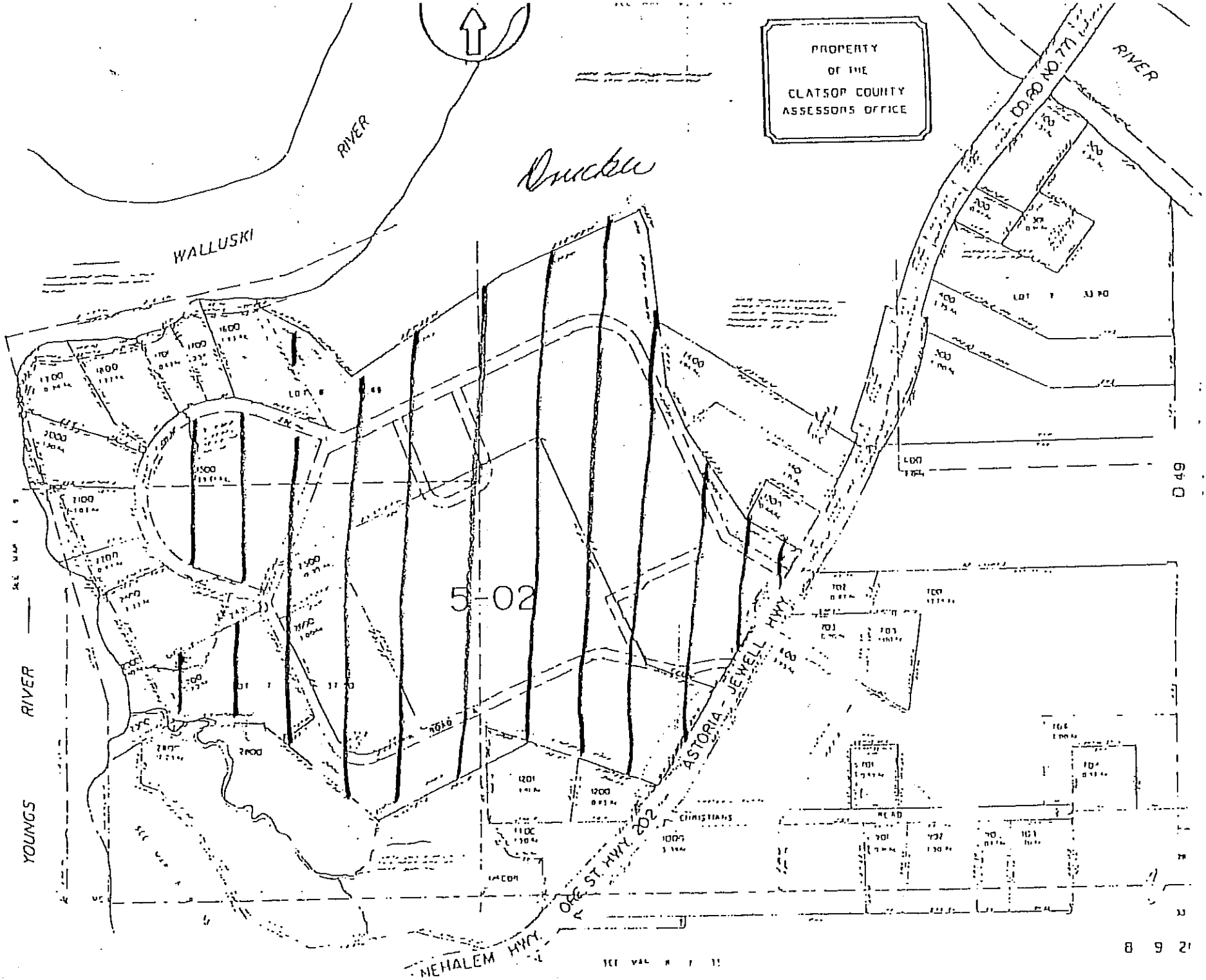
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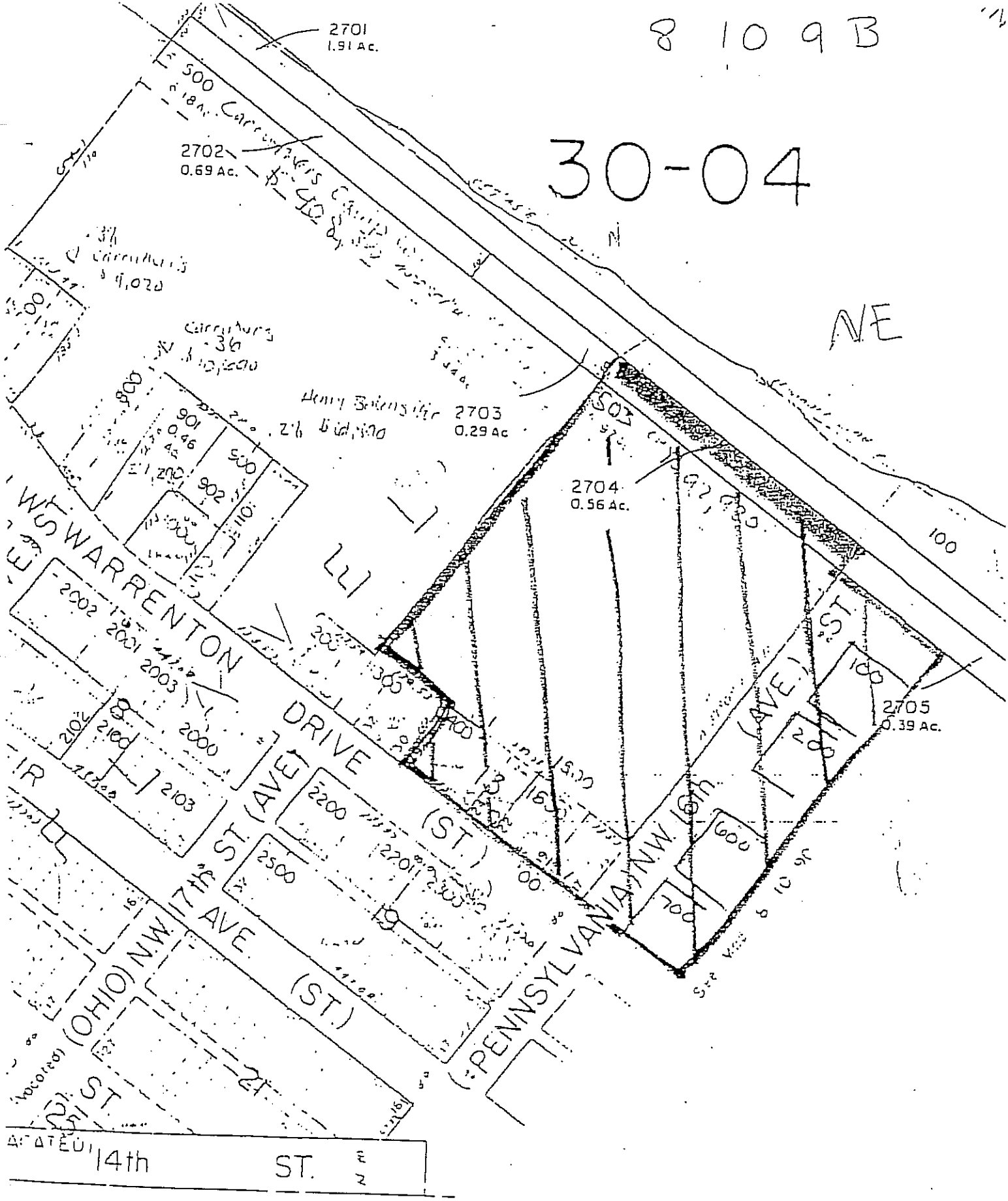

8 10 9C

FIGURE "A"

SUBJECT YMCA ASTORIA SITE

COUNTY Clatsop

SUB-DIVISION

Portions SEC. 27, 34 TWP. 8N RGE. 1

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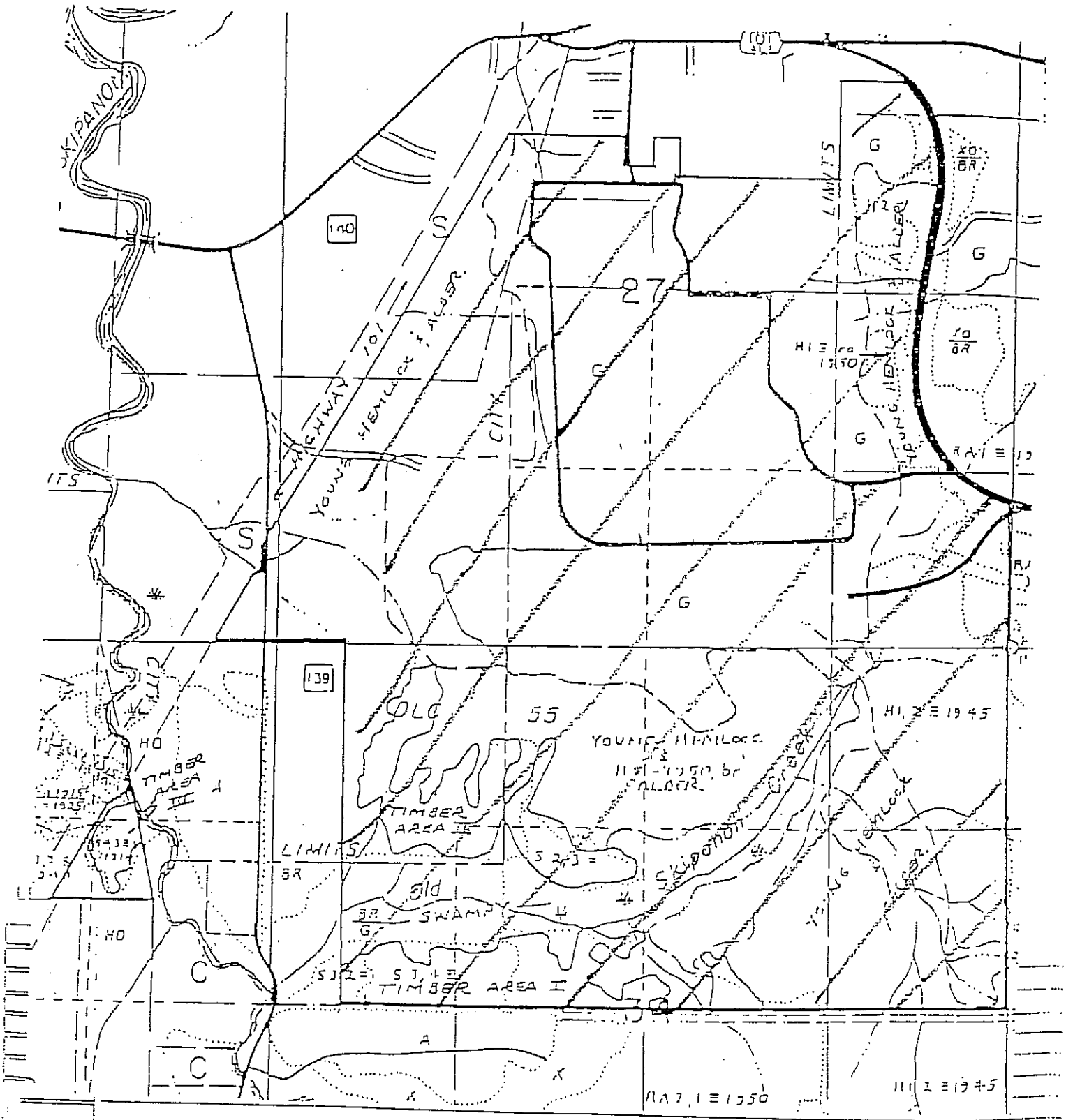
SCALE 1" = 1000'



Property Boundary

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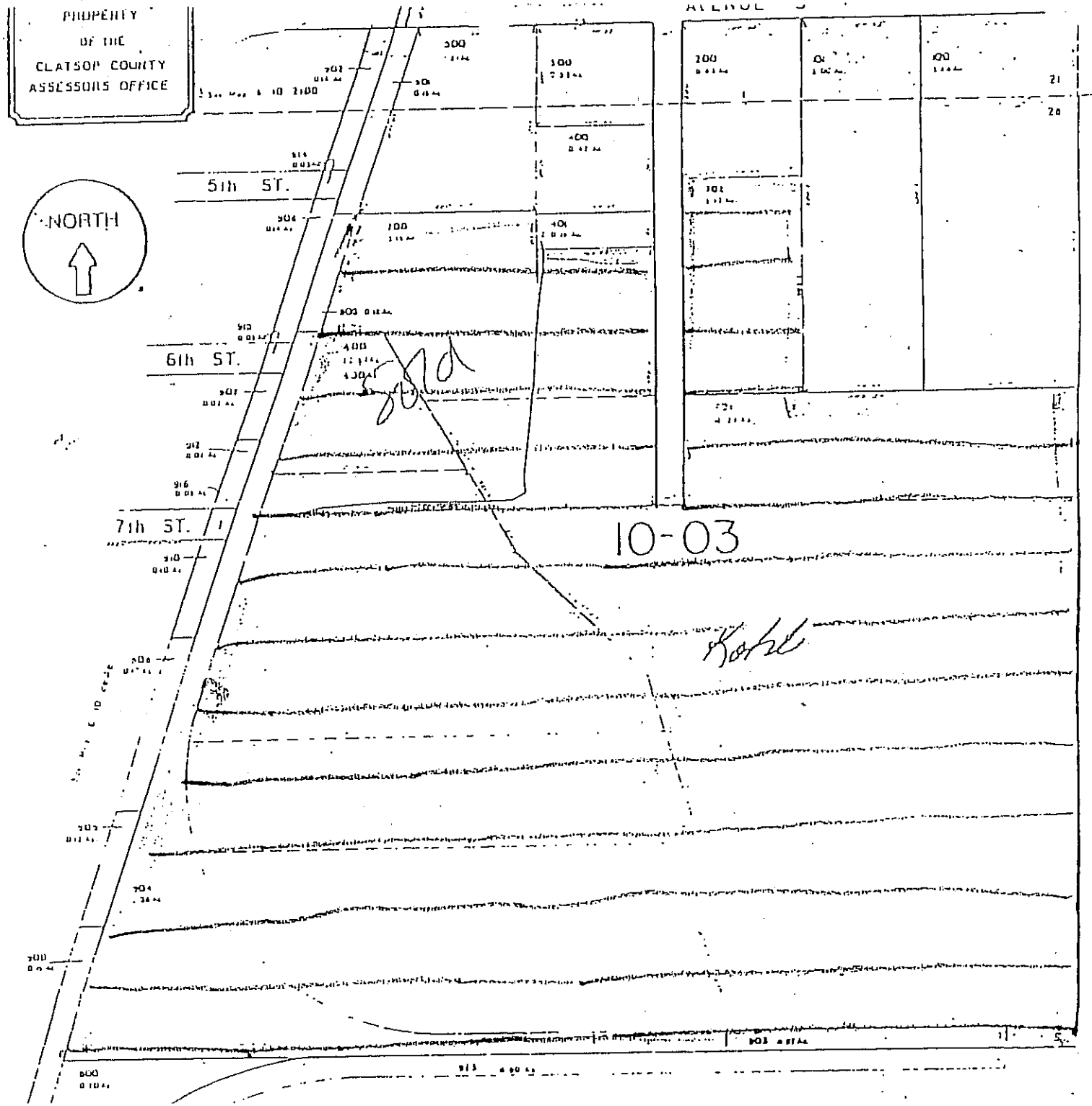
BY Richard W. Holmes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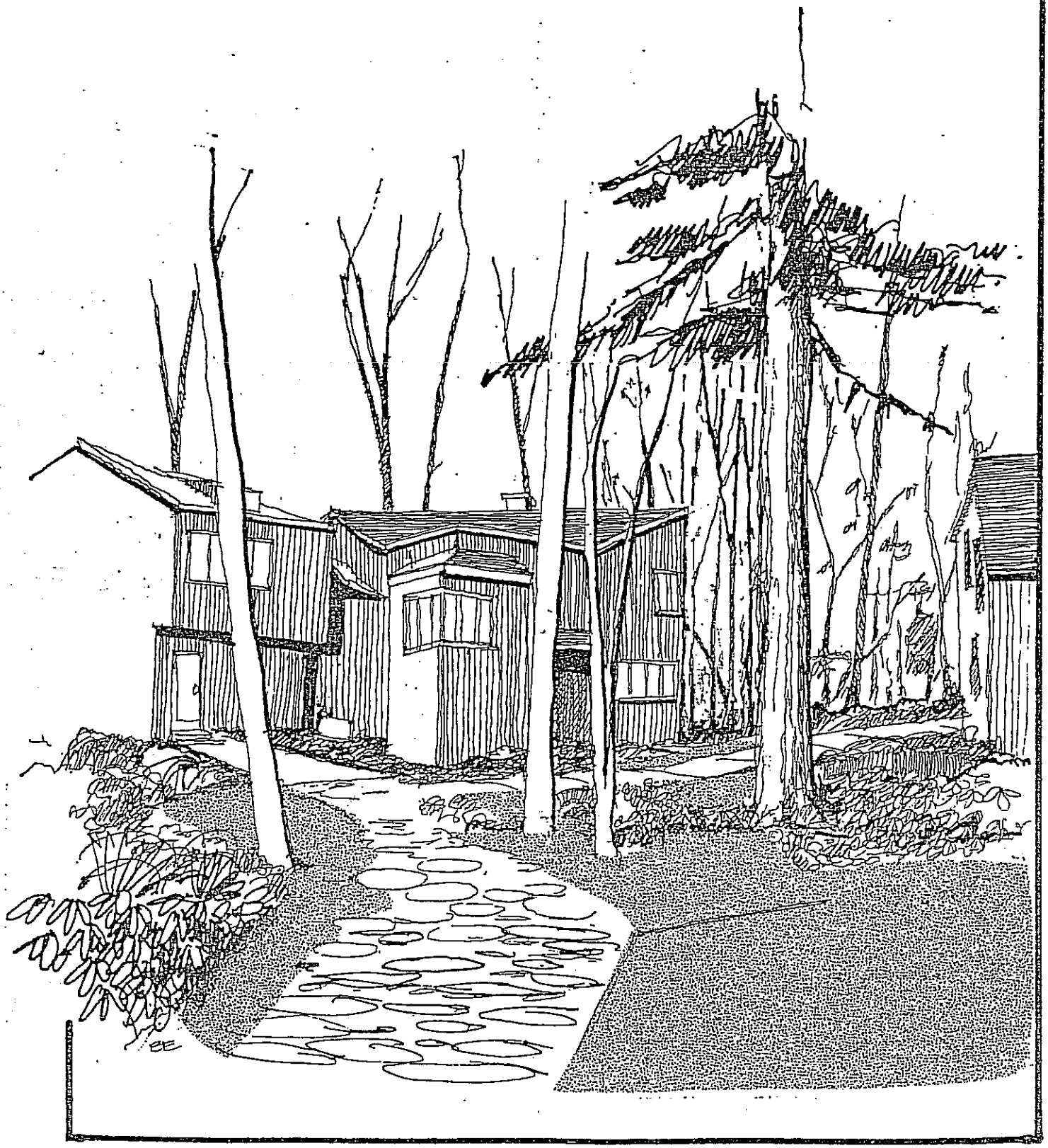
Goal 10

CLATSOP COUNTY
GOAL 10
COUNTY-WIDE ELEMENT

HOUSING



COUNTY-WIDE ELEMENT

GOAL 10 POPULATION AND HOUSING

Adopted July 23, 1980 by
Clatsop County Board of Commissioners
Amended by Ordinance 03-03

Introduction

Clatsop County has experienced a slight but steady increase in population during the 1970's.

Some of Clatsop County's population growth is due to people wanting to take advantage of the County's natural beauty and perceived peace and quiet of the small coastal communities.

Population projections are necessary in order to determine the impacts that will occur arising from this growth. Population projections are used to determine the amount of land that needs to be set aside for residences, commercial centers, industries, parks and roads. They also enable the County to determine the level of demand for public facilities. The County needs to meet this demand for housing while retaining its forest and agricultural base.

The number of households are also increasing as household sizes decrease, putting an added burden on available housing units in the County.

Basic Population Findings

Since 1964 the County has shown a slow but steady population increase. The major population concentrations are located in the Astoria-Youngs Bay and Seaside-Gearhart areas. The majority of the population is concentrated in areas with public water and/or sewer. Historically, the unincorporated areas have comprised about 35% of the total County population. This situation is anticipated to continue during the next 20 years. Job opportunities are a prime factor in growth although other factors such as environment and perceived living quality can stimulate growth. Young adults (20-29) continue to leave the County to pursue employment, while people 40 and over move to the area. Clatsop County continues to be above the State average for those 65 and over (retired). By the year 2000, Clatsop County's population is expected to increase by approximately 10,000 people.

Goal 10 - Population and Housing

Goal

To provide for the housing needs of citizens of the state.

Population Policies

1. Community plans should provide for orderly growth which reduces the cost of essential services while preserving the basic elements of the environment.

2. Promote population to locate in established service areas.

3. Promote the accommodation of growth within areas where it will have minimal negative impacts on the County's environment and natural resources.

4. Utilize current vacant land found between developments or within committed lands.

5. Direct new urban growth within Clatsop County to existing urban growth boundary or rural service areas where under utilized public or semi-public facilities exist or utility and/or investments have already been made.

6. Encourage development of land with less resource value.

7. Coordinate planning efforts of local governments and special districts to maximize efficiency of public facilities, and have land use actions reflect the goals and policies of the Plan.

Housing Policies

Residential Development

1. Clatsop County shall encourage residential development only in those areas where necessary public facilities and services can be provided and where conflicts with forest and agricultural uses are minimized.

2. Clatsop County shall assist in planning for the availability of adequate numbers of housing units at price ranges and rent levels commensurate with the financial capabilities of County residents.

3. Clatsop County shall encourage planned developments and subdivisions to cluster dwelling units. The clustering of dwellings in small numbers and the provision of common open space assures good utilization of the land, increased environmental amenities, and may be used as an open space buffer between the residential use and adjacent agricultural or forest uses.

4. Clatsop County shall permit residential development in those designated areas when and where it can be demonstrated that:

   a. Water is available which meets state and federal standards;
   b. Each housing unit will have either an approved site for a sewage disposal system which meets the standards of the County and the Department of Environmental Quality or ready access to a community system;
   c. The setback requirements for the development of wells and septic systems on adjacent parcels have been observed;
   d. Development of residential units will not result in the loss of lands zoned or designated for agriculture or forestry and will not interfere with surrounding agricultural or forestry activities.

5. Clatsop County shall permit temporary siting of mobile homes in specified locations in the event of an emergency.

6. Clatsop County shall encourage multi-family housing and mobile home park developments to develop within the various urban growth boundaries.

7. Clatsop County shall encourage the development of passed over lots that already have services such as water and roads be preferred for development over tracts requiring an extension of services.

8. Clatsop County shall make provisions for housing in areas designated for Rural, Urban Growth Boundaries, and Rural Service Areas which provide variety in location, type, density and cost where compatible with development on surrounding lands.

Governmental Cooperation and Coordination

9. Clatsop County shall cooperate with governmental agencies and Clatsop County Housing Authority in promoting unified housing policies and in ensuring an equitable distribution of assisted housing throughout the County.

10. Clatsop County shall encourage state and federal agencies to develop programs and funding sources to increase the level of support for the maintenance and rehabilitation of existing housing and for the development of additional housing.

Housing Rehabilitation

11. Clatsop County shall develop and maintain an inventory of the type and condition of the current housing stock. The rural housing needs should be reexamined every two years to reflect the market changes and new information.
12. Clatsop County shall encourage the retention of the current housing stock and, where necessary and feasible, will assist in the rehabilitation of substandard housing units.

Assisted Housing

13. Clatsop County shall set aside tracts of lands which it owns within the cities and their urban growth boundaries which can be used for low cost housing. The lands should be inventoried and a program developed through the Northwest Oregon Housing Association to release those lands for this purpose. Clustering techniques, common wall and townhouse construction, both for sale and for rent, could be employed in the development of these lands.

14. Clatsop County shall activate support programs which serve to improve housing conditions of those homeowners who are physically or financially unable to make improvements on their own.

URBAN GROWTH BOUNDARY POPULATION PROJECTIONS

Clatsop County cities in cooperation with the County have developed population projections for the six Urban Growth Boundary areas (see Table 8, 8-1, 8-2, 8-3 and Chart 8, 8-1, 8-2). The information contained in these tables and charts are based on the 2000 U. S. Census and historical growth figures compiled by the Center for Population Research and Census, Portland State University. The forecasted growth is based largely on historical data and information received from the cities. For the most part, the cities forecasts include both the city limit boundary and portions of the urban growth boundary, and in some cases the Census Tract may extend beyond both. The growth forecast to year 2020 does not take into account the vacation or seasonal population of rentals or secondary homes and the impacts they may have on water, sewer, transportation or other public facilities and services. The growth forecast is an estimate based on historical information and may not accurately reflect changing conditions.

Population Policy:
Review of the forecast should occur every three to five years.

POPULATION

Adopted July 23, 1980 by
Clatsop County Board of Commissioners
Amended by Ordinance 03-03

NOTE:

February 5, 1980

This population report was developed prior to the 1979 Population estimates released by Portland State University. The 1978-79 estimates show a substantial increase in the rate of growth and its distribution over that in previous years. These figures need to be examined very closely to determine the reasons for the increase and if it will continue and also compared to the results of the 1980 Census.

This accounts for some of the apparent discrepancies in the 1978 population figures, population estimates and projections used as shown in Tables 1, 2, 6 and 7.

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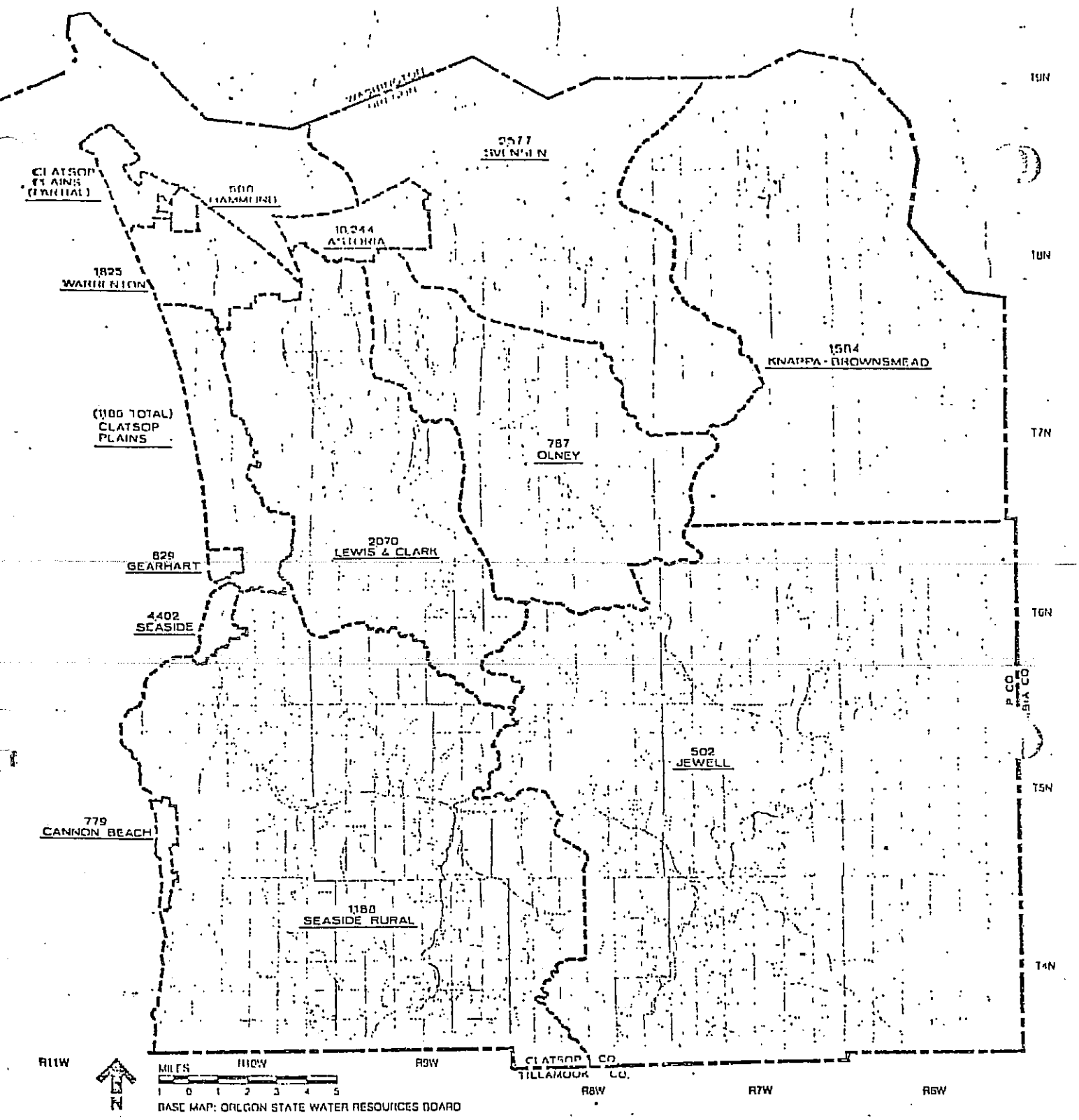
INTRODUCTION

Population data is a basic requirement for planning. The location, number and characteristics of people in an area constitute the pattern and intensity of development. To project future land use patterns and needs, it is necessary to estimate what the future population will be, where they will live, and what characteristics they will have. These projections provide a base from which to predict land requirements for schools, recreation, housing, commerce and public facilities.

BASIC FINDINGS

At the latest official U.S. census count on April 1, 1970, Clatsop County had 28,473 residents. The distribution of people within the County in 1970 is indicated on Figure 1, the map of Census Divisions. See Table 7 for population distribution in 1979. The distribution of the population in 1978 is about the same as in 1970. Most of the population is concentrated in and around the cities of the coastal area and Columbia River. About two-thirds of the people live in the six incorporated cities with most of the remaining one-third living close by. There is very little settlement more than five miles from the ocean or Columbia River. Table 1 lists the population data from 1900 to the present for Clatsop County and the two principle cities, Astoria and Seaside. The figures for the ten year intervals are from the U.S. Census. The figures from 1961 to 1969 and 1971, 1972 and 1979 are official estimates prepared by the Center for Population Research and Census at Portland State University. Table 2 shows the breakdown of city and unincorporated population from 1957 to the present.

Although the long-range trend indicates a growth in population, there have been periods when the population decreased. Growth of the lumber and fishing industries in the first two decades of this century led to a rapid increase in population for the County and Astoria. In 1920, Astoria with 14,027 people was the third largest city in the state. The Astoria fire of 1922 and the general economic depression of the 30's caused a decrease in population. In the 1940's, there was considerable wartime activity which caused a substantial increase in the population. The post war boom kept population levels high through 1950. But by 1960, the number of people had begun to decline significantly. The closing of the Tongue Point Naval Station in 1962 caused a sharp decrease with County population reaching a low in 1963. Construction work on the Astoria-Megler Highway Bridge and the pulp mill at Wauna brought a new influx of people to the County by 1965. Continued rapid population growth up to 1970 brought the population in all areas of the County back to nearly equal to or slightly greater than the 1960 levels. This gave the County a net increase of 4% from 1960 to 1970, a very modest change. The figures of Table 1 indicate that the actual growth rate from 1964 on has been substantially greater, including an accelerated amount during 1978 and 1979.



COUNTY SUBDIVISIONS

ASTORIA	10,244
CANNON BEACH	779
CLATSOP PLAINS	1,186
GEARHART	829
HAMMOND	500
JEWELL	502
KNAPPA-BROWNSMEAD	1,504
LEWIS & CLARK	[illegible]
OLNEY	[illegible]
SEASIDE	4,[illegible]
SEASIDE RURAL	1,1[illegible]
SVENSEN	2,577
WARRENTON	1,825
CLATSOP COUNTY	28,473

CLATSOP COUNTY
POPULATION - 1970 CENSUS
BY CENSUS DIVISIONS

SOURCE: 1970 U.S. CENSUS OF POPULATION

FIGURE 1

Clatsop County and the nearby coastal counties of Tillamook and Lincoln Counties experienced very little change in total population between 1950 and 1970, but have shown steady increases during the 1970's (See Table 3). The recent population increase in Clatsop County can be attributed to some extent, to an overflow of population from the rapidly growing areas around Portland and the Willamette Valley.

A look at the estimated migration patterns for Clatsop County from 1960 to 1970, as shown in Table 4, provides a better understanding of the population changes in relation to the surrounding areas. In the young, working age group, 20-39 years old, many more people left the County than came in, while in the over 40 group, more people moved in than left the County. The in-migration of the over 40 age group accounts for the increase in the under 20 age groups also, since many of these families brought children with them. It is believed that these trends have continued through the 1970's.

The migration pattern can be attributed to two separate causes. Many of the people moving into the County are retired or near retirement age. They are attracted by the natural beauty and peace and quite of the small coastal communities. The out-migration of the young people is largely caused by the specialization of the economic activity of the County. Lumber and wood products and associated manufacturing, and seafood processing, account for about one-quarter of all jobs. Many young people entering the labor market are not qualified or inclined to enter the local industries and, consequently, move to the more diversified job market of the large metropolitan areas. At the same time, the local employers can attract older, experienced workers from outside the County. An example of this is the new pulp mill at Wauna. Many new jobs were created in a very short period of time. Experienced people necessarily had to fill many of the positions. Thus, many older, more experienced people moved in to fill the new jobs. The slow but steady supply of local young people entering the labor market did not, for the most part, match up with the new job opportunities.

Table 5 presents detailed population characteristics for the State of Oregon, Clatsop County, Astoria and Seaside. The similarities and differences of the areas within the County and the rest of the State are described. The data profile for Astoria is representative of Columbia River communities and the interior parts of the County, while Seaside is representative of coastal communities. Among the most significant characteristics is the median age.

Clatsop County residents are on the average substantially older than the rest of the State and, by a relative measure, they are getting older. In 1960, the County median was 14% older than the State median, while in 1970, the County median was 15% older than the State median. Within the County the difference in median age between Seaside and Astoria is also significant. Seaside has many retired or near retirement age residents and a consequent older median age, while Astoria is a somewhat younger community. The differences between Seaside and Astoria are also reflected in the employment level. 43.5% of Astoria residents worked in 1970 while only 38.9% of Seaside residents worked. In 1960 and 1970, the Astoria employment level was higher than that of the State, again reflecting the fact that Astoria is a working community.

The economic indicators: median family income and percentage of families at or below the poverty income level and percentage of families with high income for Clatsop County are all fairly close to the State averages in 1970, showing a considerable degree of improvement over the 1960 figures. The numbers show that Astoria families have higher average earnings than Seaside families, but this is perhaps misleading. The income for many Seaside families is from pensions and social security. This does not necessarily indicate a low economic level since many older families have accumulated capital and are not entirely dependent on their current income.

The percentage of persons born in Oregon is an indicator of the relative mobility of the population. On a State-wide basis, the percentage of locally born people declined from 1960 to 1970, reflecting an increased migration into Oregon. The County figures show that there were fewer migrants from out of State in 1970 than there were in 1960. Within the County, Astoria has a higher percentage of native Oregonians than Seaside. This, again, reflects the significant number of retired people moving into the coastal area. The migration patterns that have developed over the past few years indicate a trend which will have an important effect on the County for many years.

POPULATION PROJECTIONS, UNINCORPORATED (NON URBAN GROWTH BOUNDARY)

Table 6 shows three estimates: a high, medium and low range for the future population of Clatsop County. The projections are based on three different assumptions for future economic conditions.

1. The low estimate of only 33,500 people by 1990 and 35,200 people by 2090 is based on the assumption that no significant changes will occur in population or employment opportunities in the communities along the Columbia River, and that people will continue to move to the coastal areas at the same rate as they have in recent years. It is a very good probability that the future population will be greater than the low estimate.

2. The medium estimate developed by the Department of Planning and Development is based on the assumption that people will continue to migrate to the coastal area and that a major new employer will stimulate growth in the Astoria-Youngs Bay area, for instance Brown and Root or similar industry. (See Appendix 1 for related information.) Port activities will improve due to many factors including the 200 mile fishing limit, enlarged fishing fleets and boat building activity. It is also reasonable to assume a continuing increase in utilization of forest products.

3. To attain the high estimate for population growth would require a major increase in employment opportunity, such as substantial port development and several new manufacturing plants. This industrialization would result in population growth in the Knappa-Svensen area, Astoria-Youngs Bay area and some spill over to the Clatsop Plains area. Resort and tourism related growth would occur independently in the coastal area creating a potential conflict between industrial urban land uses and recreational-resort land uses at the northern end of Clatsop Plains.

Clatsop County is utilizing the MEDIUM projection in developing its Plan. However, this projection may be modified due to the more rapid growth rate of the late '70s. This trend needs to be studied carefully together with the results of the 1980 Census.

TABLE 6

CLATSOP COUNTY POPULATION PROJECTIONS

	1970	1978	1980	1985	1990	1995	2000
High	28,473	31,462	32,500	35,000	38,000	41,200	44,500
Medium	28,473	31,462	32,000	34,000	36,400	38,800	41,500
Low	28,473	31,462	31,700	32,500	33,500	34,300	35,200

Source: Clatsop County Department of Planning and Development, 1979.

As noted above, population increases are expected. Development will accompany this growth. It needs to be planned. If growth is not planned, problems may result such as: an increased pressure to convert resource land to non-resource use; increased dependence on fossil fuels; and the lack of public facilities in locations where they need to accompany the growth.

The figures shown in Table 7 below are a rough estimate of the distribution of the population to the various CAC planning areas, determined by utilizing past growth rates and the medium projection to the year 2000. The total represents about 35-36% of the total County population. Table 2 showed that the mix between cities and unincorporated areas has varied between 32.2 and 38.1 percent between 1957 and 1979. Some factors that may account for this spread include lack of sewer facilities at one time followed by sewer construction (i.e., Warrenton, Cullaby Lake, Arch Cape), and septic tank moratoriums. Warrenton has grown dramatically since its sewer went on line. On the other hand, Seaside and Cannon Beach are near their capacities and Hammond is under the septic tank ban and as yet has no sewer facilities. Some of this growth is expected to be diverted from Seaside and Gearhart to areas with capacity (Warrenton, Astoria and Hammond which is soon to be under construction) and to Rural Service Areas in the County and to other Rural areas. Clatsop County is utilizing the 35-36% ratio recognizing that at times during the next 20 years the ratio will be larger and at other times it will be smaller due to the problems mentioned above being resolved.

TABLE 8: Clatsop County Population Projections

JURISDICTION	ACTUAL[1]		% OF COUNTY POPULATION		NEW FORECASTS		
	1990	2000	1990	2000	2020 Urban Area Totals[2]	% of County Population[4]	Average Annual Growth Rate 2000-2020
Astoria	10,069	9,813	30.24%	27.54%	11,826	28.30%	0.94%
Cannon Beach[6]	1,221	1,588	3.67%	4.46%	1,859	4.45%	0.79%
Gearhart	1,027	995	3.08%	2.79%	1,254	3.00%	1.16%
Seaside	5,359	5,900	16.09%	16.56%	7,337	17.56%	1.10%
Warrenton[3] Hammond	2,681 589	4,096 -	9.82%	11.50%	5,741	13.74%	1.70%
CITY TOTAL	20,946	22,392	62.90%	62.85%	28,017	67.05%	1.13%
UNINCORPORATED TOTAL	12,944	13,238	38.87%	37.15%	13,771	32.95%	0.20%
COUNTY TOTAL	33,301	35,630	-	-	41,786	-	0.80%

1. Center for Population Research and Census, Portland State University; United States Census.
2. City totals projected based on previous percentages of county population and percent growth.
3. Warrenton annexed Hammond in 1999, thus the substantial change in population.
4. Based on the previous growth rates and percentage of county population.
5. County projection from the Office of Economic Analysis, Department of Administrative Services, State of Oregon.
6. Cannon Beach numbers reflect the City's assumption that their existing percentage of County population will be maintained.

TABLE 8-1: Clatsop County Population Projections 2000 - 2020

JURISDICTION	2000 (actual)	2005	2010	2015	2020
Clatsop County[1]	35,630	36,919	38,376	40,018	41,788
Incorporated Cities:[2]					
Astoria	9,813	10,152	10,649	11,205	11,826
Cannon Beach	1,588	1,642	1,707	1,780	1,859
Gearhart	995	1,107	1,151	1,200	1,254
Seaside	5,900	6,206	6,546	6,927	7,337
Warrenton	4,096	4,426	4,813	5,278	5,741
Unincorporated	13,238	13,386	13,510	13,628	13,771

1. County projection from the Office of Economic Analysis, Department of Administrative Services, State of Oregon.
2. City totals projected based on previous percentages of county population (see above), growth and county projection.

TABLE 8-2: Previous Population Projections for Clatsop County

	1970	1980	1985	1990	1995
High	28,473	32,500	35,000	38,000	41,200
Medium	28,473	32,000	34,000	36,400	38,800
Low	28,473	31,700	32,500	33,500	34,300
ACTUAL	**28,473**	**32,489**	**32,452**	**33,301**	**34,300**

Sources: Projections: Clatsop County Comprehensive Plan; Actual - U.S. Census

TABLE 8-3: Clatsop County Historic Population

JURISDICTION	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000
Clatsop County	12,765	16,106	23,030	21,124	24,697	30,776	27,380	28,473	32,489	33,301	35,630
Astoria	8,381	9,599	14,027	10,349	10,389	12,331	11,239	10,244	9,998	10,069	9,813
Cannon Beach	n/a	n/a	n/a	n/a	n/a	n/a	495	778	1,187	1,221	1,588
Gearhart	n/a	n/a	127	125	319	568	725	829	967	1,027	995
Seaside	191	1,270	1,802	1,565	2,902	3,886	3,877	4,402	5,193	5,359	5,900
Warrenton	n/a	339	730	683	1,365	1,896	1,713	1,825	2,493	2,681	4,096
Hammond	n/a	957	547	244	422	522	480	500	516	589	-

Source: Population Research Center, Portland State University
n/a = not applicable because they were not incorporated as cities yet

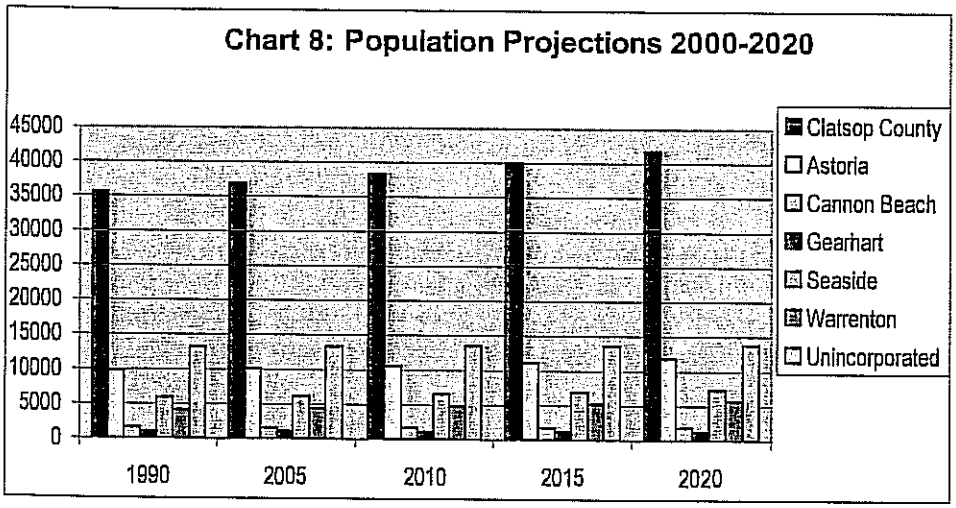


Chart 8: Population Projections 2000-2020
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
1990
2005
2010
2015
2020
Clatsop County
Astoria
Cannon Beach
Gearhart
Seaside
Warrenton
Unincorporated

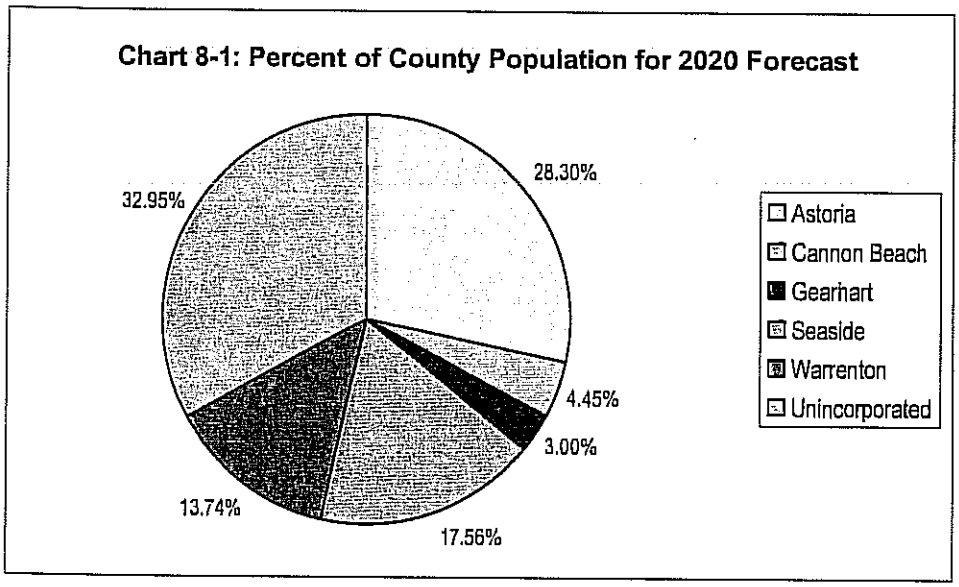


Chart 8-1: Percent of County Population for 2020 Forecast
28.30%
32.95%
4.45%
3.00%
13.74%
17.56%
Astoria
Cannon Beach
Gearhart
Seaside
Warrenton
Unincorporated

APPENDIX

MEDIAN PROJECTION INFORMATION

The current number of employed in Clatsop County as a whole is estimated as 13,370, an increase of 15.5% since 1970 when the number employed was 11,570. The labor force has increased at a slightly higher rate than employment; in 1970 the labor force was 12,350, increasing 16.6% to the current estimate of 14,400.

Employment figures from the State Employment Division and a recent study of the County economy (Input/Output Model) show the forestry and forest products industries as leading all other sectors of the economy in employment and total sales. Second and third in the County are the fishing and tourism sectors. However, the trade and government sectors make up a large portion of the total employment. Table A-1 gives labor force, employment and unemployment from the year 1974 to the present time. (For earlier years see SOM.)

TABLE A-1

CLATSOP COUNTY
LABOR FORCE, UNEMPLOYMENT, EMPLOYMENT

	1974	1975	1976	1977	July 1 1978
Civilian Labor Force	13,150	13,170	13,440	14,340	14,400
Unemployment	990	1,420	1,250	1,270	1,037
% of labor force	7.5	10.8	9.3	8.9	7.2
Total Employment	12,160	11,750	12,190	13,070	13,363
Total Wage and Salary	10,530	10,190	10,510	11,410	

Source: Employment Division

Employment projections come from the Bonneville Power Administration. Their estimate, done in March 1976, is shown on Table A-2. Clearly, Clatsop County is running ahead of schedule. This is due to a strong and steady economic growth within the County and is because of the internal expansion of established firms rather than the start of new ones. The Table is still useful for the distribution of employment among the different sectors.

TABLE A-2

BPA Employment Projections
1970 - 1995

Clatsop

	1970	1975	1980	1985	1990	1995
TOTAL EMPLOYMENT	11,300	12,250	13,250	13,850	14,500	15,200
Total Non-Agricultural Employment	9,600	10,450	11,650	12,350	13,050	13,800
Mining	--	--	--	--	--	--
Construction	350	250	350	325	325	350
Manufacturing	3,225	3,275	3,450	3,375	3,325	3,325
Food and Kindred Products	(1,400)	(1,475)	(1,575)	(1,650)	(1,700)	(1,750)
Lumber and Wood Products	(975)	(925)	(900)	(750)	(625)	(575)
Paper and Allied Products	(725)	(725)	(750)	(750)	(750)	(725)
Primary Metals	(25)	(25)	(50)	(50)	(50)	(50)
Transportation Equipment	550	650	725	800	850	875
Transportation and Public Utilities	1,800	2,125	2,475	2,800	3,100	3,400
Wholesale and Retail Trade	250	325	400	450	500	550
Finance, Insurance, and Real Estate	1,450	1,675	1,900	2,100	2,275	2,475
Services	1,975	2,150	2,350	2,500	2,675	2,825
Government	(100)	(125)	(125)	(125)	(125)	(125)
Federal						

BPA - Requirements Section
March 15, 1976

Source: Bonneville Power Administration, Population, Employment, and Housing Units to 1995. December 1976.

Population Update
For Clatsop County
Table A-3

		1975	1980	1985	1990	1995	2000
N.W. Bell 1/		29,400	30,100	31,600	32,500	--	--
B.P.A. 2/		29,200	30,375	31,150	31,850	32,225	--
C.P.R.C. 3/	High	29,300	31,000	33,700	36,600	40,100	43,700
	Medium	29,300	30,700	32,700	34,500	36,600	38,300
	Low	29,300	30,400	32,000	33,200	34,400	35,100

Without Pacific Fabricators, Inc. 4/

1977	1978	1979	1980	1981	1982	1983	Annual Growth
29,800	30,000	30,200	30,400	30,610	30,810	31,020	0.67%

With Pacific Fabricators, Inc. plus impact from secondary employment

	1979	1980	1981	1982	1983	Ave. Annual Growth
A 5/	31,025	32,460	33,550	34,235	33,570	2.4%
B 6/	31,340	33,215	34,585	35,105	34,460	3.0%

1/ Pacific Northwest Bell, Population and Household Trends in Washington, Oregon, and Northern Idaho: 1975-1990, April 1976.

2/ Bonneville Power Administration, Population, Employment, and Housing Units to 1995, December 1976.

3/ Portland State University, Center for Population Research and Census, County Population Projections, Oregon 1975-2000, February 1976. Set is based on 1970 to 1975 trends and shows inmigration tapering down to a zero net exchange level with other states by the year 2000.

4/ Assumes a continuation of 1970-1977 trend based on annual estimates by the Center for Population Research and Census, Portland State University.

5/ Assumes Scenario A in Table 21B and that project starts (year 1) in 1979.

6/ Assumes Scenario B in Table 21B and that project starts (year 1) in 1979.

Table A-4
Projected Population Due to Pacific Fabricators and Secondary Employment

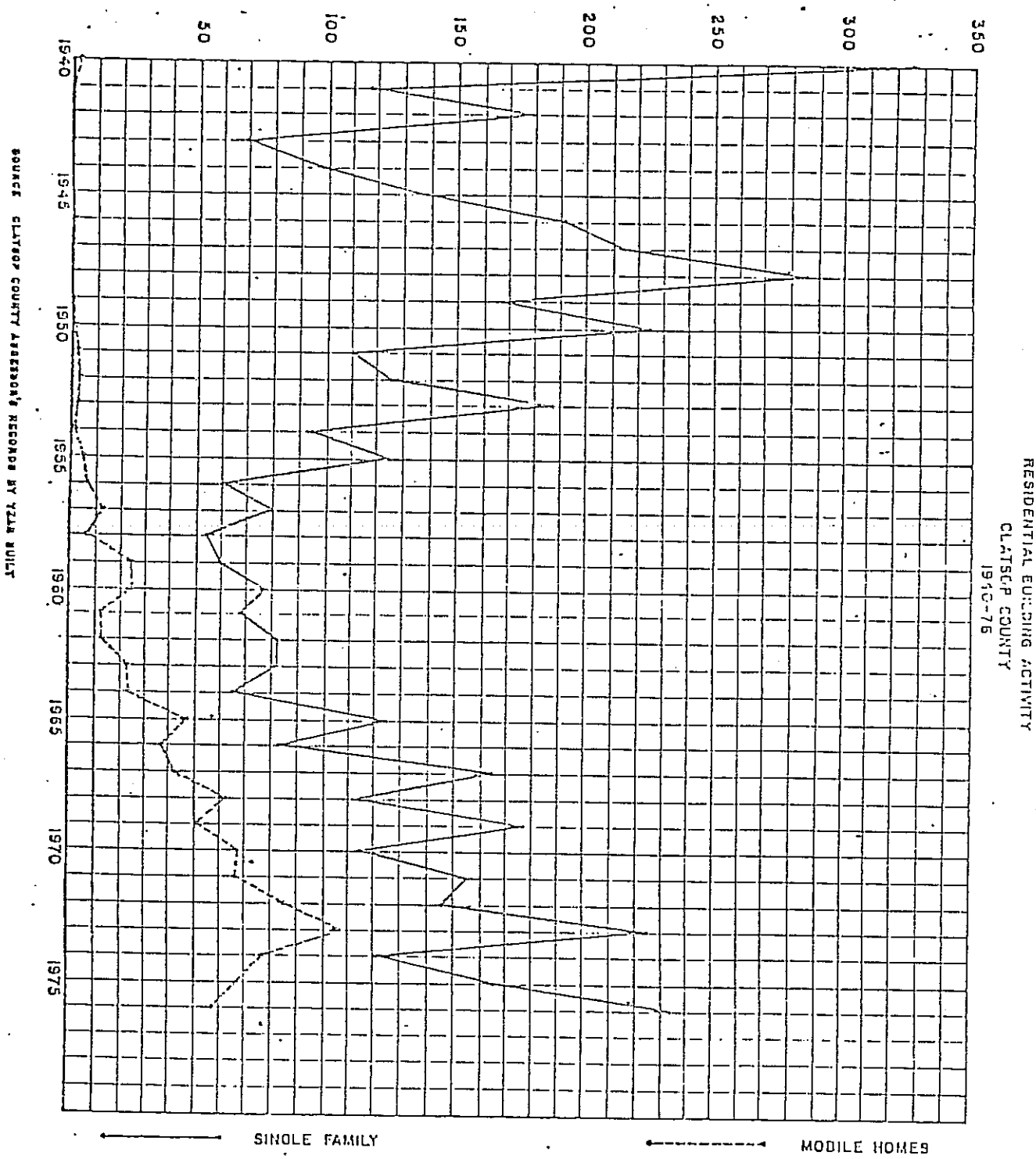
	Average Number by Year				
	1	2	3	4	5
Scenario A					
Direct Employment	340	840	1190	1280	1030
Jobs Taken By In-Migrants (65%)	220	545	775	830	670
New Population (household size 2.5)	550	1360	1940	2075	1675
Secondary Employment (52% of Direct Employment except for Year 4)	175	435	615	831	535
Jobs Taken by In-Migrants (65%)	110	280	400	540	350
New Population (household size 2.5)	275	700	1000	1350	875
Total New Population	825	2060	2940	3425	2550
Scenario B					
Direct Employment	340	840	1190	1280	1030
Jobs Taken By In-Migrants (75%)	255	630	890	960	770
New Population (household size 2.6)	663	1640	2315	2495	2000
Secondary Employment (80% of Direct Employment)	270	670	950	1025	825
Jobs Taken By In-Migrants (70%)	190	470	665	720	575
New Population (household size 2.5)	475	1175	1660	1800	1440
Total New Population	1140	2815	3975	4295	3440

Assumptions

Scenario A - From Draft Environmental Impact Statement for Pacific Fabricators, Inc. at Warrenton, Oregon, December 1977. This scenario assumes that 100% secondary employment will be reached by year 4, that secondary employment will stay at about 52% of direct jobs except during the peak period (year 4), that about 35% of the direct and secondary jobs will be filled by local job-seekers, that the initial household size for all in-migrants will be 2.5 with about 60% of the in-migrant workers having families. (See Tables 2,3 and 7 and Figures 17 and 18 of the Draft EIS)

Scenario B - Assumptions from Clatsop County Community Impact Task Force February 1978. This scenario assumes the same direct employment as A, and that 100% secondary employment will be reached by year 4, that secondary employment will stay at about 80% of the direct jobs, that 25% of direct jobs and 30% of secondary jobs will be filled by local job-seekers, and that 75% of the in-migrant workers taking direct jobs and 60% of the in-migrant workers taking secondary jobs will have families giving a household size for direct employment in-migrants of 2.6 and for secondary employment in-migrants of 2.5.

TABLE A-5



SOURCE CLATSOP COUNTY ASSESSOR'S RECORDS BY YEAR BUILT

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HOUSING

January 1980

by
GAIL HOCHHALTER AND JOHN MILLS
DEPARTMENT OF PLANNING AND DEVELOPMENT
CLATSOP COUNTY COURTHOUSE

Adopted July 23, 1980 by
Clatsop County Board of Commissioners

Clatsop County Board of Commissioners

Background (Inventory) Reports

HOUSING

ADOPTION

	_____ Chairman	_____ Date

AMENDMENTS

Resolution Number	Signature	Date
_____	_____ Chairman	_____
_____	_____ Chairman	_____
_____	_____ Chairman	_____

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INTRODUCTION

Our population is growing and likewise the need for housing. There is no escaping this need. Right now there is a housing shortage. That means that there are not enough vacant houses and apartments to allow much variety of choice for the home seeker. This factor is compounded by the growth in the number of households. So, the need for housing units is going up because fewer people share each unit.

The cost of housing is also going up. People who five years ago would have bought a "starter home" are now completely priced out of the buying market.

Without alternatives to choose from, such as multi-family dwellings, single-family attached housing, condominiums, and mobile homes, additional pressure will be placed on the existing housing supply and prices will continue to soar.

We need land for housing but we also need to preserve our resources. It hurts the economy when the land is no longer available for agriculture or timber. The less spread out we are willing to live, the less expensive it will be. Planning ahead saves money. This means that the County should take an active role in providing adequate land to meet the demands for housing in the area, at prices people can afford.

The purpose of this report is to assist the County in this effort by:

1. identifying the County's housing problems,

2. identifying unique situations in the County which will affect housing, such as the Brown and Root project and the demand for second homes,

3. describing the characteristics of the existing housing supply,

4. projecting the future demand for housing at various price ranges and rent levels and the amount of land needed to accommodate this demand,

5. estimating the distribution of the demand within the citizen planning areas,

and, based on the findings of this report, to recommend Countywide policies for housing.

The inventory of housing throughout this report was prepared by the County planning staff with the assistance of the local building departments, the County Assessors and Data Processing offices, and the Pacific Power and Light Co. Local realtors, contractors, lending institutions and title companies were surveyed to get as true a picture as possible of current economic conditions.

The market analysis was developed by the planning staff with the assistance of the Department of Housing and Urban Development Area Economist. The analysis and projections were prepared with information available as of July 1, 1978. Assumptions and judgments made on the basis of information available on this data will most likely be modified by subsequent developments.

The prospective demand or occupancy potentials in this report are not forecasts of what will or must be built, but are a measure of the level of construction which would maintain a reasonable balance between the demand for the the supply of housing under the conditions analyzed.

The information contained in this report meets the requirements of the statewide Housing Goal #10 and provides the necessary information to local governments, particularly the County, wishing to apply for Housing Assistance Plans.

SUMMARY OF FINDINGS

Current Housing Stock

The unincorporated County contains 5,035 dwelling units or 33% of the entire County housing stock. Conventional single family dwellings represent 85%, mobile homes 14%, and multi-family units comprise the remaining 1% of the current housing stock.

Housing Age and Condition

Fifty-six percent of the housing stock in the unincorporated County is over 30 years old. Thirty-four percent of the dwellings are over 50 years of age, the largest number located in Lewis & Clark. Most of the housing stock is rated a Class 3 by Assessor standards, and is considered "less than fair". The largest percentage again is located in the Lewis & Clark area. Clatsop Plains and the Southwest Coastal planning areas contained the largest numbers of newer homes with a "fair" to "very good" rating. The Elsie-Jewell area contains the poorest rated housing in the unincorporated County, due to a large number of cabins.

Vacancy Rates

The overall vacancy rate of the unincorporated County as of March 1979 is 1.8%, or a total of 75 vacant units. The total number of vacant units appear to be declining when compared to 1976, 1977, and 1978 figures. According to the State Housing Division the rate should be at least 5% for the market to operate effectively.

The existence of vacant units for rent or sale permits people to change their housing and enables newcomers to settle in the area. The unincorporated County, as well as the rest of the County, is experiencing a very "tight" market this year.

Rentals

The 1960 Census for Clatsop County found that 34 percent of the housing units were renter occupied. In 1970 the Census showed this percentage declined to 27 percent. A similar decrease is expected for the 1980 Census. However, since vacancy rates for rentals are declining, it is assumed that there is a shortage of available rental units.

In 1970 the median rental price asked was $68. In 1978 it is estimated to be $225.00, an increase of 24% per year since 1970. Based on income levels and current demand for various unit sizes, the estimated annual

demand for rentals is estimated at 10 efficiences, 55 one-bedroom, 45 two-bedroom, and 10 three or more bedroom units. The cities may be able to meet this demand while the unincorporated County is expected to meet the large majority of the mobile home demand.

Second Homes

The unincorporated County could currently contain 921 seasonal units or approximately 18% of the total dwelling units. Since 1970 the unincorporated County has received an average of 34 new second homes each year. This means that about one out of every 3 to 3.5 homes built in the unincorporated County is a second home.

The future demand for second homes may be on the decline due to the "tight money" situation in which very few banks are loaning on second homes, the gas crisis, and continuing inflationary pressure. Condominiums, however, may continue their popularity on the coast because of favorable tax treatments, low maintenance, lower prices, etc. In fact, many second home purchasers prefer a fully equipped home or a condominium with the potential for permanent occupancy.

Many homes initially constructed for recreational use are now permanent dwellings. (Shoreline Estates, Sunset Lake, and Surf Pines are good examples.) This factor of conversion, however, is undetermined.

Mobile Homes

Over 73% of the mobile homes in Clatsop County have located in the unincorporated area, constituting 17% of all single-family dwelling types in the unincorporated area. If the cities do not provide for mobile homes, the unincorporated County will continue to receive the largest share of mobile homes in the future. Since 1965 the unincorporated County has averaged 46 mobile homes per year; the largest portion of these went to the Northeast County followed by the Clatsop Plains. The Seaside Rural area, however, has the largest proportion of mobile homes to other dwelling types.

Low Income and Elderly Housing

The mild climate and substantial supply of smaller, less expensive housing, although often marginal, has attracted many elderly and low income households. These people generally spend more than 25% of their income on housing. In the unincorporated County these households are located generally in the Svensen, Lewis & Clark/Olney, and Jewell areas.

Since the first of March, NOHA has assisted 235 persons and 100 more people are on the waiting list for rental assistance. By subsidizing their rent, tenants can occupy decent housing they could not otherwise afford. The fact that many available rental units in the County do not meet the standards for rental assistance makes it increasingly difficult to provide less expensive housing.

Household Size

County-wide, average household size in 1970 was approximately 2.7. Family size in the unincorporated County was slightly higher at 3.3.

Household size in the unincorporated County has dropped to 2.7 in eight years time, and it is expected that the entire County is experiencing a similar decrease. Generally, household size for Clatsop County has always been lower than the rest of the state and decreasing every census year.

Since the direction has been toward a smaller household, the number of households will tend to increase at a greater rate than the rate of growth in total population.

Housing Unit Size

Housing of the unincorporated County was somewhat smaller than housing in the cities in 1970. Generally, the size of the housing unit, in terms of number of rooms, etc., changes over time in response to the size of families, living customs, and the level of income and assets.

Housing Prices

Family incomes have not been able to keep up with rising home prices. Over a period of 8 years, median family incomes in the County have risen 99% or 12% annually while home prices have increased 215% or 27% annually. This fact, however, has not slowed sales.

Land prices are a national problem and the most striking element in higher home prices, although it is unlikely that this trend will be reversed. Construction costs have also risen rapidly due to increased labor costs and escalating wood prices.

The price of a house, however, is likely to overstate the cost because the house is also an investment that is expected to appreciate in value. Moreover, rising home prices have little impact on homeowners who seek to sell one house and buy another; in general the prices of both houses will rise.

Costs of Homeownershio

Rapid increases in mortgage interest payments, maintenance costs and property taxes have contributed much to the overall cost of homeownership.

The present mortgage interest rate is expected to rise even further since the ceiling is now 12%. This impact of inflation on interest rates has been the most important factor in increasing the difficulty of buying a home for the first time.

Being able to deduct mortgage interest and property taxes from taxable income, however, makes them less of a component in homeownership costs than maintenance. Maintenance costs, therefore, probably constitute the largest percentage of housing costs, expecially for the older dwelling.

Sales Activity

The recent strength of the housing market is partially a result of pent-up demand for housing experienced during the slow building years of 1974-1975. Inflation of home prices also appears to be influencing people to buy homes now rather than postponing until the future. Nationally, it appears that people now look on housing more as an investment than as shelter. It is possible that the majority of the sales this year were to trade up because of investment possibilities.

Residential Building Activity

Since 1960 the unincorporated County has averaged between 100-150 building permits each year, remaining stable over this period as construction in the cities fluctuated up and down.

Overall, it appears that building activity in the unincorporated County has comprised from 40-50% of all new construction in the County and provided about 80% of all new mobile homes.

Demolition and Conversion

Yearly losses do not appear to be significant in comparison with new building construction. For the ten-year period from 1960-1970 housing unit losses amount to 110. Residences demolished from 1970-1977 in Seaside and Astoria total approximately 95 or more. These demolitions could be considered a loss of a potential home for a low-income household.

Housing Rehabilitation

At least 200 clustered housing units have been identified in the unincorporated County as target areas for rehabilitation. Most of these are located in the Northeast County. The overall number of housing units needing repairs in the unincorporated County are estimated to be 1396, or 28% of the total units. By 1980 it is hoped that at least 150 of the units will have been rehabilitated. Many programs are available in the area to assist in this effort.

County-wide Housing Projections to 1980

The results of a housing market analysis to project housing demand to 1980 designed by the State Housing Division shows a total of 267 dwellings needed annually in the County plus an additional 90-100 second homes. Rental units needed are estimated to comprise 44% of new construction. Those units most in need are one-bedroom units at $170-$190 per month, and two-bedroom units for $200-$220. A total of 151 owner-occupied units are projected each year to 1980 at a price range of between $45,000-$55,000.

Estimated Housing Demand to Year 2000

An estimated 4,238 new homes will be needed in the County by the year 2000, not including second homes. Over half of these units will be constructed in the unincorporated areas.

CURRENT HOUSING STOCK

The number of dwelling units occurs in response to the population and household formation. Thus, it is necessary to assess the current housing stock in order to determine housing needs for the future within the framework of supply and demand.

There are approximately (as of 1978) 15,103 dwelling units in all of Clatsop County. The unincorporated areas represent about 33% of this total, or 5,035 dwelling units.

TABLE 1

Current Dwelling Units
1978

Area	Single-Family (incl. condos)	Mobile Home	Duplex	Triplex & Over	Total
Astoria	2689	36	396	1347	4468
Seaside	2059	49	100	424	2632
Gearhart	594	4	8	34	640
Cannon Beach	989	17	18	17	1041
Warrenton	715	105	38	201	1059
Hammond	160	43	18	7	228
TOTAL INCORP.	7206	254	578	2030	10068
Clatsop Plains	1246	195	16	7	1464
Northeast	1190	270	2	4	1466
Seaside-Rural	183	51	2	--	236
Southwest Coastal	174	--	--	--	174
Elsie-Jewell	428	111	--	--	539
Lewis & Clark	1058	84	14	--	1156
TOTAL UNINCORP.	4279	711	34	11	5035

Sources: Unincorporated area totals were taken from Assessor's records and verified by County staff personnel and are approximate. Incorporated area totals were taken from City Comprehensive Plan Inventories for 1978 and/or Assessor's records verified by city staff and are approximate.

In the County, as a whole, conventional single family dwellings represent 76%, mobile homes 6%, and duplexes and multi-family units comprise the remaining 18% of the total housing stock.

In the cities conventional single family dwellings represent 72% of the current housing stock, mobile homes comprise 2%, and duplexes and multi-family units 26% of the housing stock.

In the unincorporated County conventional single family dwellings represent 85% of the current housing stock, mobile homes comprise 14%, and duplexes and multi-family units comprise the remaining 1%.

HOUSING AGE AND CONDITION

Housing is generally long-lived and with appropriate maintenance may be made to last indefinitely. The natural forces of deterioration require decades to take their toll; complete obsolescence will take longer. The chief usefulness of housing age and condition information is to reveal a guide to the number of units in need of rehabilitation or replacement in the future. Comparing this data periodically will be helpful in analyzing the historical improvement or deterioration of the housing stock.

Table 2 below shows that 56% of the housing stock is over 30 years old. Thirty-four percent of the dwellings are over 50 years of age, with the largest number located in the Northeast County.

TABLE 2

AGE OF STRUCTURES

AREA	0-5	6-10	11-20	21-30	31-50	51+
Clatsop Plains	11%	10%	14%	13%	18%	34%
Northeast County	10%	12%	5%	13%	19%	41%
Seaside Rural	18%	9%	15%	18%	28%	13%
Southwest Coastal	9%	6%	28%	41%	15%	1%
Elsie-Jewell	14%	10%	10%	10%	19%	37%
Lewis & Clark	8%	3%	6%	19%	32%	32%
Unincorporated Total	11%	9%	9%	15%	22%	34%

Table 3 further describes the housing stock for each planning area individually. Since some of the areas have not been appraised in five years or so, not all the information is up-to-date.

TABLE 3

CONDITION RATING

CLASS...	1	2	3	4	5	6	7	8
Clatsop Plains	1%	6%	36%	30%	22%	4%	1%	--
Northeast County	2%	10%	47%	30%	10%	1%	--	
Seaside Rural	2%	15%	41%	23%	17%	2%		
Southwest Coastal		4%	17%	42%	28%	6%	2%	1%
Elsie-Jewell	10%	23%	41%	22%	4%			
Lewis & Clark	2%	7%	52%	28%	9%	2%		
TOTAL	3%	8%	43%	29%	13%	3%	1%	

The rating class used is the Assessor's "percent good" system which takes into account the original construction, age, condition, replacement costs and other factors. The Assessor describes each rating class as follows:

1 - Cabin or shack ($8/sq.ft.)
2 - Poor but better than a cabin
3 - Less than fair
4 - Fair
5 - Medium
6 - Good
7 - Very Good
8 - Excellent ($50/sq.ft.)

Most of the housing stock is rated a Class 3 by Assessor standards. The largest percentage of Class 3 housing is in Lewis & Clark.

Clatsop Plains contains the largest number of newer homes with a "fair" to "very good" rating. Most of the homes in the Clatsop Plains, however, are over 30 years old and are rated less than fair. 1977 and 1978 were good building years in the Clatsop Plains, adding nearly 200 new homes to the housing stock. Perhaps the area most in need of rehabilitation is Sunset Lake. These homes are mostly smaller, fairly close together and were probably beach cabins at one time converted to permanent dwellings.

The Northeast County contains 22 cabins, most of which are over 50 years old. Forty-seven percent of the dwellings fall into the Class 3 category, the majority being over 30 years old. This area has also experienced quite a bit of new building activity in 1977 and 1978, including a large number of mobile homes. There appear to be concentrations of homes in need of rehabilitation in this planning area. (See Housing Rehabilitation Section)

The Seaside Rural area contains a fair amount of homes over 30 years old rated Class 3. Many homes are between 20 years and 50 years old and according to the Assessor probably are in need of a new roof, plumbing

work, or other repairs to the home that have reached the end of their lifespan.

The homes in the Southwest Coastal area are mostly newer, between 10-30 years old. Eighty percent of these homes fall in the Class 4 category and above. According to the Assessor there are no "so-called" cabins. This area contains better homes than the other planning areas.

The Elsie-Jewell area contains 34 cabins, and most of the housing is rated Class 3. Generally, these homes are older. This area contains the poorest rated housing in the unincorporated County.

Sixty percent of the homes in the Lewis & Clark area are over 30 years old. Here again, the majority of the housing is rated Class 3 by Assessor standards. Perhaps the largest concentration of homes needing rehabilitation can be found in the Miles Crossing, Jeffers Garden area. (See Housing Rehabilitation Section)

In November of 1977, the County undertook a housing survey providing a broad but basic database on housing. Some of the information is helpful to determine the homeowner's or renter's personal feelings regarding housing conditions. The greatest concern noted was inadequacy of insulation and other weatherization in their homes. When asked what the most important repair was, 53% said painting their house. The results in particular planning areas to questions 4, 5, 6, and 11 and their comments are included in the Appendix. The complete Housing Survey results are available in the office of Planning and Development at Clatsop County. Any of the questions can be correlated with any other question to obtain statistics for a particular housing project or concern.

VACANCY RATES

The number of vacant units, as a percentage of all units, is a key measure in determining the adequacy of the housing stock. According to the State Housing Division it should be at least 5 percent for the market to operate effectively. However, not all units classified as being vacant will be available to the populace. Some will already be owned or rented but not yet occupied; and others may be too dilapidated for occupancy.

Of the total 14,548 units (PP&L's estimate) in Clatsop County as of March 1979 (See Table 5), the total vacant was estimated to be 369 or an overall vacancy rate of 2.5%. This compares to 3.2% in March of 1976, 3.1% in 1977, and 2.9% in March of 1978. It appears from this data that residential demand exceeds supply, and the situation is not improving. In other words, it is a very "tight" market.

The average vacancy rate for conventional single-family dwellings in the whole County is 1.5%. This is considered normal by most standards.[1] Mobile homes tend to be vacant longer evidenced by a rather high average vacancy rate of 6.3%. This could be an indicator that mobile homes remain on the sales or rental market longer than conventional units. It could also mean that many mobile homes are seasonal or used very seldom, necessitating shutting off utilities. Since mobile homes generally are not rented out for weekends or summers like beach homes, this could be part of the reason for such a high vacancy rate.

The average vacancy rate for multi-family units is 6.5%, indicating a fairly healthy market. This figure, however, may be somewhat distorted by the fact that condominiums are included in this category. In actuality, therefore, the vacancy rate could be lower.

Of the total 4,244 units (PP&L's estimate) in the Unincorporated County as of March 1979 (See Table 4), the total vacant was estimated to be 75 or an overall vacancy rate of 1.8%. This compares to 2.7% in March of 1976, 2.6% in 1977, and 2.3% in March of 1978. The total number of vacant units appear to be declining.

The unincorporated County has a somewhat lower than normal average vacancy rate of 1.2% for conventional single-family dwellings. Vacancy rates for mobile homes, however, are relatively high. Again the same reasons could apply. (See above) It appears that the vacancy rates are declining from 1976 figures but are still very high in comparison with other single-family dwelling types.

[1]Per Telephone Conversation with Bob Clay, Oregon State Housing Division.

Multi-family units, on the other hand, have a low average vacancy rate of 4.0%. Since most multi-family units are located in the Clatsop Plains area it may be reasonable to assume that demand is greater and renters are less migratory. Here again, condominiums should be excluded. There also may be some discrepancy due to the areas used to calculate the totals in the unincorporated area. PP&L's franchise areas do not necessarily coincide with planning areas. Therefore, these rates should only be used as a rough indicator of present conditions.

The existence of vacant units for rent or sale permits people to change their housing and enables newcomers to settle in the area. Vacancy rates themselves, however, do not indicate what price levels or unit sizes are most in need.

TABLE 4

TOTAL UNINCORPORATED COUNTY
HOUSING VACANCY RATES

Mar 1976 - Mar 1979

Date	Single Family (total)	Vacant	%	Multi-Fam Unit (total)	Vacant	%	Mobile Homes (total)	Vacant	%	Total Vacant
Mr 1976	2923	35	1.2	426	20	4.7	521	49	9.4	104
Jn 1976	2944	39	1.3	428	11	2.6	522	52	10.0	102
Sp 1976	2980	30	1.0	425	14	3.3	526	38	7.2	82
De 1976	3001	35	1.2	434	17	3.9	536	46	8.6	98
Mr 1977	3034	36	1.2	435	19	4.4	541	50	9.2	105
Jn 1977	3064	36	1.2	440	18	4.1	541	31	5.7	85
Sp 1977	3097	29	0.9	441	27	6.1	547	21	3.8	77
De 1977	3120	44	1.4	444	30	6.8	554	30	5.4	104
Mr 1978	3139	46	1.5	444	19	4.3	555	29	5.2	94
n 1978	3161	46	1.5	443	15	3.4	558	35	6.3	100
Sp 1978	3187	37	1.2	438	13	3.0	565	28	5.0	78
De 1978	3208	34	1.1	429	12	2.7	574	31	5.4	77
Mr 1979	3225	30	0.9	442	10	2.3	577	35	6.1	75

Source: Pacific Power and Light Co. (using franchise areas "Outside Astoria" and "Outside Seaside")

TABLE 5

TOTAL CLATSOP COUNTY
HOUSING VACANCY RATES

Mar 1976 - Mar 1979

Date	Single Family (total)	Vacant	%	Multi-Fam Unit (total)	Vacant	%	Mobile Homes (total)	Vacant	%	Total Vacant
Mr 1976	9689	173	1.8	3013	190	6.3	788	70	8.9	433
Jn 1976	9744	142	1.5	3023	191	6.3	794	63	7.9	396
Sp 1976	9826	142	1.4	3037	215	7.1	806	46	5.7	403
De 1976	9882	162	1.6	3075	209	6.8	817	63	7.7	434
Mr 1977	9928	165	1.7	3101	209	6.7	824	63	7.6	437
Jn 1977	10001	140	1.4	3125	214	6.8	823	43	5.2	397
Sp 1977	10074	129	1.3	3169	219	6.9	827	33	4.0	381
De 1977	10116	175	1.7	3216	219	6.8	837	41	5.0	435
Mr 1978	10169	172	1.7	3245	202	6.2	846	44	5.2	418
Jn 1978	10236	149	1.5	3271	192	5.9	850	54	6.4	395
Sp 1978	10289	149	1.5	3294	197	6.0	861	50	5.8	396
De 1978	10328	154	1.5	3307	180	5.4	872	52	6.0	386
Mr 1979	10363	142	1.4	3310	174	5.3	875	53	6.1	369

Source: Pacific Power and Light Co.

RENTALS

The 1970 Census for Clatsop County found that 27.07 percent of the housing units (3,384 units) were renter occupied. Since, in most cases, renter occupied units are likely to be multi-family or duplex type housing, the total multi-family units subtracted from the total renter-occupied leaves 837 units which are single-family units. This means that of the total renter occupied dwelling units, approximately 25% of the rental units are single-family dwellings.

As of July 1978, there are 2,653 multi-family dwellings in the County, or 17.5% of the total housing units, an increase of only 106 units in 8 years' time.

Clearly, if the same percentage of units in 1970 are renter-occupied in 1978, it would appear that single-family dwellings must be filling the bill for rentals. It is more likely, however, that there is a greater percentage of owner-occupied units in the County than there was 8 years ago. This same decrease was experienced between 1960 - 1970. The 1960 census showed that approximately 34% of the units were renter occupied as opposed to 27% ten years thereafter. This factor also seems to be supported by population and migration statistics which indicate that large numbers of people in the 20-30 age bracket (those likely to be renters) are leaving and a large number of retired people are moving in. Since vacancy rates for rentals appear to be declining (see Vacancy Rate Section) it is assumed that there is a shortage of available rental units. As home prices increase, this demand for rentals may also increase.

In the 1970 Census the median rental price asked was $68. A HUD market analysis for 1977 estimated the average rent at $225.00 and a sample survey of newspaper ads agree for 1978. Taken from the classified ads, average rents are as follows:

Studio	$105.00
One-Bedroom	155.00
Two-Bedroom	225.00
Three-Bedroom	270.00
Four + Bedroom	350.00

The increase in rent from 1970 to 1978 is 194% or 24% per year. Although lower than escalating housing prices it is still higher than the annual increase in family income.

The estimated annual demand for rentals is estimated at 10 efficiences, 55 one-bedroom, 45 two-bedroom, and 9 three or more bedroom units. (See Market Analysis in Appendix E Table E-4.) These estimates are based on income levels to determine what will be affordable to persons seeking rental housing and current demand for various unit sizes.

(NOTE: The rents listed above also include some utilities. Most all include water and garbage.)

SECOND HOMES

The number of second homes in Clatsop County for this report is based upon Donald Ulrich's A Market Analysis of Recreation - Vacation Homes, 1973.

According to Ulrich's report, (Appendix F), Clatsop County is ranked fifth in the State for the number of vacation homes with 6.3% of the total. Ulrich used a formula based on the 1970 Census of Housing, Detailed Housing Characteristics, Oregon. To determine the number of second homes per County he adds "seasonal and migratory" units plus "other vacant" units minus "units held for migratory workers." "Migratory" units are defined as "vacant units held for occupancy by migratory labor employed in farm work during the crop season." Using his formula with no migratory workers, the County's housing stock contained 1749 second homes in 1970. This amounts to approximately 14% of the total housing units in the County at that time.

Using Ulrich's formula it may also be possible to estimate the number of second homes in the unincorporated County. The 1970 Census of Housing contains two categories (See Table 6). Unfortunately, the total units in the "Rural County" category is much higher than the total units estimated for that year in the CAC planning areas. However, for this report the percentages will be used. (See Table 7) According to the Assessor's records there were 3,534 total units in 1970. "Vacant - Seasonal & Migratory" total 164 and the "Other Vacant" category totals 482. These two figures added together gives the total number of second homes, less no migratory workers, or 646 in 1970. This amounts to approximately 5% of the total units in the County or 37% of the total second homes.

Table 7 for 1978 assumes the same percentages as Table 6 for 1970. Using Ulrich's formula, the unincorporated County could currently contain 921 seasonal units, approximately 18% of the total dwelling units. This 18% was supported in a November 1977 Housing Survey which showed 18.9% of the respondents spent less than 176 days per year in the unincorporated County. Since 1970, the unincorporated County has received an average of 34 new homes each year. This means, therefore,that about one out of every 3 to 3.5 homes built in the unincorporated County is a second home.

Current building permit information for 1977 and 1978 reveals that the areas of the unincorporated County receiving the greatest demand for second home construction are Arch Cape, Seaside Rural, Elsie-Jewell, and Clatsop Plains, in that order. Building permits are not a true indicator, however, since the contractor normally files the application and many build to sell as second homes. Undoubtedly, however, the Southwest Coastal (Arch Cape) area would be a prime second home location and it is very possible that over 50% of the new homes projected for construction to the year 2000 (See Graph 6 , Page 44) in this area will be second homes.

This is supported by many local realtors according to a local Title Insurance Company representative who frequently conducts surveys in the area.

It was his opinion that second home purchases are on the decline. The Arch Cape, Cannon Beach areas, however, are still in demand and second home purchases in those areas along the coast will continue to do well. This decline is due to the "tight money" situation in which very few banks are loaning on second homes. (See Appendix A) It is also due, he says, to the recent gas price rises and a time of inflationary "tightening of the purse strings". Condominiums, however, may continue their popularity on the coast. This could be for many reasons; for instance, favorable tax treatments, low maintenance, lower prices, etc.

Prior to this year's gas crisis and continuing inflationary pressure, the demand for recreational properties on the coast and in the area of the lower Columbia was considered very heavy by many real estate offices. A report prepared in March, 1977 entitled "Columbia River Island Research - Magruder Project" studied the feasibility of marketing recreational lots in Oregon along the Columbia River, about 30 miles east of Astoria. It also dealt with coastal property. Eleven companies surveyed felt there was a deficiency in supply at the coast. Private clubs and organizations interested in recreational activities were contacted to acquire mailing lists to get a sampling of potential recreational property owners. It was determined that the consumer with the greatest potential for purchase will be employed in a business or professional occupation, earning $20,000 - $30,000, with a high school or college education, 4 person family, a spouse who is also employed and has a comparable education and with an interest in boating, fishing, and/or hiking. It was also determined from the results that about 40% of the respondents would like either a fully equipped home or a condominium. This was interpreted to mean that many persons think in term's of a permanent residence or a potentially permanent residence for retirement purposes.

A housing report prepared for Lincoln County by Richard Ragatz Association, Inc. in September 1978 also explored the absentee owner situation. Of those that commented, almost 17% of the second home owners felt that taxes were too high and assessments unfair. Although attitudes are always biased when dealing with consumer responses to taxes (the survey was sent out just prior to the vote on Proposition 13), some respondents (5%) indicated that costs of owning a second home are becoming prohibitive. Many cannot foresee retiring to their second home because of rising taxes.

Many older second homes in the County are gradually converting to permanent dwellings, as second home owners sell or seek other accommodations. It is also evident that new recreational homesites are being purchased by permanent residents, rather than the second home buyer that they were originally intended for. (i.e. Shoreline Estates, Surf Pines, etc.)

TABLE 6

ASSUMED HOUSEHOLD CHARACTERISTICS*
UNINCORPORATED COUNTY
1970

		NO. OF UNITS	% OF TOTAL UNITS
1.	Total Units	3,534	
2.	Year-Round Units	3,370	95.36
3.	Vacant - Seasonal & Migratory	164	4.64
4.	Owner Occupied	2,172	64.45
5.	Renter Occupied	627	18.60
6.	Vacant Year-Round	571	16.95
	a. For Sale	24	4.19
	b. For Rent	65	11.45
	c. Other Vacant	482	84.36

TABLE 7

ASSUMED HOUSEHOLD CHARACTERISTICS*
UNINCORPORATED COUNTY
1978

		NO. OF UNITS	% OF TOTAL UNITS
1.	Total Units	5,035	
2.	Year-Round Units	4,801	95.36
3.	Vacant - Seasonal & Migratory	234	4.64
4.	Owner Occupied	3,094	64.45
5.	Renter Occupied	893	18.60
6.	Vacant Year-Round	814	16.95
	a. For Sale	34	4.19
	b. For Rent	93	11.45
	c. Other Vacant	687	84.36

*Based on same percentages for Rural County category.

MOBILE HOMES

Increased housing costs are partly responsible for the demand in mobile homes. Accordingly, there have been significant changes in physical features. While growing in size, mobile homes have also been increasing in durability, with life expectancy also increasing.

The primary factors contributing to the increased costs of conventional housing are the very same factors that help to make mobile home prices so competitive. Labor prices are a relatively small component of mobile home construction costs. Also, as land prices rise, the advantages of mobile homes increase because they usually require a smaller lot. This is especially true where sewer services are available. Most important is industrialization (mass production) and the lack of dependency on wood products.

According to a local mobile home dealer, the most popular size of a mobile home is the double wide 24' X 60'. Prices vary, but on the average one would cost $30,000, which includes dishwasher, refrigerator, stove, carpet, drapes, set up and delivery. A mobile home with wood siding and a composition roof of the same size sells for approximately $35,500.

Triple wides are not as popular because of the increased price. They start at $47,000 on up. Single wides (14' X 60') are still popular, especially with built in fireplaces. Prices range from $8500 to $16,500 for a single wide.

There are currently 965 mobile homes in Clatsop County. Over 73% have located in the unincorporated County. Mobile homes now constitute nearly 17% of all single-family dwelling types in the unincorporated areas.

The Northeast CAC area contains the largest share of mobile homes, or 38% of the total number of mobile homes in the unincorporated County. Twenty-two percent of the housing in the Seaside Rural CAC area is made up of mobile homes, representing the area with the largest proportion of mobile homes to other dwelling types.

Overall, it appears that for the whole County the demand for mobile homes as an economical alternative will increase each year. Nearly one-third of all new permits for single-family dwellings was for mobile homes since 1965. If the cities do not provide for mobile homes, the unincorporated County will continue to receive the largest share. The Northeast County will probably receive the largest number, considering

the larger proportion of low-income families (1970 Census), the rural setting and nature of employment in the area (mill work, agriculture). The Clatsop Plains will probably experience some development and expansion of mobile home parks within areas close to cities (UGBs) but land prices along the caost are generally higher due to the proximity to the beach catering to more expensive housing and second home construction. The Lewis & Clark area contains 11% of all mobile homes in the County. At present, about one-third of all building permits in Lewis & Clark is for mobile homes. Considering the lower land prices and proximity to employment centers, the proportion of mobile homes in this area could increase.

The typical mobile home is still considered to be incompatible with conventional dwellings unless located on a very large lot or within a mobile home park. Although the mobile home appreciates in value, the existence of one in a neighborhood of conventional dwellings tends to decrease the value and desirability of the other home. This is also true of other low-cost housing.

LOW INCOME AND ELDERLY HOUSING

Clatsop County is very typical of many coastal areas in that the mild climate and once-substantial supply of smaller less expensive housing, although often marginal, has attracted many elderly and low-income households. In fact, Clatsop County has more poor families than most other counties in the state, in spite of a high median income. (See Appendix H)

The 1970 Census showed that there were 3814 poor or that 13.4% of the County's total population were below poverty level compared to 11.2% of the State's population. A family is classified poor if its total money income amounts to less than approximately three times the cost of the "economy" food plan, designed by the Department of Agriculture for "emergency or temporary use when funds are low."[1]

The Census also showed where these people were by census division.

TABLE 8

LOCATION OF COUNTY'S LOW INCOME HOUSEHOLDS
(1970 Census)

Ranked by % Total 3814

		#	%
1	Astoria	1119	30%
2	Svensen	874	23%
3	Seaside	681	18%
4	Clatsop Plains	535	14%
	Warrenton		
	Hammond		
	Gearhart		
5	Seaside Rural	163	4%
	Cannon Beach		
	Arch Cape		
	Lewis & Clark	131	3%
	Olney	117	3%
	Jewell	85	2%
	TOTAL	3814	100%

[1]1969 Income and Poverty Data, Bureau of Governmental Research and Service, May 1972.

In June, 1977 the Astoria Branch Office of the public welfare division tabulated the number of people receiving public assistance and/or food stamps in the County as an indication of the number of people in the County now who have low incomes and especially to find out how much they spent for housing. The results of their tabulation is shown below.

The Astoria office surveyed one hundred twenty-three Aid To Dependent Children households and fifty-nine elderly or handicapped Adult households and found that the average percentage of monthly income spent for shelter costs was fifty-five percent.

TABLE 9

CLATSOP COUNTY RESIDENTS RECEIVING PUBLIC ASSISTANCE AND/OR FOOD STAMPS

June, 1977

Approximate number of persons over sixty-five receiving money payment	48
Approximate number of blind adults receiving money payment	9
Approximate number of permanently disabled adults receiving money payment	79
Approximate number of temporarily disabled adults receiving money payment	46
Approximate number of persons receiving Aid To Dependent Children	1421
Approximate number of adults receiving Medical Assistance only	181
Approximate number of persons receiving Food Stamps (not receiving Public Assistance)	727

As costs of other commodities rise, shelter costs become even more significant, becoming higher than people on fixed incomes can afford. Unfortunately, these families will depend more and more on public assistance programs to meet their needs.

The high cost of land and construction costs for new homes drive prices up beyond even most subsidized loan program limits. Most older and smaller homes do not meet construction specifications. Much of the housing stock was built on post and pier foundations, lacks insulation and adequate wiring, etc. In addition, the area has a high percentage of homes over 30 years old in need of major repairs. (See Housing Age and Condition Section)

According to "A Report of the National Housing Policy Review" by HUD, 1974, the provision of housing subsidies increases the quantity and quality of housing for relatively few and reduces the construction of new housing units for everyone else. The whole program of subsidized housing is to offer homeownership to the low income family but there are real problems which discourage their ownership. Some of these are building codes, racial discrimination, deed restrictions, zoning, and taxes. The deductability of mortgage interest and property taxes is not an advantage to the low income family. Housing as an investment for low income individuals is illiquid and risky, requires complex management and has high maintenance costs.[1] Rental assistance may be a far better way to help the low income household.

According to "Regional Land Use and Housing Elements" prepared by CTIC in February 1978, the number of elderly persons in the region ranges from 15% to 30% of the population, or 1½ to 3 times the national average. Many of these people have moved to the area to retire, some are residents of local nursing homes and care centers, and many are living strictly on social security payments (less than $2,000 annually). The Northwest Oregon Housing Association which formed in 1975 administers the Section 8 Rental Assistance Program for Clatsop, Columbia, and Tillamook Counties. Participating tenants pay no more than 25% of their income for rent, with HUD making up the difference. Since the first of March, 235 persons have been assisted. It is estimated that approximately 1,000 elderly and family rental households are eligible in the district and there are 100 people on the waiting list.

According to NOHA, most units in the County are located in Astoria and Seaside and barely pass inspection for the program.

Rents, including utilities, must not exceed HUD's specifications:

$177 - 1 bedroom
$211 - 2 bedroom
$264 - 3 bedroom

The Section 8 program is not for the elderly only but for all low-income families. By subsidizing their rent, tenants can occupy decent housing they could not otherwise afford.

[1] U.S. Department of Housing and Urban Development, "Housing in the Seventies: A Report of the National Housing Policy Review". 1974.

TABLE 10

HOUSEHOLDS ELIGIBLE FOR SECTION 8

Clatsop County Elderly

	TOTAL	ELIGIBLE
ONE PERSON HOUSEHOLDS	474	416
TWO PERSON HOUSEHOLDS	87	58
TOTAL	561	474

Family

	TOTAL	ELIGIBLE
TWO PERSON HOUSEHOLDS	178	115
THREE & FOUR PERSON HH.	238	142
FIVE PERSON HOUSEHOLDS	37	21
SIX+ PERSON HOUSEHOLDS	86	29
TOTAL	540	307

Source: 1977 Housing Division Market Analysis

The table above shows an estimated number of elderly and low income households who are eligible for Section 8 Housing Assistance because they are living under substandard, overcrowded conditions and paying too much for rent.

SPECIAL HOUSING FOR THE ELDERLY

This category of housing includes care centers, nursing homes and retirement homes, public and private.

There are four such homes in operation within the County, one under construction, and one across the river in Washington.

They operate at an average of 90% capacity; as of the end of March 1979 only 27 beds were unoccupied. All of the homes have been in operation in excess of ten years and have no plans for expansion.

When the Columbia Memorial Hospital went out of the nursing home business the Clatsop Care and Rehabilitation Center was formed. They have plans for 29 nursing home beds, 10 homes for the aged and 20 retirement units. They hope to open the facility the first of July at about half capacity.

On the average, costs range between $400 (without nursing care) to $800 (with nursing care) per month (welfare pays less) for an individual to reside in this type of facility.

TABLE 11

HOMES FOR ELDERLY

		Location	Capacity	Current % Occupancy 1970	1978	1979	Year Opened
1.	Clatsop Care & Rehabilitation Center (under construction)	Astoria	(59)	--	--	--	(Jul 1, 1979)
2.	Crestview Care Center	Astoria	82	92%	99%	88%	1966
3.	Seaside Care Center	Seaside	100	82%	99%	94%	1968
4.	New Seaera Convalescent Home	Long Beach, Washington	53	--	92%	85%	1964
5.	Ocean Park Nursing Home	Seaside	22	99%	95%	95%	1959
6.	Riverview Guest Home	Astoria	15	--	87%	87%	1969
		TOTAL	331				

Source: Per Telephone Conversations with Managers 3/29/79.

HOUSEHOLD SIZE

The size of housing units should be built to satisfy the needs of the community. Therefore, it is extremely important to assess household size distributions and monitor this pattern at regular intervals. This is especially important in Clatsop County where the number of older households is increasing annually.

Tables 12 & 13 show changes that have occurred over a period of 8 years. Table 12 was taken from the 1970 Census using aerial photos to adjust boundaries and Assessor records to check the number of housing units in the particular planning area.

TABLE 12

HOUSING CHARACTERISTICS
from 1970 Census

	Total Units	Occup. Units	% Occup.	Household Size	Population
Clatsop Plains	902	677	75%	3.0	2019
Northeast	1041	989	95%	4.2	4161
Seaside Rural/	139	92	66%	2.5	(234)
Southwest Coastal	128	51	40%	2.4	(121)
Elsie Jewell	360	256	71%	2.0	502
Lewis & Clark	964	896	93%	3.2	2857
Total	3534	2961	84%	3.3	9894

NOTE: Numbers in () designate areas outside census which were combined.

County-wide, average household size in 1970 was approximately 2.7, the same as Lincoln County. This table indicates that family size in the unincorporated County is somewhat higher than the cities.

TABLE 13

HOUSING CHARACTERISTICS
as of July 1978

	Total Units	Occup. Units	% Occup.	Household Size	Population
Clatsop Plains	1464	1024	70%	2.2	2213
Northeast	1466	1382	94%	3.3	4562
Seaside Rural	236	155	66%	2.5	387
Southwest Coastal	174	70	40%	2.0	140
Elsie-Jewell	539	339	63%	1.8	616
Lewis & Clark	1156	1063	92%	2.8	2984
Total	5035	4028	80%	2.7	10902

The table above was prepared through the use of all available information from the Assessor's Office, assuming an overall average household size of 2.7 (November 1977 Housing Survey), and assuming 20% of the housing units are seasonal or vacant (See Section on Vacancy Rates and Section on Second Homes). Total population of the unincorporated County was then calculated and distributed to each planning area in the same way as 1970. Housing units and occupied units were also distributed proportionately. The information on Southwest Coastal and Seaside Rural areas, which were combined in the 1970 census, were estimated during the planning study and adjustments made proportionately to the remainder of the totals.

Household size in the unincorporated County has dropped in 8 years time. This factor is not conclusive but is supported by population and migration statistics (See Economic Element) which show that large numbers of people in the 20 to 30 year old age bracket (those likely to have children) are leaving the County and a strong inmigration of people 60 and over. School enrollment figures also support the decrease in household size. (See Appendix O)

In surveying the household size in November 1977, the County also examined the make up of the family in the unincorporated County. The survey revealed that 28% of the children who are 12 years old and younger have only one parent. This has some impact on the reduced size of households.

Lincoln County has also shown a decrease to about 2.5 household size as indicated by a housing survey they prepared in September 1978. It is likely that Clatsop County is experiencing a similar decrease in household size. Generally, household size for Clatsop County has always been lower than the rest of the State since 1940, and decreasing every census year.

HOUSING UNIT SIZE

The demand for space, in terms of number of rooms, size of rooms, etc. changes over time in response to the size of families, living customs, and by the level of income and assets. When income and assets are at higher levels, households tend to desire improved living standards and conditions. In addition, or because of convenience requirements (washer-dryers, more than one complete bath, larger closets, double garages, etc.) people demand more space. When incomes and assets are lower, a general attitude of "make do" prevails.

The table below compares housing unit size of the unincorporated County with the total County. It should be remembered that bathrooms, foyers, utility rooms, unfinished attics or basements, etc. are not included in the count of rooms.

TABLE 14

1970 Census
NUMBER OF ROOMS AND BEDROOMS FOR HOUSING
BY PERCENTAGE
(excludes mobile homes)

	Unincorp. County	Total County		Unincorp. County	Total County
1 Room	12%	1%	0 Bedrooms	7%	2%
2 Rooms	33%	5%	1 Bedroom	25%	19%
3 Rooms	25%	13%	2 Bedrooms	40%	35%
4 Rooms	44%	22%	3 Bedrooms	25%	30%
5 Rooms	16%	23%	4+ Bedrooms	3%	14%
6 Rooms	6%	17%			
7+ Rooms	4%	19%			

The table shows that the housing of the unincorporated County was somewhat smaller than housing in the total County at the time of the census; however, household size was larger. (See Section on Household Size.)

HOUSING PRICES

Prices are a function of the interaction of supply and demand for a product. Construction costs, land prices, loan costs, etc. are all factors in determining price.

The average sale price for a house in Clatsop County in 1970 was $13,400. (See Table 18). In 1978 it was $42,321. (See Table 17) This amounts to an increase of 215% in a period of 8 years, or 27% annually. If prices continue this dramatic upward trend, the average price of a home could approach $65,000 in 1980 and $100,000 in 1985.

From the information obtained, the greatest increase in housing prices has occurred in the City of Gearhart where the average sales price of a home was a little less than $10,000 in 1970, and in 1978 rose to $47,000. Among the cities, Astoria's housing prices have increased the least, or about 25% annually. In the unincorporated areas, the greatest increase in housing prices appears to be in the area outside Seaside.

Sales prices of existing homes are increasing at approximately the same rate as prices of newly constructed homes. In a letter survey of November 1978 to realtors, contractors, lending institutions and title companies, it was revealed that the median price of a new conventional home (3 bedroom, 1½ bath, about 1200 sq. ft.) was $51,500. (See Appendix A) This same survey placed the median price of an older three-bedroom home at $49,000 and the lowest price for a new two-bedroom home at $42,500.

When asked what the biggest housing problems were, respondents placed financing and the shortage of building sites as the number one problem. Escalating land costs and moratoriums were also cited. Some realtors and contractors responding said that there were portions of the County's regulations which were unnecessarily restricting or increasing the price of housing, but they didn't mention which restrictions.

Land prices are a national problem and the most striking element in higher home prices. It is unlikely, however, that this trend will be reversed since land tends to become available very slowly for housing uses and the quantity of land is limited.
Construction costs, the other basic determinant of a home's purchase price, have also risen rapidly due to increased labor costs and wood prices.

Family incomes have not been able to keep up with rising prices. The median family income in the 1970 Census was $9,430 and was $18,823 as of January 1, 1979. (State of Oregon Housing Division) Over a period of 8 years, family

income has increased 99% or 12% annually. This fact, however, has not slowed sales. Following a national trend, it appears that new home buyers are willing to spend a large portion of their income on housing.

The price of a house, however, is likely to overstate the cost because the house is also an investment that is expected to appreciate in value. Moreover, rising home prices have little impact on homeowners who seek to sell one house and buy another; in general, the prices of both houses will rise.

Home price increases apply mostly to the household that is buying a house for the first time--e.g. a renter or newly formed household.

COSTS OF HOMEOWNERSHIP

The increase in home purchase price has contributed most to the increase in the overall cost of homeownership. More rapid, however, are increases in mortgage interest payments, maintenance costs, and property taxes.

Mortgage interest rates have risen to a record 10½%, with terms of 20% down for a 30 year loan. The present rate is expected to rise even further since the ceiling for the rate is now 12%, anticipating continued inflation. For most households, however, the purchase of a house is a relatively infrequent occurrence and those who bought and financed a house prior to 1967 are probably not affected by new out-of-pocket housing costs. The impact of inflation on interest rates, however, has been the most important factor in increasing the difficulty of buying a home for the first time.[1]

Some part of the rise in property taxes is used to finance a demand for more public services--more school facilities, police protection, etc. But, being able to deduct mortgage interest and property taxes from taxable income makes them less of a component in homeownership costs.

Maintenance costs, therefore, probably constitute the largest percentage of housing costs, especially for the older dwelling. The fact that over 50% of the housing stock in the unincorporated County is over 30 years old presents a major problem. Since many of the low-income and elderly are presumably housed in the older dwellings, the major impact of rising home maintenance costs is upon them.

[1]Weicher, John C., "The Affordability of New Homes," Journal of the American Real Estate and Urban Economics Association, Vol. 5, No. 2, Summer 1977.

TABLE 15

ASSESSOR'S SALES RECORDS

September 1978 to January 1979
(From Assessor's Sales Ratio Report)

Area	Number of Total Sales	Lowest Sale Price	Highest Sale Price	Average Sale Price
Astoria	64	$10,590	$105,000	$39,595
Outside Astoria	2	41,700	61,000	51,350
Lewis & Clark and Olney	9	12,800	44,000	16,911
Jewell	8	8,000	45,000	24,875
Seaside	65	6,000	122,000	42,867
Outside Seaside	10	8,700	218,000	60,630
Gearhart	19	11,292	102,000	47,165
Outside Gearhart	16	35,000	83,000	66,812
Outside Cannon Beach	4	13,000	73,500	31,775
Cannon Beach	16	31,000	165,000	56,900
Warrenton	20	2,500	55,000	37,118
Outside Warrenton	2	16,000	70,500	43,250
Hammond	1			49,500
Northeast County	8	17,500	52,000	33,937
TOTAL	251			

Average Sales Price Overall: $42,321.

TABLE 16

TOTAL
ASSESSOR'S SALES RECORDS

1970
(From Assessor 1971 Sales Ratio Report)

Area	Number of Total Sales	Lowest Sale Price	Highest Sale Price	Average Sale Price
Astoria	60	$ 1,600	$29,580	$13,026
Outside Astoria	1			2,000
Lewis & Clark and Olney	3	3,200	15,000	10,900
Seaside	(Assessment Year - No Information)			
Outside Seaside	2	2,900	10,500	13,400
Gearhart	10	1,420	24,500	9,944
Outside Gearhart	1	14,000	23,500	18,750
Cannon Beach	3	8,500	20,900	15,300
Warrenton	7	14,650	25,000	12,014
Outside Warrenton	5	2,800	28,350	21,730
Northeast County	7	2,200	28,000	14,202
TOTAL	99			

Average Sale Price Overall: $13,486.66

SALES ACTIVITY

The sales market has experienced a significant increase over the past 8 years. In 1970 only 99 sales were recorded in the County. (See Table 16) In contrast, for a period of four months in 1978, 251 sales occurred. (See Table 15)

This demand does not appear to be a result of increased population or economic growth. It also seems unlikely that financing has anything to do with increased sales. When interest rates are high and availability of money is tight, sales usually drop.

Second home sales could have a lot to do with the market however, nearly all the lending institutions contacted in the November 1978 survey (See Appendix A) do not loan on second homes and only one realtor cited vacation homes as the predominant sales type.

The strength of the housing market is partially the result of pent-up demand for housing experienced during the slow building years of 1974 and 1975. (See Section on Residential Building Activity). In addition, inflation of home prices appears to be influencing people to buy homes now rather than postponing purchases to some future date.

According to a national housing seminar report of the United California Bank, the American consumer now looks on housing more as an investment than as shelter. It was pointed out that two of three houses sold in 1978 were to trade up because of the investment possibilities.[1]

[1] "The Oregonian", Tuesday, April 10, 1979, page 89.

RESIDENTIAL BUILDING ACTIVITY

New housing construction, as illustrated in the following graphs, rises and falls with economic activity in the area. From 1940 to the early 1950's after the war, new construction was very active, but from 1955 to 1965 it dropped considerably. According to the state Employment Division for records from 1960, the period from 1960 to 1965 was a high unemployment period because of the closing of Tongue Point in 1962. Opening of the Wauna Mill in the late 1960's caused a building surge, predominantly in the northeast county area. In 1974, another high unemployment period, construction dropped and in 1977 surged upward again as employment rose.

The Clatsop Plains area experienced its highest number of new homes in 1977, when the EQC partially lifted the moratorium establishing a 1 acre minimum lot size.

The Lewis and Clark area has also received a fair amount of new housing since 1970, including mobile homes. A major attraction is the pastoral setting characterized by farming and large lot residential development.

The Northeast County received 30 building permits for conventional single family homes, and 25 for mobile home installations in 1978. Land use policies are not very restrictive and prices tend to be cheaper than Lewis and Clark or Clatsop Plains. (See Appendix G)

The Southwest Coastal (Arch Cape) area contains a large number of second homes and so is unaffected by the local economy. The typical development pattern is on a lot by lot basis rather than through large scale developments which explains the relatively low number of new homes constructed each year.

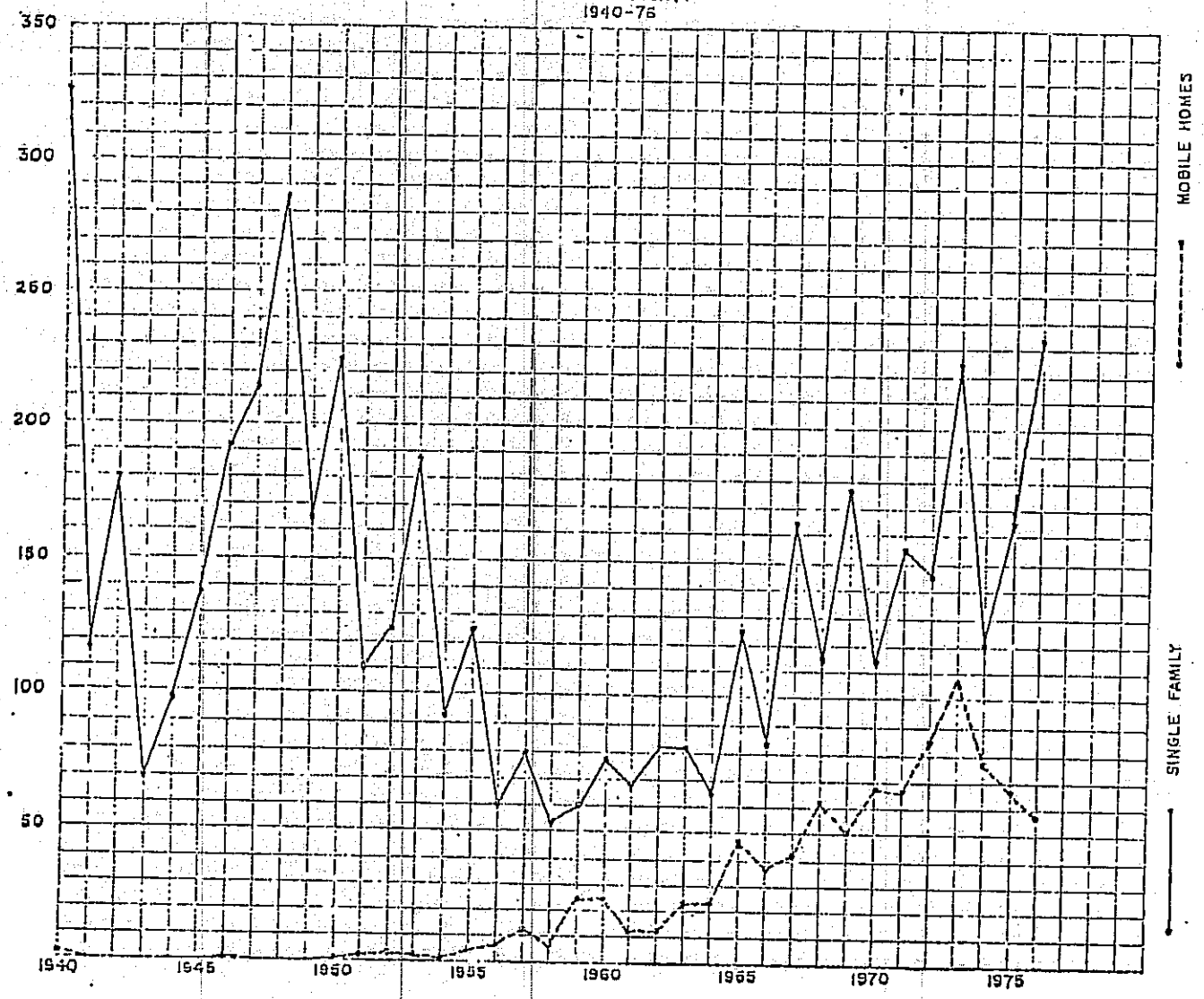
The Seaside Rural area received almost an equal amount of mobile homes to conventional single family dwellings in 1977 and 1978. Thirty-six percent of the new construction was for out-of-town owners.

Twenty percent of the building permits issued in 1977 and 1978 in the Elsie-Jewell area were to out-of-town owners.

Overall it appears that building activity in the unincorporated County has comprised from 40% - 50% of all new construction in the County since 1970 and about 80% of all new mobile homes.

GRAPH 1

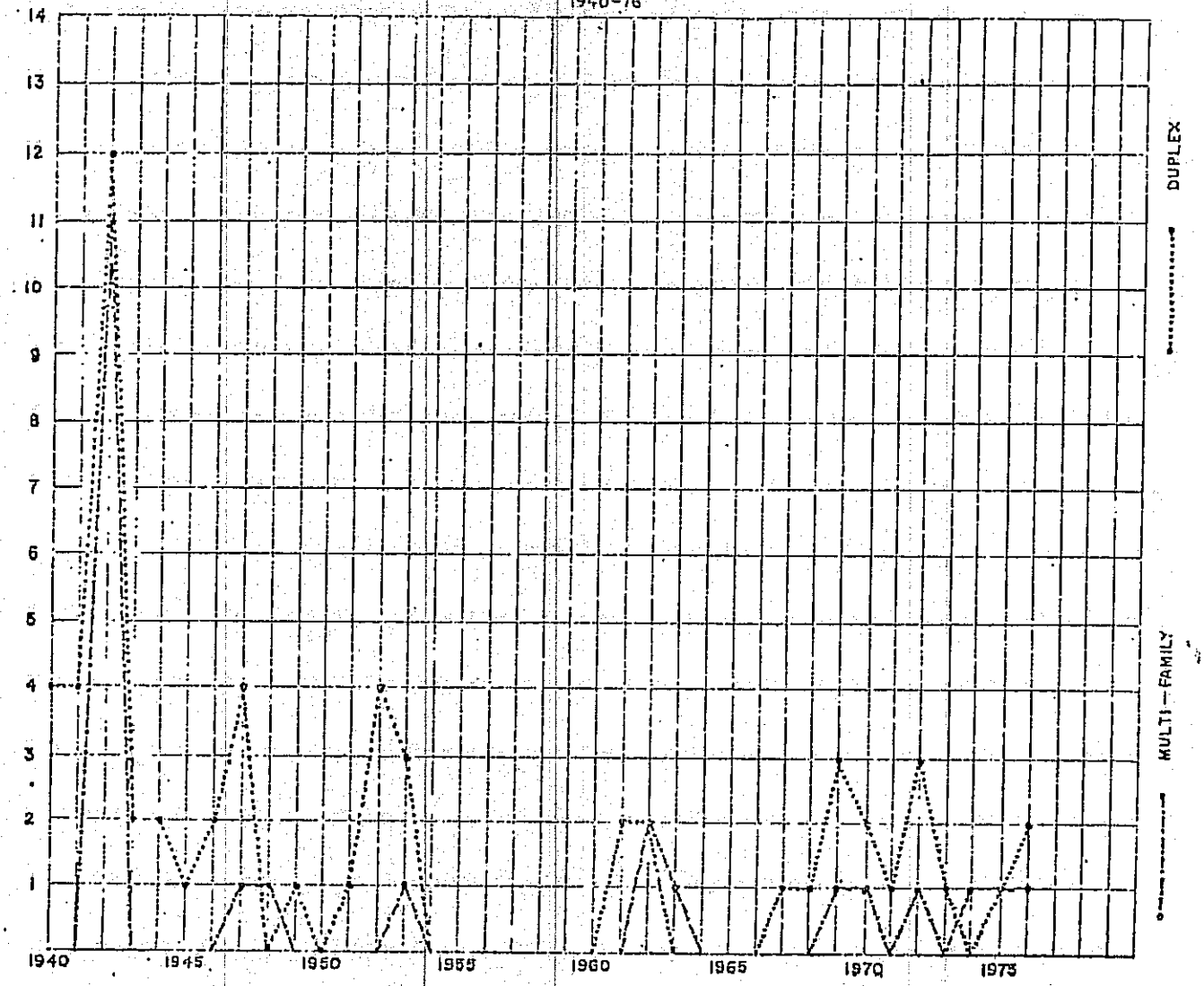
RESIDENTIAL BUILDING ACTIVITY
CLATSOP COUNTY
1940-76



SOURCE CLATSOP COUNTY ASSESSOR'S RECORDS BY YEAR BUILT

GRAPH 2

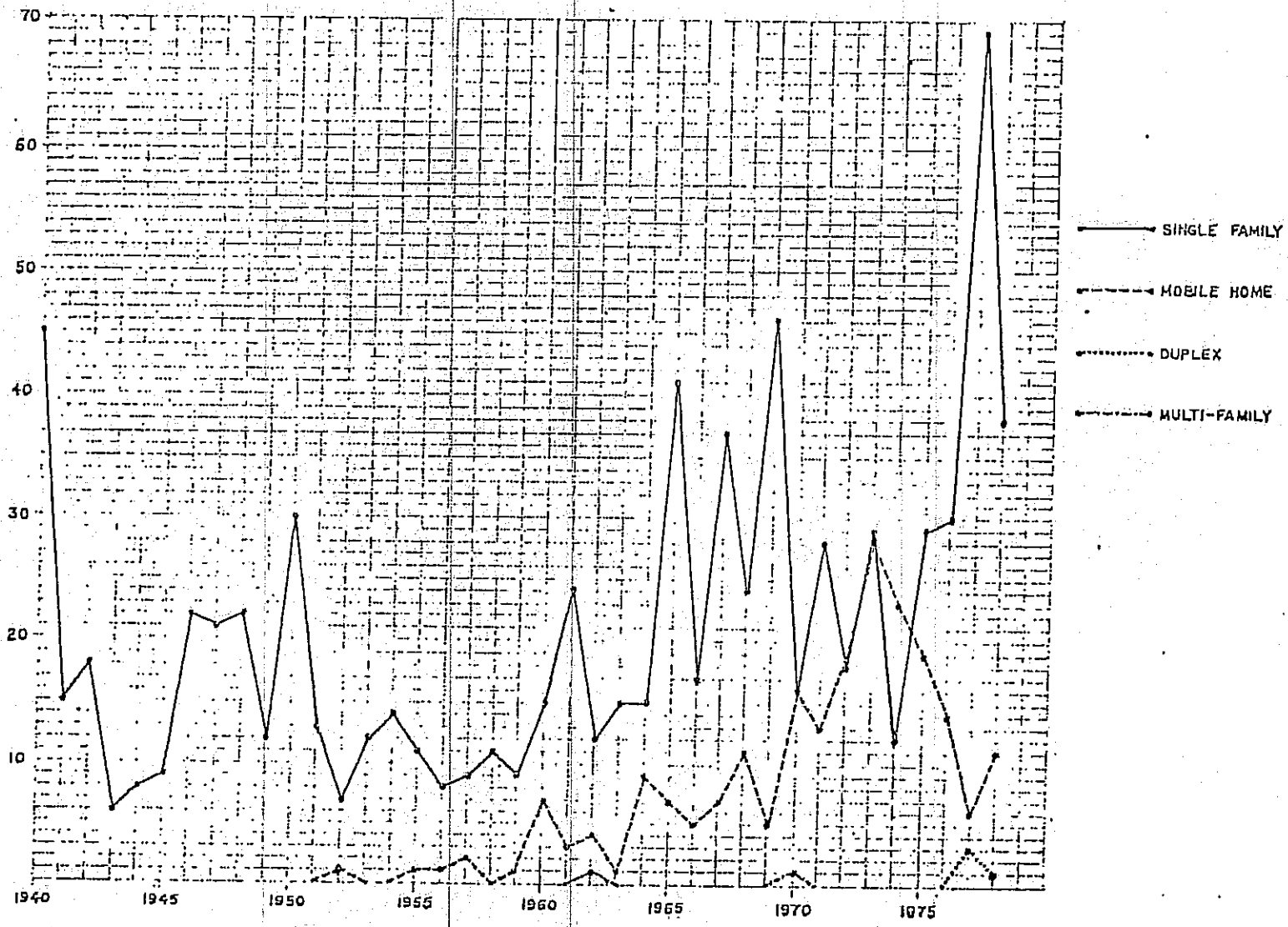
RESIDENTIAL BUILDING ACTIVITY
CLATSOP COUNTY
1940-76



SOURCE: CLATSOP COUNTY ASSESSOR'S RECORDS BY YEAR BUILT

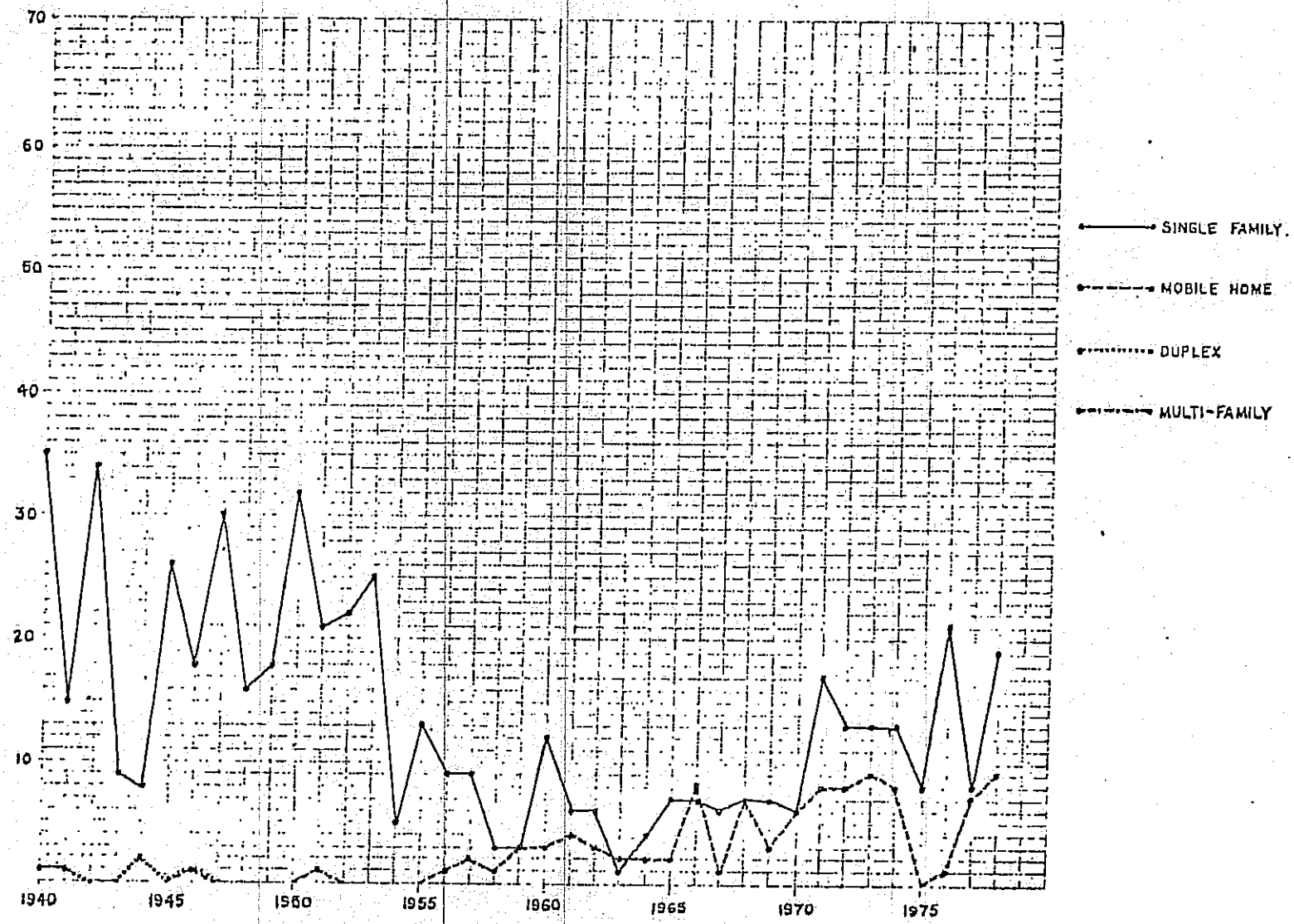
GRAPH 3

RESIDENTIAL BUILDING ACTIVITY
CLATSOP PLAINS
1940—1976



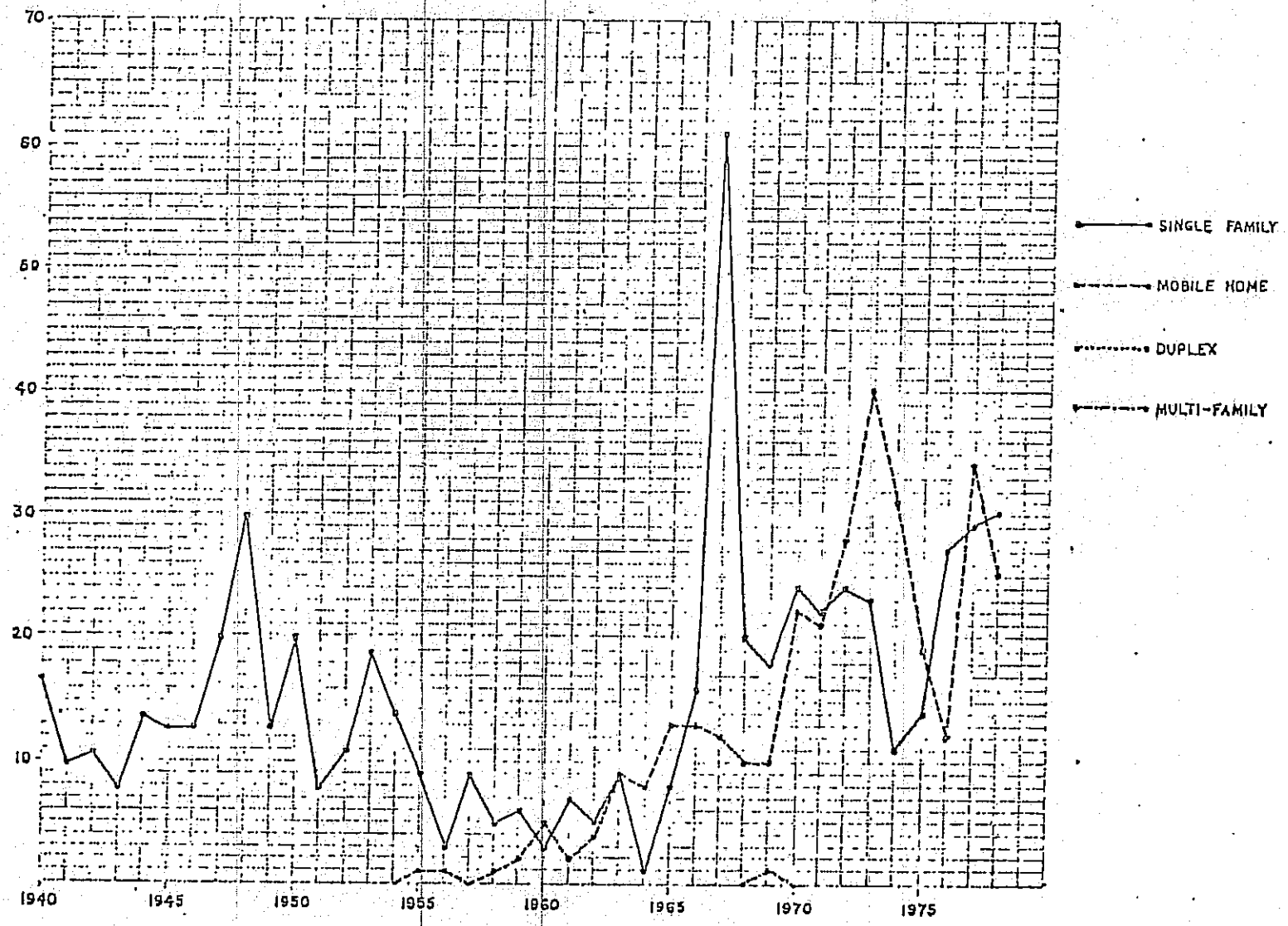
GRAPH 4

RESIDENTIAL BUILDING ACTIVITY
LEWIS & CLARK
1940—1976



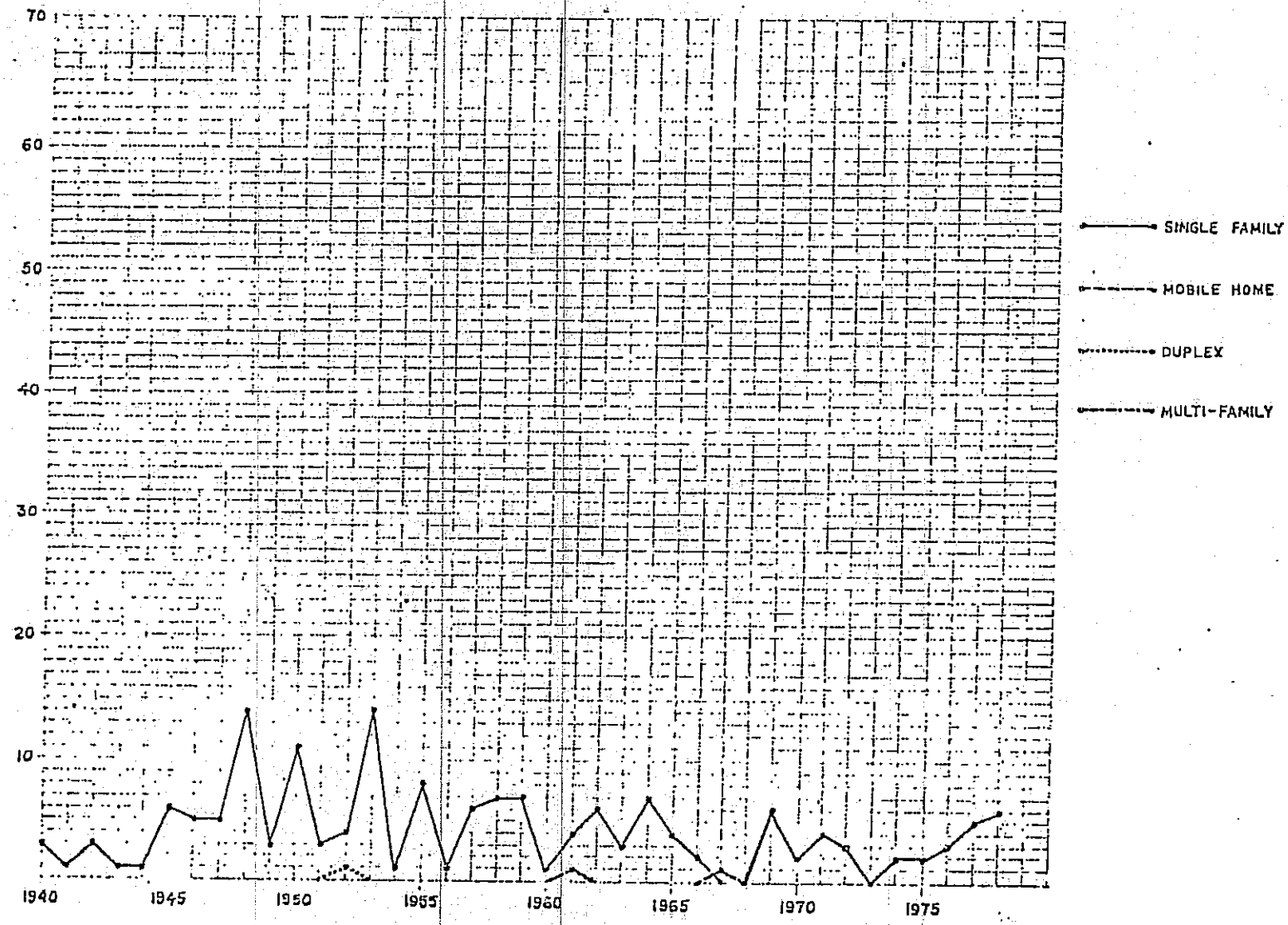
GRAPH 5

RESIDENTIAL BUILDING ACTIVITY
WAUNA / WESTPORT / KNAPPA
1940 — 1976



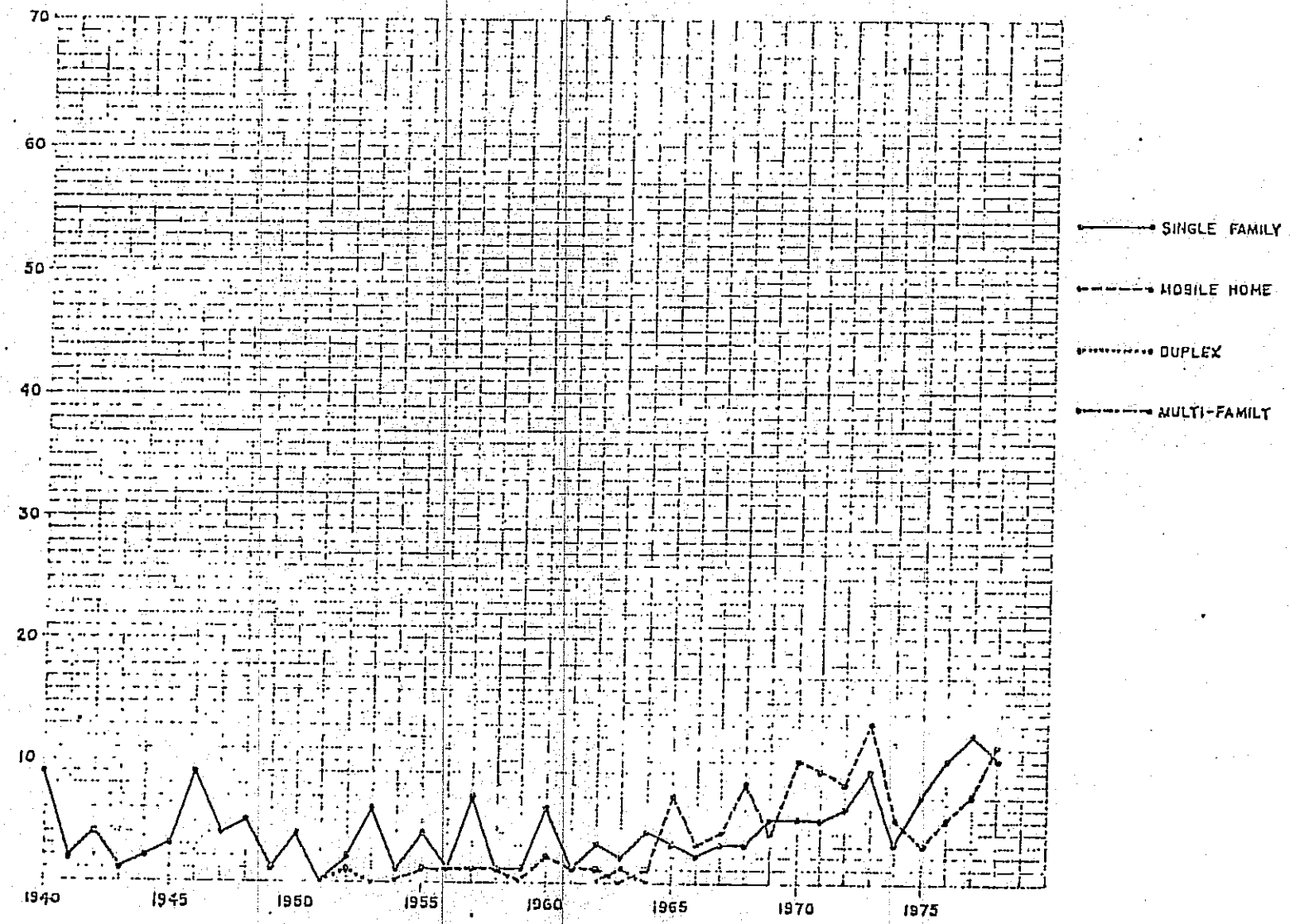
GRAPH 6

RESIDENTIAL BUILDING ACTIVITY
ARCH CAPE
1940—1976



GRAPH 7

RESIDENTIAL BUILDING ACTIVITY
SEASIDE RURAL
1940 — 1976



GRAPH 8

RESIDENTIAL BUILDING ACTIVITY
ELSIE/JEWELL
1940 — 1976

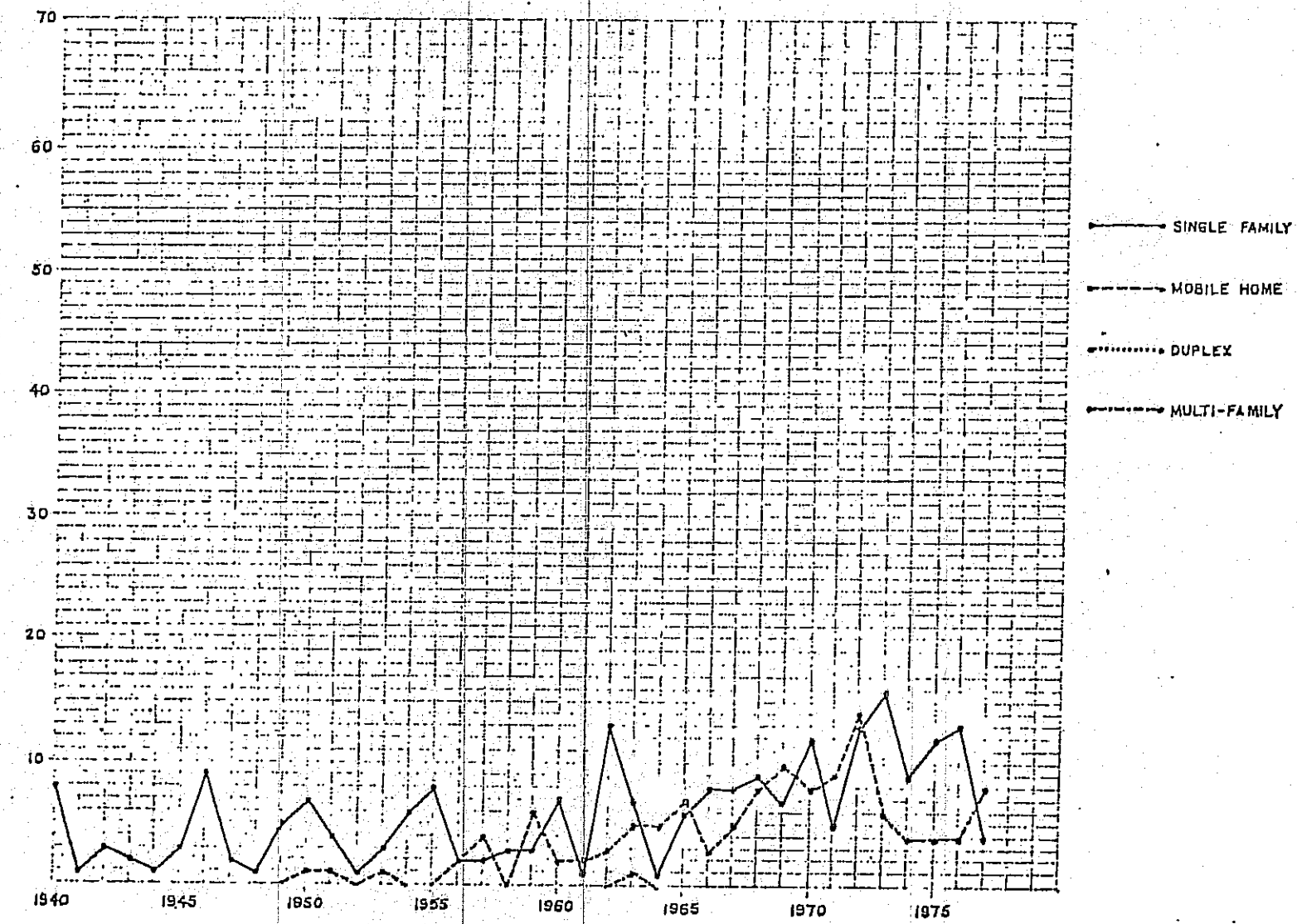


TABLE 17

AVERAGE ANNUAL RESIDENTIAL CONSTRUCTION ACTIVITY
UNINCORPORATED COUNTY

Area	Ave. No. of Conv. Single-Family Dwellings/1960-1978	% of Total	Ave. No. of Mobile Homes 1960-1978	% of Total
Clatsop Plains	29/year	39%	12/year	25%
Northeast	20/year	27%	18/year	38%
Seaside-Rural	4-5/year	5%	6/year	13%
Southwest Coastal	3/year	4%	0	0%
Elsie-Jewell	8/year	11%	6/year	13%
Lewis & Clark	10/year	14%	5/year	11%
TOTAL UNINCORPORATED	75/year	100%	47/year	100%

Residential building activity in the unincorporated County has remained stable over this period as the cities rise and fall. This trend will probably continue for the next 10 years providing an average of between 100-150 building permits each year.

The impact of a new major industry (Brown and Root Pacific Fabricators, for instance) can change the short range picture significantly. According to the "Community Impact Assessment for the Proposed Pacific Fabricators Steel Structure Facility" prepared by the Clatsop County Impact Task Force and CTIC in December of 1978, the unincorporated County will receive approximately 400-500 or more new homes. The results of the report do not indicate the timing of the distribution or which areas would receive the brunt of the new construction. However, they will probably be distributed between Clatsop Plains, Lewis & Clark, and the Northeast County, the latter receiving the lesser amount. (See Section on Impact of Pacific Fabricators.)

DEMOLITION AND CONVERSION

Housing unit losses in the County for the ten-year period from 1960-1970 amount to 110. This is determined by the "demolition abstraction" method recommended by the State Housing Division of subtracting the number of housing units in 1960 from the number of units in 1970. The number of units built during this period is then subtracted from the difference to determine housing units lost.

Demolitions usually occur in the cities where old residential areas are in a period of transition to commercial or industrial uses. This is occurring in both Astoria and Seaside as commercially zoned vacant land becomes scarce and these homes enter the sales market. Conversions are also popular when [illegible] economically feasible, especially to offices and restaurants [illegible]. However, the number of such conversions are not easily ascertainable on building permit records. For the unincorporated areas the numbers of demolitions and conversions are considered negligible according to the Building Department.

TABLE 18

RESIDENCES DEMOLISHED SINCE 1970 - 1977

Astoria: Total = 52+ (Note: The number of apartment units was not recorded in all instances)

1970	1971	1972	1973	1974	1975	1976	1977
2	7 + Apts	2 + Apts	6	10	13	2 + 4 Apts	4

Seaside: Total = 43 () denotes figures which may include buildings other than residences

1970	1971	1972	1973	1974	1975	1976	1977	1978
(14)	(14)	0	(3)	(1)	(1)	(2)	4	4

Yearly losses do not appear significant in comparison with new building construction. However, demolitions would probably not be necessary if homes were adequately maintained and moved to appropriate residential zones when necessary for redevelopment. Much demolition and conversion could be considered a loss of a potential home for a low income household.

HOUSING REHABILITATION

The condition rating used in the section on page__ was field checked in the summer of 1978 by John Mills, Planner, and Glen Jones, Assessor, to help identify clusters of housing which can become target areas for rehabilitation efforts. The system used was adopted from the State Housing Division (See "Condition Rating System" and "Criteria for Evaluation of Condition" in the Appendix). The areas listed below had a large proportion of substandard housing:

1. Svensen -- Township 8 Range 8 Sections 22, 23, and 27.
   Number of substandard units: 54 units.
   Percent of all units (236) in area: 22.9%.

2. Miles Crossing/Jeffers Garden -- Township 8 Range 9 Sections 19 and 30; and Range 10 Section 25.
   Number of substandard units: 50 units.
   Percent of all units (259) in area: 19.3%.

3. Jewell -- Township 5 Range 7 Sections 28 and 32; and Township 4 Range 7 Section 4
   Number of substandard units: 35 units.
   Percent of all units (81) in area: 43.2%.

4. Westport -- Township 8 Range 6 Sections 35 and 36
   Number of substandard units: 28 units.
   Percent of all units (101) in area: 27.7%.

5. Stanley Lake and South Seaside areas -- Township 6 Range 10 Sections 15 and 28
   Number of substandard units: 32 units.
   Percent of all units (105) in area: 30.0%.

The preservation and restoration of this housing stock is essential in order to maintain them in a decent and safe condition. Further degeneration could eventually cause them to reach a point where they will no longer be economical to restore.

Much of the housing was built without permanent foundations, indoor plumbing, insulation, or conventional materials. In addition, much of the housing needing repair is occupied by the low income or elderly who cannot afford repair and maintenance costs.

To assist the situation of the low income homeowners, a number of programs are available for housing rehabilitation.

1. The Community Services Administration (CSA) of the federal government operates a program which grants eligible homeowners up to $350 in labor and materials for home weatherization. This includes such things as repairing roof leaks, insulation, weatherstripping, adjusting or repairing faulty furnaces and hot water heaters, etc. This program is administered in the County by the Area Agency on Aging out of their Camp Rilea office. At least 13 households are on the waiting list at any one time and it is difficult to find volunteer labor. The weatherization program is hoping to receive a Federal Energy Conservation grant which will allow up to $800 per household, which should improve the program immensely.

2. Clatsop and Tillamook Counties also received a federal grant, which is being administered by the Northwest Oregon Housing Association, Inc. (NOHA), to provide deferred payment loans of up to $5,000 to eligible low and moderate income homeowners. The loan is secured by a lien against the property which does not have to be repaid until the owner moves or title is transferred. There is no interest on the loan; only the original amount of the loan is repaid. Repairs may include the installation, repair, or replacement of roofs and siding, floors and walls, electrical and plumbing, foundations and heating systems. At least 38 households are on the waiting list but no loans have been disbursed at this time. It is expected that once the program gets underway there will be more applications than money and the NOHA will be applying for new funds.

3. The Northwest Oregon Housing Association has also been administering the program for the City of Seaside in which a target area was located for a Community Development Block Grant.

4. The Farmers Home Administration 515 is administered in Astoria twice a month. The St. Helens office reveals that nearly 20 persons in Clatsop County have taken advantage of this program. Funds are limited, however, and are quickly exhausted. Loans of up to $5,000 are available at one percent interest to those qualified. An applicant's gross income must be below $6,000/year.

5. Funds for rehabilitation are also disbursed by FmHA under their Rural Housing program, at 9% interest.

6. Some banks offer home rehabilitation loans through the HUD Title I Property Improvement Loan Insurance Program. HUD provides insurance on these loans which carry a 10 to 12 percent interest rate, a 10-12 year term, and a maximum loan amount of $10,000.

These loans and grants have the effect of decreasing the amount a low-income household spends on needed repairs and improving energy conservation in the home. They also help to maintain the housing stock in good condition.

TABLE 19

CLATSOP-TILLAMOOK INTERGOVERNMENTAL COUNCIL
HOUSING ALLOCATION SCHEME
TO 1980
FOR UNINCORPORATED CLATSOP COUNTY

No. of Units	Substandard	Total 1980 Units	CDBG * Rehab Units	FmHA 515	Total Assorted
5035	1396/28%	5325	100	50	150

CTIC staff coordinates housing data-gathering for both Clatsop and Tillamook Counties. In their efforts they compiled the information in the Table above to give direction for administration of various funding programs.

*CDBG (Community Development Block Grants)

EXPECTED HOUSING DEMAND TO THE YEAR 2000

The following anticipated housing demand figures were designed to accomodate the projected growth to the year 2000 and to guide in the provision of sufficient land area for a level of flexibility and freedom in the market place. The figures were computed using the population projections prepared by County staff personnel in July of 1979 and may need revision after the 1980 Census. Seasonal units for the unincorporated county were estimated through the use of past building and occupancy rates. The Southwest Coastal CAC area is expected to receive a larger percentage of recreational homes than they have in the past; the Clatsop Plains area is expected to receive a smaller percentage. (See second homes). The total number of second homes constructed is shown on the decline from an estimated 34/year to approximately 28/year.

TABLE 20
ADDITIONAL HOUSING UNITS NEEDED

CAC PLANNING AREAS	H.H.S.*	YEAR 2000	SEASONAL UNITS	TOTAL
Clatsop Plains	2.2	361	279	640
Northeast County	3.3	573	50	623
Seaside Rural	2.5	55	81	136
Southwest Coastal	2.0	26	49	75
Elsie Jewell	1.8	123	115	238
Lewis & Clark	2.75	297	26	323
TOTAL		1,435	600	2,035

No attempt has been made to distribute the number throughout the twenty-two year period since a housing market analysis every two years such as that contained in this report is a more preferrable method of determining annual needs.

*Household Size.

IMPACT OF PACIFIC FABRICATORS

The Brown and Root project is a proposal by Pacific Fabricators, Inc., a subsidiary of Brown and Root, to build a fabrication yard in Warrenton for constructing off-shore oil well drilling platforms. The construction was scheduled to begin in the Spring of 1979; however, due to delays and uncertainty, the project's starting date has been alternatively scheduled for Spring 1982.

A task force of community members met during the summer of 1978 to refine and improve the information concerning the project's impact on nearby communities that was compiled in an E.I.S. of the project by the U.S. Army Corps of Engineers.

The task force considered both the primary and secondary impacts (direct employment and related services employment) of the project using information provided by Brown and Root as well as from other projects in the country of a similar nature.

The yard is expected to take five years to build with the peak employment in the fourth year. Secondary employment in related services is expected to lag about a year behind direct employment.

Warrenton is expected to take the brunt of the new residents over the first two years; however, the unincorporated County is expected to be "significantly impacted". Three planning areas in the rural County will be in the project's growth area. The number of households and population expected in these areas are given below without an effort to distribute the impact over the five year period.

TABLE 21

BROWN & ROOT IMPACT

	New Households	Household Size	Population	New Housing Units
Clatsop Plains	275	2.7	745	247
Lewis & Clark	140	2.7	375	126
Northeast County	135	2.7	365	122
Total Unincorporated	550	2.7	1485	495

The table above also shows the resulting population from the new households based on an assumed household size of 2.7. The table also shows the number of newly constructed homes needed to accommodate the new residents. This figure assumes that 90% of the 550 households will need to be accommodated through new construction.

Again the table includes both the direct and secondary impacts of employment from the Brown and Root fabrication project, and is based on the "Community Impact Assessment for the Proposed Pacific Fabricators' Steel Structure Facility in Warrenton, Oregon," prepared in December 1978 by the Clatsop County Community Impact Task Force and the Clatsop-Tillamook Intergovernmental Council staff.

SUMMARY OF HOUSING MARKET ANALYSIS

The Housing Market Analysis tables in the Appendix take into consideration a number of factors which influence housing demand, including the existing housing supply, past building permit activity, population and employment projections, vacancy rates, construction rates, and income levels of the population. Due to the rapid change in conditions a market analysis is most effective when used to project the demand for two to three years into the future.

A housing market area is the geographic area within which all dwelling units can be substituted for one another as a competitive alternative and is determined by the transportation system, the number and location of employers, and the size of the labor force. Clatsop County including all of the incorporated cities and unincorporated places can be considered as such an area. The one exception is the Crown Zellerbach Paper Mill in Wauna which attracts 450 workers out of a total 850 at the mill from Longview and Clatskanie. However for this report the employment figures used include the total employment at Wauna.

An area smaller than the total County cannot be used for analysis of housing demand because of a lack of information about employment, income levels, and vacancy rates at any smaller scale.

One problem with using the County as a market area is that the demand for second homes and/or retirement homes (two closely related markets) are unpredictable except on a larger regional basis. Because of this situation, these two types of demand have been treated separately from the more localized demand that is tied to local employment opportunities.

Another market factor that is unique to Clatsop County is the possible location of a steel fabrication yard in Warrenton in the near future. The yard, proposed by Brown & Root, Inc., would directly employ about 1000 people over 5 years.

Tables E-1, E-2, and E-3 in Appendix E give benchmark data and the projections and assumptions used to project housing demand to the year 1980. The results of this data, shown in Table E-4, shows a total of 267 dwellings needed annually plus an additional 90-100 second homes. Rental units needed are estimated to comprise 44% of new construction. Those units most in need are one-bedroom units for $170 - $190 per month and two-bedroom units for $200 - $220. A total of 151 owner occupied units (presumed to be primarily single family units) are projected each year to 1980. The price range determined to be most affordable to persons seeking housing in the area is estimated at $45,000 - $55,000.

The market analysis gives qualitative demand of what price ranges and rent levels will be affordable to people of the area based on estimates of income levels.

SUMMARY OF HOUSING PROBLEMS

1. Inflated home prices - Although sales prices and interest rates are high, sales activity has been very active the last couple of years. It is estimated that 2 out of 3 sales are to current homeowners who are buying to move up for investment purposes, and, anticipating more inflation in the future, are buying now rather than later. This activity affects the prospective home purchaser (buying a home for the first time) adversely--existing homeowners benefit.

2. Rising land prices are the most striking element in higher home prices.

3. Rising interest rates are the most important factor in increasing the difficulty of buying a home for the first time.

4. High construction costs are due primarily to the rising cost of wood and wood products.

5. Shortage of building sites - The lack of public facilities and new development costs have certainly been a factor in the shortage of building sites. Vast stretches of single family detached development (a phenomenon of the automobile age) however, has also contributed. To offset this shortage and to reduce costs of development, many urban areas are turning to clustering and townhouse development.

6. Mobile homes - Because of increased size and better construction methods to make mobile homes more attractive, the price of the mobile home is approaching that of the conventional dwelling.

7. Very "tight" market - Although building construction has been very active, choices are somewhat limited in the housing market.

8. Second homes - Speculating a demand for recreational properties decreases the options for the permanent resident. Those properties most suited for development are generally along the coast in and around the resort towns, where prices tend to be high. The permanent resident is, therefore, forced to compete with the potential vacation home buyer or look elsewhere.

9. Homes are older and sometimes difficult to maintain - Most of the homes in the County are over 30 years old, lack insulation, are too large to heat or too small, and are sometimes difficult to finance. Physical deterioration, however, is not inevitable.

10. Rising home maintenance costs present a major problem for the low income and elderly homeowner.

11. Shortage of rental housing for low-income - Households with fixed incomes are desperately in need of assistance in these inflated times. Many rental units do not meet the standards applied by assistance programs.

APPENDICES

A. Housing Price Survey Results

B. Housing Survey Results

C. Housing Condition Guidelines

D. School Enrollment

E. Housing Market Analysis Tables

F. Formula for Vacation Homes

G. Land Values in Clatsop County

H. Household Income Levels and Distribution

APPENDIX A

HOUSING PRICE SURVEY RESULTS

CONTRACTOR

Questions

1. You are a realtor/saleperson _____, a contractor 8, a bank/savings loan _____, a title company _____, in Astoria 3, Seaside 1, Other 1. Kelso 1

2. What do you think is the average price for a new conventional home (3 bedroom, 1 1/2 bath, about 1,200 sq.ft.)? Circle more than one if you feel there is a range.

$49,000	3	$53,000	2	$57,000	2	Other _____
$50,000	5	$54,000	2	$58,000	1	
$51,000	4	$55,000	5	$59,000	1	
$52,000	4	$56,000	2			

3. What is the average price for an existing owner-occupied home (Same type as above)? Circle more than one if you feel there is a range.

$49,000	4	$53,000	2	$57,000		Other _____
$50,000	1	$54,000	1	$58,000	1	
$51,000	1	$55,000	1	$59,000		
$52,000	1	$56,000	1			

4. What is the lowest price of a new conventional home? (2 bedroom).

$40,000	3	$44,000		$48,000	1	Other _____
$41,000	1	$45,000		$49,000	1	
$42,000	1	$46,000		$50,000	1	
$43,000	1	$47,000	1	Do not build two bedroom	1	

For realtors and contractors:

5. What price has been predominant for the homes you've sold since January 1, 1978?
Average answer: $50,000 - $55,000

5a. What has been the usual number of bedrooms?
_____None _____One _____Two 5 Three _____Four _____Other

6. How many listings/homes do you have for sale at any given time?
1-3 2 7-9 _____ 13-15 1
4-6 _____ 10-12 _____ Other _____

For realtors and contractors (continued):

6a. About how many of these are purchased as second (vacation) homes?

66% (1) None (3)

6b. Where is your clientele from, predominantly?

Local (2) Clatsop Co. (1) 50 mi radius of Portland (1)

7. Do you feel there are portions of the County Zoning and Subdivision Ordinances, County Building Department, Health Department, etc. that are unneccesarily restricting or increasing the cost of housing? Please specify.

Yes (3)

For banks/savings and loan

8. Since January 1, 1978 about what percentage of your applications have been for:

Single family owner occupied _____

Single family renter occupied _____

Multi-family _____

Vacation (second) homes _____

Condominiums _____

For everyone's opinion:

9. What are the three biggest housing problems in the County by rank? (Please list 1st, 2nd, 3rd).

1st	2nd	3rd		1st	2nd	3rd	
	4		escalating land costs				large amount of substandard housing
	2		financing	3	1	1	shortage of building sites
	1		moratoriums				inadequate housing for elderly and low income families
			need for insulation				
			lack of public facilities				Other _____
	1		shortage of rentals				

10. Any other comments?

Too long to file a subdivision.

Financing and building costs too high.

HOUSING PRICE SURVEY RESULTS

BANK/SAVINGS LOAN
TITLE COMPANY

Questions

1. You are a realtor/saleperson _____, a contractor _____, a bank/savings loan 9, a title company 2, in Astoria 5, Seaside 3, Other _____. No response 2

2. What do you think is the average price for a new conventional home (3 bedroom, 1 1/2 bath, about 1,200 sq.ft.)? Circle more than one if you feel there is a range.

$49,000	3	$53,000	7	$57,000	1	Other _____
$50,000	5	$54,000	6	$58,000	1	
$51,000	6	$55,000	6	$59,000	1	
$52,000	5	$56,000	2	60,000	1	

3. What is the average price for an existing owner-occupied home (Same type as above)? Circle more than one if you feel there is a range.

$49,000	4	$53,000	3	$57,000	Other _____
$50,000	5	$54,000	2	$58,000	
$51,000	3	$55,000	2	$59,000	
$52,000	3	$56,000	1		

4. What is the lowest price of a new conventional home? (2 bedroom).

$40,000	1	$44,000	3	$48,000	Other _____
$41,000	2	$45,000	1	$49,000	
$42,000	5	$46,000	1	$50,000	
$43,000	2	$47,000			

For realtors and contractors:

5. What price has been predominant for the homes you've sold since January 1, 1978?

5a. What has been the usual number of bedrooms?
_____None _____One _____Two _____Three _____Four _____Other

6. How many listings/homes do you have for sale at any given time?
1-3 _____ 7-9 _____ 13-15 _____
4-6 _____ 10-12 _____ Other _____

For realtors and contractors (continued):

6a. About how many of these are purchased as second (vacation) homes?

6b. Where is your clientele from, predominantly?

7. Do you feel there are portions of the County Zoning and Subdivision Ordinances, County Building Department, Health Department, etc. that are unneccesarily restricting or increasing the cost of housing? Please specify.

For banks/savings and loan

8. Since January 1, 1978 about what percentage of your applications have been for: No response 3

	20% (1)	85% (1)	90% (1)
Single family owner occupied	94% (1)	98% (1)	100% (1)
Single family renter occupied	2% (1)		
Multi-family			
Vacation (second) homes	2% (1)	10% (1)	80% (1)
Condominiums	5% (1)	4% (1)	

For everyone's opinion:

9. What are the three biggest housing problems in the County by rank? (Please list 1st, 2nd, 3rd).

1st	2nd	3rd		1st	2nd	3rd	
3	2	2	escalating land costs	1	1	2	large amount of substandard housing
2			financing	2	2	1	shortage of building sites
1	1		moratoriums		1		inadequate housing for elderly and low income families
		1	need for insulation	1			
			lack of public facilities				Other Governmental Policies
1	1	2	shortage of rentals				

10. Any other comments?

This information is extremely dubious.

HOUSING PRICE SURVEY RESULTS

REALTOR/SALESPERSON

Questions

1. You are a realtor/saleperson 14, a contractor _____, a bank/savings loan _____, a title company _____, in Astoria 4, Seaside 4, Other _____. No response 4 Beaverton 1

2. What do you think is the average price for a new conventional home (3 bedroom, 1 1/2 bath, about 1,200 sq.ft.)? Circle more than one if you feel there is a range.

$49,000	6	$53,000	6	$57,000	2	Other _____
$50,000	5	$54,000	1	$58,000	1	
$51,000	3	$55,000	3	$59,000	2	
$52,000	3	$56,000	2	65,000	1	
				72,000	1	

3. What is the average price for an existing owner-occupied home (Same type as above)? Circle more than one if you feel there is a range.

$49,000	8	$53,000	2	$57,000		Other $37,500 1
$50,000	8	$54,000	2	$58,000	1	
$51,000	4	$55,000	2	$59,000	1	
$52,000	2	$56,000		72,000	1	

4. What is the lowest price of a new conventional home? (2 bedroom).

$40,000	8	$44,000	1	$48,000		Other _____
$41,000		$45,000	2	$49,000		
$42,000	1	$46,000	1	$50,000	1	
$43,000	2	$47,000	1	62,000	1	

For realtors and contractors:

5. What price has been predominant for the homes you've sold since January 1, 1978? Average answer: $45,000 - $50,000

5a. What has been the usual number of bedrooms?
_____ None _____ One 1 Two 11 Three 2 Four _____ Other

6. How many listings/homes do you have for sale at any given time?
1-3 2 7-9 1 13-15 2
4-6 5 10-12 3 Other 50+ 1

For realtors and contractors (continued):

6a. About how many of these are purchased as second (vacation) homes?
5% (2) 10% (2) 20% (1) 60% (1) None (4) No response (4)

6b. Where is your clientele from, predominantly? No response (3) Warrenton (1) Varied (2) Portland (2) Seattle (1) Astoria (3) So. County (1) Seaside (1)

7. Do you feel there are portions of the County Zoning and Subdivision Ordinances, County Building Department, Health Department, etc. that are unneccesarily restricting or increasing the cost of housing? Please specify.

No (3)
Yes (3)
No response (8)

For banks/savings and loan

8. Since January 1, 1978 about what percentage of your applications have been for:

Single family owner occupied _____

Single family renter occupied _____

Multi-family _____

Vacation (second) homes _____

Condominiums _____

For everyone's opinion:

9. What are the three biggest housing problems in the County by rank? (Please list 1st, 2nd, 3rd).

1st	2nd	3rd		1st	2nd	3rd	
	1	5	escalating land costs	1	1	1	large amount of substandard housing
3	2		financing	1	2	3	shortage of building sites
4			moratoriums	4			inadequate housing for elderly and low income families
			need for insulation				
		1	lack of public facilities	2			Other Gov't red tape People don't qualify
1	2		shortage of rentals				

10. Any other comments?

The cost of land and housing is way out of reach for most people.
Moratoriums help create shortages and escalating land costs.
Would like results of this survey!
Nice start on a hard job.
FHA, State GI over-appraising land - Gov't subsidy programs are driving costs up.

APPENDIX B

Housing Survey Results
Clatsop Plains

4. Now, I'd like to ask you a few questions about the construction of your home or apartment.

Good Condition	Needs Minor Repair	Needs Major Repair	Don't Know	
55 (92%)	3 (5%)	1 (2%)	1 (2%)	Heating
55 (92%)	3 (5%)	1 (2%)	1 (2%)	Electrical Wiring
55 (92%)	3 (5%)	1 (2%)	1 (2%)	Plumbing
57 (95%)	2 (3%)	1 (2%)		Roof
56 (93%)	3 (5%)	1 (2%)		Exterior Walls & Siding
48 (80%)	2 (3%)	1 (2%)	9 (15%)	Foundation

5. Do you feel that the amount of insulation and other weatherization in your home is adequate or inadequate at the present time?

Adequate - 38 (70%) Inadequate - 16 (30%) No Answer - 6

5a. And, why is that? Specify.

1-need ceiling insulation
1-needs insulation on skirting
5-need more insulation
1-need storm windows
1-cracks in door jam cause leaking of cold air in old house
1-none in attic
1-old house, would cost too much to insulate

6. Is there anything about the construction or functioning of your home or apartment that is so objectionable that you would like to move out?

Yes - 6 (11%) No - 50 (89%) No Answer - 4

6a. And, why is that? Specify.

1-electrical bill too high
1-poor house construction
1-dry well

11. Finally, what is the most important repair, if any, you would like done to your dwelling?

Roof - 1 (2%)
Foundation - 2 (4%)
Insulation - 10 (20%)
Electrical - 0
No Anwer - 6
Plumbing - 2 (4%)
Heating system - 0
Painting - 29 (57%)
Other - 7 (14%)

Comments: 1-need to finish house
1-roof, gutters
1-build on porches
1-put in cement foundation
1-sunken living room needs fixed

Housing Survey Results
Wauna-Westport/Knappa-Svensen
Representing 8% of the Households

4. Now, I'd like to ask you a few questions about the construction of your home or apartment.

Good Condition	Needs Minor Repair	Needs Major Repair	Don't Know	
75 (91%)	3 (4%)	3 (4%)	1 (1%)	Heating
76 (93%)	5 (6%)		1 (1%)	Electrical Wiring
76 (93%)	4 (5%)	1 (1%)	1 (1%)	Plumbing
69 (84%)	9 (11%)	3 (4%)	1 (1%)	Roof
72 (88%)	9 (11%)		1 (1%)	Exterior Walls & Siding
73 (89%)	6 (7%)	2 (2%)	1 (1%)	Foundation

5. Do you feel that the amount of insulation and other weatherization in your home is adequate or inadequate at the present time?

Adequate - 54 (73%) Inadequate - 20 (27%) No Answer - 8

5a. And, why is that? Specify.

1-no thermal pane windows
3-could use storm windows
10-only partly insulated
1-half of what it should be
2-no insulation at all
1-walls are substandard and inadequate
1-took out most windows and put in weather stripping
1-have insulation everywhere but not thick enough
1-new house, insulation in walls and ceiling

6. Is there anything about the construction or functioning of your home or apartment that is so objectionable that you would like to move out?

Yes - 9 (12%) No - 65 (88%) No Answer - 8

6a. And, why is that? Specify.

1-boats travel up & down the river so fast, it is erroding the bank, afraid the house will slide into the John Day River
1-leaking roof, converted basement, very old

11. Finally, what is the most important repair, if any, you would like done to your dwelling?

Roof - 5 (7%)
Foundation - 3 (4%)
Insulation - 8 (11%)
Electrical - 0
No Answer - 6

Plumbing - 0
Heating system - 0
Painting - 38 (52%)
Other - 19 (26%)

Comments:
2-kitchen remodeling
1-storm windows
2-front porch
1-everything minor
1-water system
1-insulation
1-releveling
1-remodel bathroom
1-replace windows
1-improving house to conserve heat
1-paint exterior siding
1-thermostat moved away from fireplace, sliding door
1-disconnect phone so won't be bothered with surveys
1-landscaping

Housing Survey Results
Lewis & Clark

4. Now, I'd like to ask you a few questions about the construction of your home or apartment.

Good Condition	Needs Minor Repair	Needs Major Repair	Don't Know	
58 (94%)	2 (3%)	2 (3%)		Heating
57 (92%)	2 (3%)	3 (5%)		Electrical Wiring
52 (84%)	8	2 (3%)		Plumbing
54 (87%)	4 (6%)	4 (6%)		Roof
50 (81%)	8 (13%)	4 (6%)		Exterior Walls & Siding
51 (82%)	5 (8%)	3 (5%)	3 (5%)	Foundation

5. Do you feel that the amount of insulation and other weatherization in your home is adequate or inadequate at the present time?

Adequate - 36 (67%) Inadequate - 18 (33%) No Answer - 8

5a. And, why is that? Specify.

1-needs insulation under house so moisture doesn't set in
1-needs insulation everywhere
1-don't need any at all
1-can't afford it
2-needs storm windows
4-needs more insulation and other weatherization
1-new house, built to code & better
1-hasn't lived here long enough to know

6. Is there anything about the construction or functioning of your home or apartment that is so objectionable that you would like to move out?

Yes - 5 (9%) No - 51 (91%) No Answer - 6

6a. And, why is that? Specify.

1-total house in poor shape
1-taxes too high
1-hates plastered walls
1-needs enlarged

11. Finally, what is the most important repair, if any, you would like done to your dwelling?

Roof - 5 (10%)
Foundation - 4 (8%)
Insulation - 7 (14%)
Electrical - 1 (2%)
No Answer - 4
Plumbing - 2 (4%)
Heating system - 1 (2%)
Painting - 23 (46%)
Other - 9 (18%)

Comments: 1-finish upstairs
1-replace windows that are old fashion
1-enclose the porch
1-add a wood roof to mobile home
1-replace aluminum sidings
1-brand new
1-windows
1-foundation

Housing Survey Results
Jewell - Elsie
Representing 5% of the Households

4. Now, I'd like to ask you a few questions about the construction of your home or apartment.

Good Condition	Needs Minor Repair	Needs Major Repair	Don't Know	
21 (91%)	1 (4%)		1 (4%)	Heating
21 (91%)	1 (4%)		1 (4%)	Electrical Wiring
21 (91%)		1 (4%)	1 (4%)	Plumbing
20 (85%)	1 (4%)		2 (9%)	Roof
21 (91%)		1 (4%)	1 (4%)	Exterior Walls & Siding
20 (85%)		1 (4%)	2 (9%)	Foundation

5. Do you feel that the amount of insulation and other weatherization in your home is adequate or inadequate at the present time?

Adequate - 16 (89%) Inadequate - 2 (11%) No Answer - 5

5a. And, why is that? Specify. 1-need more insulation.

6. Is there anything about the construction or functioning of your home or apartment that is so objectionable that you would like to move out?

Yes - 1 (6%) No - 17 (94%) No Answer - 5

6a. And, why is that? Specify. 1-water taste stinky

11. Finally what is the most important repair, if any, you would like done to your dwelling?

Roof - 3 (16%)
Foundation - 0
Insulation - 0
Electrical - 0
No Answer - 0

Plumbing - 1 (5%)
Heating system - 0
Painting - 12 (63%)
Other - 3 (16%)

Comments: 1-build a wooden floor
1-eves and roofs

APPENDIX C

HOUSING CONDITION GUIDELINES

1. Standard Unit: A standard unit is a dwelling unit that has a central heating system and a plumbing system complete with hot water and indoor toilet facilities that are reserved for the exclusive use of single household. In addition, the structure should have no visual defects or only slight defects that could be repaired by the average homeowner during the course of regular home maintenance. Slight defects would include the following:

   --Lack of paint
   --Slight crumbling of mortor between bricks
   --Small cracks
   --One or more broken windows
   --Broken gutters or downspouts
   --Missing roofing material over a small area

2. Marginal Unit: A marginal unit is a dwelling unit that has a central heating system and a plumbing system complete with hot water and indoor toilet facilities that are reserved for the exclusive use of a single household. In addition, the structure should have no more than one or two major defects which would indicate a prolonged lack of regular home maintenance and which could not usually be repaired by the average homeowner. Major defects would include the following:

   --Holes, open cracks and rotted, loose or missing material in the foundation, walls or roof over a substantial, but not overly large, area
   --Several broken windows and cracked or broken frames
   --Broken or missing doors
   --Broken or otherwise unsafe porches, stairs, etc.

3. Substandard Unit: A substandard unit is a dwelling unit that lacks a central heating system or has a plumbing system that is not reserved for the exclusive use of a single household or is lacking hot water or indoor toilet facilities. A substandard unit is also one which has several major defects (see 2 above) or one or more critical defects which would prevent the structure from providing safe and adequate shelter. Critical defects would include the following:

   --Holes, open cracks and rotted, loose or missing material in the foundation, walls or roof over a large area
   --Substantial sagging of the floor, walls or roof
   --Extensive and unrepaired damage by storms; i.e., floods, winds, wind-driven rains, etc.
   --Damaged and unsafe chimney
   --Inadequate original construction--tents, huts with dirt floors or no foundations, barns, or converted garages.

Source: Handbood for Housing Data Collection, Oregon State Housing Division.

APPENDIX D

TABLE D-1

SCHOOL ENROLLMENT - SEPTEMBER REPORTS

SCHOOL DISTRICT	1970	1972	1975	1978	CHANGE 1970 to 1978	
Astoria (1-C)	2500	2338	1953	1722	-778	(31%)
Seaside (10)	1487	1402	1386	1501	+ 14	1%
Warrenton/ Hammond (30)	647	634	619	676	+ 29	4.5%
Lewis & Clark (5)	415	389	356	328	- 87	(21%)
Olney (11-C)	62	58	44	64	+ 2	3%
Northeast Co. (5J)	774	799	773	745	- 29	(3.5%)
Jewell (8)	96	110	107	109	+ 13	13.5%
PRIVATE SCHOOLS						
Lewis & Clark Assembly of God			35	87	+ 52	149%
Star of the Sea	120			174	+ 54	45%

NOTE: In 1978 most of the schools in the County added kindergarten grade. This added an age group of children that were not going to school in earlier years. In order to look at growth in the same age group over time, the kindergarten grade in 1978 is not counted above.

It is important to note that these schools all have several grades (1-12) and that some of these grades have seen rapid growth while others have declined. For example, the high school in Northeast Co. has doubled in students since 1970 while the much larger enrollment in the lower grades has declined slightly.

APPENDIX E

HOUSING MARKET ANALYSIS TABLES

Table E-1 shows the "bench mark data" that the Market Analysis is based upon. As these variables change the demand will also necessarily change.

TABLE E-1 BENCHMARK DATA

CURRENT ESTIMATES AND PROJECTIONS

	1960	1970	Current Jul. 1,1978	Projected Jul. 1,1980
Labor Force	9740	12,540	14,400	14,800
Unemployment Rate	8.7%	9.2%	7.20%	7.432%
Employment	8893	11,387	13,363	13,557
Participation Rate	0.356%	0.440%	0.457%	0.462%
Population	27,300	28,473	31,462	32,000
Household Size	2.823%	2.683%	2.604%	2.54%
Households	9448	10,205	12,082	12,598
Owner Ratio	0.664%	0.668%	0.668%	
Vacancies	2944	2297	3021	
Available	911	538	395	
Sales Rate	2.49%	1.66%	1.6%	
Rental Rate	19.37%	11.11%	4.9%	
Seasonal & Other Vac.	2033	1759	2626	
Inventory	12,392	12,502	15,103	

Source: State Employment Division, and Housing Report, 1978.

TABLE E-2

AVERAGE ANNUAL CHANGES

	1960 - 1970		1970-Current		Current-Projected	
	Rate	No.	Rate	No.	Rate	No.
Labor Force	2.874	280	1.854	232	1.389	200
Employment	2.799	249	2.169	247	0.726	97
Population	0.428	117	1.312	373	0.854	269
Households	0.771	76	2.299	235	2.135	258
Inventory		11		325		

In the following Quantitative Demand table the final figure was obtained by taking the household growth from 1978 to 1980 plus losses of houses due to demolitions, minus excess vacancies, minus excess houses under construction, minus mobile home demand and divided by two years to give the annual estimated demand. The figures in parenthesis on the right give the assumptions used. After "construction rate" the (3.0) and (9.0) indicate the number of months needed to construct a single family and multi-family structure respectively.

TABLE E-3

CLATSOP COUNTY
ESTIMATED NET QUANTITATIVE DEMAND

	Total	Owner	Renter	
Household Growth	516	345	171	(0.668)
Shift in Tenure		0	0	
Net Losses	28	20	8	(0.700)
Current Avail. Vacant	395	157	238	(1.6)(4.9)
Target Vacancies	367	147	220	(1.5)(4.5)
Excess (-) Vacancies	-28	-10	-18	
Under Construction	120	114	6	
Desirable Constr. Rate	138	59	80	(3.0)(9.0)
Excess (-) Constr.	18	-55	74	
Mobile Home Demand	-150	-128	-22	(0.850)
Net Quantitative Demand	384	173	213	
Annual Quant. Demand	192	87	107	

Implied Owner Ratio on Forecast Date = .649012

The three tables above give benchmark data and the projections and assumptions used to project housing demand to the year 1980. The price and rent distributions in the next two tables were derived from income distribution figures. (See Income Distribution) The Annual Changes Table above shows a slight drop in the rate of population and Labor Force. It also shows a steady decline in household size because of more single households and more elderly. Another factor is the increasing number of "delayed" families, people who have put off having children, and childless couples.

TABLE E-4

ESTIMATED ANNUAL DEMAND FOR NEW NON-SUBSIDIZED HOUSING

Owner-Occupied Units

Price Class	Number of Houses	Percent of Total
Under $45000	14	9.0
$45000 - 49999	40	26.9
50000 - 54999	40	26.9
55000 - 59999	7	4.5
60000 - 64999	19	13.3
65000 - 69999	14	9.0
70000 - 74999	7	4.5
75000 - 79999	9	5.9
TOTAL	151	100.0

TABLE E-4 (cont'd)

Rental Units

Gross Monthly Rent	Efficiencies	One Bedroom	Two Bedrooms	Three or More Bedrooms
Under - $150	10	0	0	0
$150 - 159	0	0	0	0
160 - 169	0	0	0	0
170 - 179	0	20	0	0
180 - 189	0	15	0	0
190 - 199	0	10	0	0
200 - 209	0	5	15	0
210 - 219	0	5	10	0
220 - 229	0	0	5	0
230 - 239	0	0	5	0
240 - 249	0	0	5	0
250 - 259	0	0	5	0
260 - 269	0	0	0	0
270 - 279	0	0	0	0
280 - 289	0	0	0	0
290 - 299	0	0	0	0
300 - 309	0	0	0	9
310 - 319	0	0	0	0
320 - 329	0	0	0	0
340 and Over	0	0	0	0
TOTAL	10	55	45	9 = 118

Source: HUD

Housing construction for seasonal occupancy (second homes) creates an additional and significant demand for new single family units in Clatsop County. This demand is not reflected in household growth and so is not included in the quantitative or qualitative demand for single family housing above. The volume of seasonal construction is difficult to measure but for this report (see Second Home Demand Section) the estimated annual demand for Clatsop County (incl. cities) to July 1, 1980 is estimated as 90-100 second homes per year.

Table E-5 below was used as a check of past trends against the figures generated for the market analysis. The total market area had an average of 242 new single family units constructed per year over the 7 years shown.

TABLE E-5

BUILDING CONSTRUCTION FOR SINGLE FAMILY RESIDENCES

	Mobile Homes	Conventional Single Family
1970	68	115
1971	67	155
1972	85	145
1973	108	225
1974	78	121
1975	68	165
1976	58	235
	532 (ave.=76)	1161 (ave.=166)

(Total ave. = 242)

Source: Assessor's Records - Year Built

The market analysis estimate of 151 owner-occupied units plus the demand for 90-100 second homes per year totals an estimated demand for 241-251 new single family units per year up to 1980. Because the market analysis is based strongly on past trends, the result is confirmation that the benchmark information and assumptions that were used represent a fair model of the actual situation.

The demand for condominiums includes both seasonal and permanent occupancy. No attempt has been made here to distinguish the demand for this type of housing from single family housing. In other words, the demand for condominiums is incorporated within the demand for single family units both seasonal and permanent.

APPENDIX F

FORMULA FOR VACATION HOMES

Procedure

The number of second homes in Oregon was determined by using the 1970 Census of Housing "Detailed Housing Characteristics, Oregon". To determine the number of units per county, the following formula was employed : SECOND HOMES = "SEASONAL AND MIGRATORY" UNITS + "OTHER VACANT" UNITS - "UNITS HELD FOR MIGRATORY WORKERS".

"Seasonal" units are defined as : "... units intended for occupancy during only certain seasons of the year. Included are such units intended for recreational use as beach cottages and hunting and fishing cabins; units offered to vacationers in the summer for summer sports or in the winter sports ..."[148]

"Migratory" units are defined as : "... vacant units held for occupancy by migratory labor employed in farm work during the crop season."[149]

"Other vacant" units are defined as "... units held for personal reasons of the owner."[150]

The proportional distribution of second homes by county was derived by determining location quotients for each county. Location quotients are described in the next section of the chapter. To avoid redundancy, only the formula will be discussed at this time. The formula for a location quotient is :

$$\text{LOCATION QUOTIENT} = \frac{x/y}{x^1/y^1}$$

where : x = the number of second homes in a specific county
y = the total number of housing units in that county
x^1 = the total number of second homes in Oregon
y^1 = the total number of housing units in Oregon

148 U. S. Department of Commerce, U.S. Bureau of the Census, 1970 Census of Housing, "Detailed Housing Characteristics", Oregon, 1972, Appendix B, App. 6.

149 Ibid.

150 Ibid.

coastal counties adjacent to or in relative proximity to the state's metropolitan areas. They are Lincoln, Tillamook and Clatsop. The second cluster is located in central and north central Oregon. These counties are Jefferson, Grant, Sherman, Gilliam and Morrow.

Table F-1: The Proportional Distribution, in Rank Order, of Second Homes in Oregon – 1970

County	Location Quotient– Proportional Distribution	Corresponding Rank in Absolute Distribution
Wallawa	10.20	10
Tillamook	8.69	2
Gilliam	7.34	28
Lincoln	6.65	1
Grant	5.39	15
Morrow	4.80	23
Sherman	4.00	34
Clatsop	3.70	5
Jefferson	3.60	20
Wheeler	3.50	36
Deschutes	3.39	6
Lake	3.17	26
Union	2.80	14
Klamath	2.70	4
Harney	2.50	29
Baker	2.47	17
Malheur	1.91	16
Umatilla	1.86	8
Crook	1.69	31
Hood River	1.60	25
Curry	1.13	33
Wasco	1.13	24

ounty	Location Quotient- Proportional Distribution	Corresponding Rank in Absolute Distribution
Clackamas	1.10	3
Josephine	1.08	18
Douglas	.91	12
Linn	.82	13
Jackson	.69	11
Yamhill	.69	22
Columbia	.57	32
Marion	.56	9
Lane	.52	7
Coos	.47	21
Benton	.44	27
Polk	.26	35
hington	.26	19
ltnomah	.03	30

ce : U.S. Department of Commerce, U.S. Bureau of the Census, 1970 Census of Housing, "Detailed Housing Characteristics" : Oregon, HC (1) B 39, Table 60, pp. 99-107.

Data for Appendix F from: Oregon Second Homes: A Market Analysis of Recreational Vacation Homes. Donald Ulrich, Univ. of Oregon. Winter, 1973.

Table F-2: The Absolute Number, in Rank Order, of Second Homes in Oregon - 1970

County	# of Vacation Homes	% of Total Vacation Homes
1. Lincoln	1,797	10.7
2. Tillamook	1,569	9.4
3. Clackamas	1,360	8.1
4. Klamath	1,126	6.7
5. Clatsop	1,058	6.3
6. Deschutes	870	5.2
7. Lane	818	4.9
8. Umatilla	683	4.1
9. Marion	677	4.0
10. Wallowa	614	3.7
11. Jackson	548	3.3
12. Douglas	491	2.9
13. Linn	462	2.8
14. Union	451	2.7
15. Grant	340	2.0
16. Malheur	330	2.0
17. Baker	324	1.9
18. Josephine	323	1.9
19. Washington	289	1.7
20. Jefferson	248	1.5
21. Coos	211	1.3
22. Yamhill	209	1.2
23. Morrow	193	1.2
24. Wasco	186	1.1
25. Hood River	177	1.1
26. Lake	175	1.0
27. Benton	173	1.0
28. Gilliam	160	1.0

County	# of Vacation Homes	% of Total Vacation Homes
29. Harney	151	0.9
30. Multnomah	148	0.9
31. Crook	143	0.9
32. Columbia	124	0.7
33. Curry	121	0.7
34. Sherman	80	0.5
35. Polk	75	0.4
36. Wheeler	64	0.4
Quartiles		
First	9,958	59.4
Second	3,883	23.1
Third	1,861	11.1
Fourth	1,066	6.4
Total	16,768	100.0

source : U.S. Department of Commerce, U.S. Bureau of the Census, 1970 Census of Housing, "Detailed Housing Characteristics" : Oregon, HC (1) B39, Table 60, pp. 99-107.

tions, the second preference to be for lake amenities, and the third to be for gulf features.[160]

Table F-3: Income as Related to Types of Amenities Demanded for Second Home Location

Feature	$10,000	$10,000-14,999	$15,000-24,999	$25,000+
Mountains	22.6	24.6	27.0	5.3
Lake	41.5	47.7	27.0	15.8
Desert	3.8	0.0	2.7	0.0
Ocean	18.9	9.2	18.9	63.2
Marsh	0.0	0.0	0.0	0.0
Flat inland	5.7	3.1	5.4	5.3
Primitive	3.8	13.9	13.5	0.0
Gulf	0.0	0.0	2.7	10.5
Other	3.8	1.5	2.7	0.0

source : Future Second Homes, Midwest Research Institute, 1971.

Distance from Primary Home

The distance between the natural amenities demanded for second home locations and the primary residence of the potential purchaser of a second home will help determine the market potential for second home development in the areas under study. In general, the larger the metropolitan area in which a potential second home owner lives, the greater the traveling distance necessary for attaining environmental amenities. If past trends are any indication, this distance may be expected to increase.

It is safe to assume, however, that the necessity for traveling greater distances will not deter the potential

160 Midwest Research Institute, Future Second Homes, pp. 382, 383.

that about two-fifths of the second home owners in the southern United States live in excess of 200 miles from their second home. In the north central and north eastern regions, second homes are more likely to be located within 100 miles of the primary home and, in the west, they are usually located from 50 to 200 miles from the owner's primary residence.[165]

Table F-4: Travel Distance Between Primary and Second Homes

Distance	U.S.	N.East	N.Central	South	West
<50 miles	30	43	25	25	17
50-100 miles	28	25	36	18	33
100-200 miles	21	19	15	19	36
200+ miles	21	13	24	38	14

Source : U.S. Department of Commerce, U.S. Bureau of the Census, Second Homes in the United States, 1969, p. 5.

Other Determinants of Location

Although environmental amenities, most specifically water and mountain features, along with relative proximity to the primary home tend to define the demand for a specific second home site, other salient considerations exist.

The Midwest Research Institute survey indicates that about 21 percent of all western second home owners purchased their unit for investment purposes. This compared to about 20 percent on the national scale.[166] The proximity of relatives or friends who own a second home in an area will also influence the potential purchaser's choice of location.[167]

165 U.S. Department of Commerce, U.S. Bureau of the Census, Second Homes, 1969, p. 5.

166 "Future Second Homes", Midwest Research Institute, p. 369.

167 Ibid.

APPENDIX G

1977 Land Values in Clatsop County

Land Types	Ave. Yearly % Increase 1974-1977	Values per Acre
Farmland		
1,2,3,4, Soils		$ 1,000 to $ 1,500
Dike Tideland		800 to 1,200
Non Tillable (hills, brush lots)		500 to 1,000
Rural Tracts	21% improved	2,000 to 4,000
5 to 10 Acres	20% unimproved	1,000 to 2,500
1 Acre Home Site	21% improved	8,000 to 10,000
	20% unimproved	5,000 to 8,000
100' x 100' Knappa	18% improved	3,000 to 6,000
Ocean Frontage	4% improved	Surf Pines 12,000 to 15,000 120' x 300' to 600'
	19% improved	Arch Cape 30,000 to 35,000 50' x 100'
	19% improved	Falcon Cove 40,000 100' x 100'
Ocean View	19% improved	Surf Pines 7,500 100' x 100'
		Arch Cape 18,000 to 22,000 50' x 100'
		Falcon Cove 15,000 to 20,000 100' x 100'
Recreation/Water Lots		Cullaby Lake (Smith Lake property is somewhat lower in value)
	19% improved	canal, 15,000 to 20,000
	19% improved	water, 25,000 to 35,000 90' x 100'
	19% improved	proximity to area, 10,000 to 12,000
		Necanicum/Nehalem River 12,000 to 20,000 1 acre
Commercial Lots		North of Gearhart 12,750 to 15,000 1 acre
		Knappa/Svensen Area 10,000 to 15,000 ½ acre

NOTE: Improved property has road access, water and septic tank.

Source: Estimated by Dick Robertson, Assessor's Office, Clatsop County.

APPENDIX H

Household
Income Levels and Distribution

The following income after tax tables were determined through information obtained from HUD. An example of how this table reads is "in 1978, 20% of the renters in the County had an income after taxes of $5904.88."

TABLE H-1

CLATSOP COUNTY
1969
AFTER TAX INCOME BY DECILES

DECILES	FAMILIES	RENTERS
1	3019.87	2635.73
2	4694.27	4097.15
3	6107.66	5389.81
4	7488.46	6608.33
5	8581.08	7655.43
6	9714.27	8666.38
7	10920.2	9636.71
8	12568.5	11091.3
9	16996.4	14834.5
9.5	19799.2	17280.7

CLATSOP COUNTY
CURRENT
AFTER TAX INCOME BY DECILES

DECILES	FAMILIES	RENTERS
1	4547.72	3754.73
2	7124.15	5904.88
3	9330.49	7848.
4	11451.8	9661.71
5	13100.8	11200.2
6	14780.2	12664.8
7	16531.	14049.6
8	19302.2	16471.
9	24756.4	21082.9

A November, 1977 Housing Survey of the unincorporated County reflected a median income between $14,000 to $14,999. The Indicators of Depressed Social-Economic Conditions for the State of Oregon gives a median income of $14,875 for the whole County in 1977.

TABLE H-2

MEDIAN INCOME

Income in Dollars		Survey County		Indicators of Depressed Social-Economic Conditions County
0 - 5,999	17%	28%	0-$10,000	25%
6,000 - 9,999	11%			
10,000 - 11,999	4%	26%	$10,000-$15,000	23%
12,000 - 13,999	14%			
14,000 - 14,999	8%			
15,000 - 17,999	9%			
18,000 - 21,999	17%	48%	$15,000 Plus	48%
22,000 - 24,999	8%			
25,000 - Plus	14%			

From this table it appears that the unincorporated County contains a somewhat higher proportion of families with incomes of 0 - $10,000 than the County as a whole.

The table below shows the percentage of income spent on housing at various income levels in the unincorporated County.

TABLE H-3

INCOME SPENT ON HOUSING

Income Per Year	Housing Cost Per Year	% of Income Spent on Housing	# Families
5,000	1,273	25	22
8,000	1,804	22	14
11,000	2,064	18	5
13,000	2,742	21	20
14,500	2,940	20	11
16,500	2,658	16	13
20,000	2,504	13	27
23,500	2,445	10	12
25,000	2,769	11	20
			144

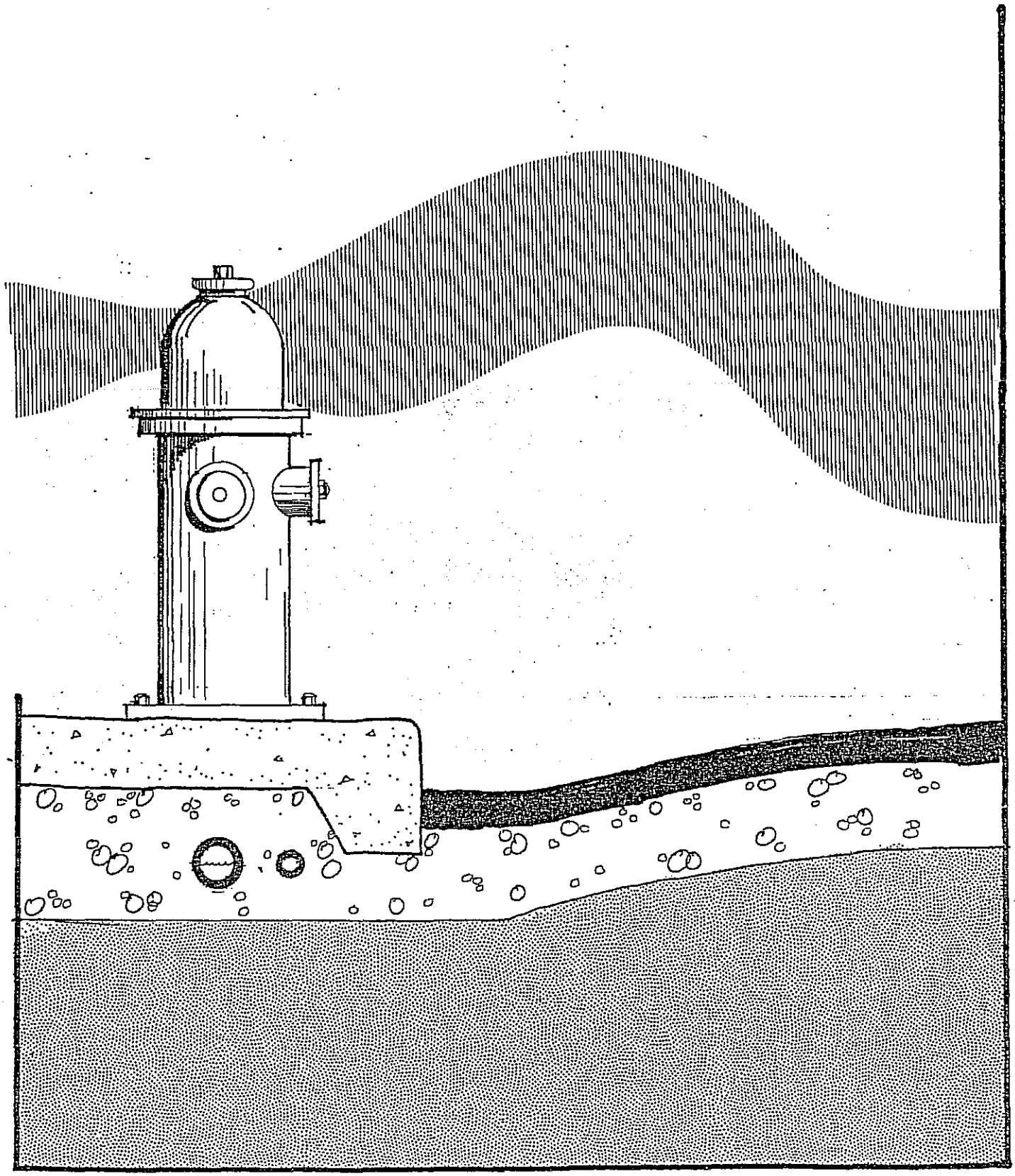
Source: November 1977 Housing Survey

It is interesting to note that as the income increased, the percentage spent on housing diminished. Those households with incomes of $5,000 per year are spending an average of $106 per month on housing.

Goal 11

CLATSOP COUNTY
GOAL 11
COUNTY-WIDE ELEMENT

PUBLIC FACILITIES and SERVICES



COUNTY-WIDE ELEMENT

Goal 11

Public Facilities and Services

Adopted July 23, 1980
Ordinance 80-7

Revised by Amendment Ordinance 84-9, dated May 23, 1984

INTRODUCTION

Public facilities and services affect a community in two ways: (a) through the costs involved in their financing and (b) through their influence on land use patterns. The nature and level of these services due much to define a community, clearly making the differences between urban and rural land usage by their presence or absence.

The 5 cities and 1 town in Clatsop County provide differing levels of public facilities. Almost all of the urban areas provide police and fire protection, sewer, water and library services. As the size of the city increases, the services provided become more varied.

There are limited public facilities and services provided in rural Clatsop County. This is due to the low density development characteristics and the lack of need to serve open farm and forest lands. Most rural land use is sufficiently dispersed so as not to require public facilities such as a sewer.

BASIC FINDINGS

Diking and Drainage Districts

There are 7 active diking districts, 7 inactive diking districts, 2 drainage districts and 1 water control district in the County. Most of the dikes and water control structures were constructed prior to the 1940s. By far the largest land use of diked lands is for farming. Many of the dikes are in serious states of disrepair and could possibly be breached during flood stages.

Water Supply

Most of the County's rural residents obtain their water from a community water system. Other residents utilize a surface source, a spring or a well. Drilling for potable water in sedimentary rock formations of the County appears to be the least reliable source. Some of the well water found has been brackish while other wells drilled have proven adequate for domestic use.

At least 5 of the 20 community water systems in the County are at or close to capacity, while 6 other systems are unsure of their capacity. Several of the community systems are inadequate in present supply, storage and distribution system capacities.

Within RSAs, UGBs and municipalities, a community water system is considered a basic service required for development. In Rural and Conservation Plan designations, this level of service is not required for development. However, construction of residences, commercial or industrial structures, where appropriate must show proof of water from some source.

All of the cities within the next 20 years will have to find additional sources of water. Some of the cities and rural water systems are, or may in the future be, at odds with the Environmental Protection Agency over the issue of the federal turbidity standards. The Clatsop Plains and Gnat

Creek aquifers might have a greater potential as future water sources than existing or potential sources from springs or rivers. This is due in part to the cost of treating and distributing surface water. Studies need to be made on the possibility of a regional water supply system which could use the Columbia River as a source, filter it for purity and deliver it to the municipal and community water systems in Clatsop County.

Waste Disposal

In most parts of the unincorporated County and within the City of Gearhart sewage is handled through the use of on-site sewage disposal systems. The proliferation in the early 1980's of alternative Department of Environmental Quality (DEQ) regulations for on-site systems has led to much greater areas of the County where residential development may take place, based on soil types and groundwater characteristics. This is no longer the severe limitation in some areas that it once was.

The Westport area is an area served by on-site sewage disposal systems and a collection system that discharges untreated sewage directly into a surface water stream. Recently a portion of the area has been declared a health hazard by the State of Oregon A sewer district is expected to be formed by June 1, 1984. Tentative approvals from DEQ and a Community Block Grant for installation of a sewer system in the Westport area have been received. Construction on the system could begin as soon as September 1984.

The City of Seaside is exploring methods to expand their treatment capacities. Warrenton will need to look at expansion around 1990, if the growth of the late 1970's again occurs. The City of Cannon Beach has installed an innovative marsh treatment system to augment their sewage lagoons (for further information see respective Urban Growth Boundary Plans).

Over the last several years, the solid waste sites in Clatsop County has either filled up or closed due to new environmental standards developed by the federal government. Several potential new landfill sites have been rejected due to water pollution problems, steep slopes or remoteness from populated areas. Clatsop County is in the process of reexamining potential landfill sites and should be developing a site by the mid 1980's.

Governmental Structures and Other Public Facilities and Services

Within Clatsop County there are 51 different types and sizes of service districts and associations. The level of rural fire protection provided by the 9 rural fire districts varies from a fire insurance rating of 6 to 9. Police protection provided by the County Sheriff's Department is inadequate for areas remote from population centers.

All school districts within the County has some capacity for additional students, although some schools are nearing capacity. Warrenton built a newe elementary school in 1980, consolidating the old grade school and junior high.

Within the County, postal delivery and location of homes for emergency services has become an increasing problem with approximately 400 different house numbers for each of the 6 rural mail routes. The situation grows more complicated as time passes and the population of rural areas of the County increases.

PUBLIC FACILITIES GOALS

1. Urbanizable Areas - To provide public facilities in accordance with coordinated land use and transportation systems in a manner which encourages the orderly conversion of land from rural to urban use.

2. Outside of Urbanizable Areas -

   a. To support the provision of needed public facilities for rural areas at levels appropriate for rural densities;

   b. To discourage the development of inappropriate public facilities on resource lands which would result in pressure for conversion to more intense use.

OVERALL POLICY REGARDING APPROPRIATE LEVELS OF PUBLIC FACILITIES IN THE COUNTY

Six different Plan designations exist for lands in the County. Differing levels of public facilities and services are appropriate for the different types of development planned for the County. Certain facilities and services are available to all County residents, such as County health services, Sheriff's protection and many other social services.

1. Development - This is a Plan category for estuary and shoreland areas appropriate for commercial and industrial use. Consequently, a level of public facilities sufficient to carry on that type of use is appropriate. Public water and sewer services would be appropriate but may not be necessary depending on the type of development. Public fire protection is appropriate. Development here will not directly affect school services, although increased employment may result in increased housing in the vicinity which would impact schools. Those impacts will be considered in terms of the residential effects, not at the point of commercial or industrial development.

   A. Urban Growth Boundary (UGB) - Appropriate levels of services for UGB areas are discussed in the Comprehensive Plans of the individual cities.

   B. Rural Service Area (RSA) - The RSAs in the County are Arch Cape, Fishhawk Lake Estates, Shoreline Estates and the old Naval Hospital site. All currently have public water, sewer and fire protection although the current water supply for the old Naval hospital is inadequate. Public water or sewer services and fire protection are appropriate in RSAs and further development must be based on the capacities of the systems. Development in RSAs can have significant impacts on schools. Applications for subdivisions within RSAs will be referred to the appropriate school district. The development will be allowed only if the schools are capable of handling the increased capacity expected to be generated from the proposal.

2. Rural Lands - Most of the areas built upon or committed to non-resource use in the County are in this Plan designation. Much of the area is currently served by community water systems. As the background report indicates, several of these water systems currently have, or very well

may in the future, experience shortages. The City of Astoria provides water to the John Day and Fern Hill Water Districts, both of which are nearing their capacities. The Astoria trunk line is sufficiently sized to provide both of the districts with additional water. John Day needs to negotiate with Astoria for additional water. Fern Hill's system, however, is old and is in need of repairs.

Knappa Water Association currently has a moratorium on new hookups. The distribution system is adequate but an additional source(s) is needed. In an effort to corrent the situation and lift the moratorium the District has:

(1) revised its water rate schedule to increase the per unit water cost as consumption increases and to increase revenues to assist in system improvements; and
(2) contracted for test well drilling for summer of 1984 with the intention of having additional wells on line in summer of 1985.

Wickiup, Youngs River/Lewis & Clark, Falcon Cove and Arch Cape water systems are all near their capacity. All have contracted with engineering firms to help upgrade their systems.

Clatsop County is concerned that development not outstrip the capacity of the districts to serve their service areas. Clatsop County requires that a proof of an adequate source of water be available before any development permit (e.g. residential, commercial or industrial), excluding land divisions, is approved. Also Clatsop County will coordinate with each of the affected Districts and Associations to determine if County policies will issue a report, and if necessary, amend its Plan and Implementing Ordinance prior to its first Periodic Review before LCDC.

Public water supply is an appropriate public facilities in this Plan designation, but is not essential for development.

Rural fire protection districts are present in many of the areas in this Plan designation. This is often a desired rural service and is appropriate in this Plan designation but is not a prerequisite for RA zoning. Some rural residents are more willing to pay high fire insurance premiums than taxes to maintain a local fire district. Development is scattered enough in this Plan designation, as compared with RSAs or cities, that fire protection is not a requirement for development.

Community sewage systems are not appropriate in this Plan designation.

Partition and subdivision proposals in this Plan designation will be referred to the local school district for comment.

3. Rural Agricultural Lands - These are lands preserved for agricultural use. Generally, residences are allowed only in conjunction with farm use. Some parcels in this Plan designation are served by community water systems but generally water supply is on an individual basis. Since parcel size and use are controlled by the Exclusive Farm Use (EFU) zoning district, it is not appropriate to extend community water to parcels in this Plan designation since it would not lead to pressure to

further develop land for residences. The primary function of Rural Agricultural Lands is for agricultural use. Any extension of public water will only be to support a development in conjunction with resource use and will not be the basis for future conversion to non-resource use.

As with the Rural Lands Plan designation, public fire protection may be present here, and is appropriate, but is not necessary for development.

Community sewage systems are not appropriate in this Plan designation.

4. Conservation Forest Lands - The primary purpose of this Plan designation is to conserve lands for commercial timber production. Generally, residences are in conjunction with a forest use, but in many areas with this designation residences on substandard parcels are common. Therefore, community water systems are often present already. As with agricultural lands, the parcel size and use are controlled by the zoning present. Therefore it is not inappropriate to extend community water to residences. The large minimum parcel sizes and distances of lines will limit extensions, and the Plan designation removes the ability to develop land just for residential purposes. The primary function of Conservation Forest Lands is forest use. Any extension of public water will only be to support a development in conjunction with a resource use and will not be the basis for future conversion to non-resource use.

   Public fire protection may be present here, and is appropriate since so many residences currently exist, but is not necessary for development and is not encouraged in sparsely settled forest areas.

   Community sewage systems are not appropriate in this Plan designation.

5. and 6. Conservation Other Resources and Natural - These Plan designations are for important resource areas and for recreation areas. For areas such as the estuary and wetlands, no public water, sewer or fire protection is appropriate. For developed recreational areas, these facilities are appropriate but may not be necessary.

GENERAL PUBLIC FACILITIES POLICIES

1. Clatsop County recognizes the level of public facilities and services described in the section "Overall Policy Regarding Appropriate Levels of Public Facilities in the County" above, as that which is reasonable and appropriate for development in different Plan designations in the County. Development of facilities and services in excess of those levels and types shall not be approved by the County.

2. The level of urban services provided within urban growth boundaries shall be determined by policies mutually adopted by the Board of County Commissioners and the affected city.

3. Development permits (excluding land divisions) shall be allowed only if the public facilities (water and sanitation, septic feasibility or sewage capacity) are capable of supporting increased loads. The County shall consider prior subdivision approvals within the facilities service area when reviewing the capabilities of districts.

4. The creation of new community water systems and fire districts shall be discouraged in those areas designated Conservation Forest Lands and Natural.

5. Water and sewer districts shall be encouraged to cooperate with the County in changing district boundaries. Before a public facility (i.e. water, sewer) extends its service area, it should demonstrate the ability to service vacant lands currently served by that public facility.

6. All new planned developments and subdivisions shall install underground utilities. Efforts should be made to place existing overhead lines underground in already developed areas.

7. Utility rights-of-way, where not located within road rights-of-way, should be considered for future utilization as part of a green belt or pathway.

8. All utility lines and facilities should be located on or adjacent to existing public or private rights-of-way to avoid dividing existing farm units.

9. When a Comprehensive Plan or Zone Change or both are requested that would result in a higher residential density, commercial or industrial development it shall be demonstrated and findings made that the appropriate public facilities and services (especially water, sanitation (septic feasibility or sewage) and schools) are available to the area being changed without adversely impacting the remainder of the public facility or utility service area.

DIKING AND DRAINAGE DISTRICT POLICY

1. Clatsop County should assist diking districts in reorganization as well as providing assistance in obtaining funds for improvement of the diking district.

WATER SUPPLY SYSTEMS POLICIES

1. If a community water system is to be utilized, either in the development of a subdivision, planned development, or the building of individual residences, commercial or industrial structures requiring water or subsurface sewage disposal, the County shall require proof that a year-round source of potable water is available.

2. If water supply for building permits is from a surface source, including a spring, proof of water rights from the State must be presented.

3. When water supply to a subdivision or planned development is to be from a source other than a community water system, the developer shall provide evidence of a proven source of supply and guarantee availability of water to all parcels of land within the proposed development.

4. Clatsop County shall encourage existing community water supply systems to be improved and maintained at a level sufficient to:

a. provide adequate fire flow and storage capacity to meet the service area requirements,

b. meet the anticipated long-range maximum daily use and emergency needs of the service area, and

c. provide adequate pressure to ensure the efficient operation of the water distribution system.

5. Clatsop County shall cooperate with the various cities in examining the feasibility of developing some type of regional water system to provide municipal and community water.

6. Clatsop County should work with State agencies to conduct a study of the Gnat Creek aquifer to determine the potential to provide a water source for residents of the area.

7. Clatsop County shall monitor the number of land partitions in the Fern Hill, John Day, Wickiup, Knappa, Youngs River/Lewis & Clark, Falcon Cove and Arch Cape water system areas to determine if the County land partition policy is adversely affecting their District or Water Association. The County will develop, in conjunction with the above Districts and Associations, a report, and if necessary, amend the Comprehensive Plan and Land and Water Development and Use Ordinance to rectify the problem prior to its first Periodic Review before LCDC.

WASTE DISPOSAL POLICIES

1. Clatsop County considers sewer services only appropriate for urbanizable lands and RSAs. The intensity of land use facilitated by provisions of sewer is not appropriate for Rural areas. Clatsop County may permit the creation or extension of sewer services outside UGBs and RSAs in the event of a health hazard or water pollution problem identified by DEQ.

2. Clatsop County shall cooperate with cities in developing a phased growth plan to guide the provision of municipal services to urbanizable areas.

3. Clatsop County shall encourage alternative methods of sewage disposal when such methods are economically, legally, and environmentally feasible.

4. Clatsop County should consider the use of solid waste and forest lands waste to generate electricity.

5. Clatsop County shall continue to cooperate with the various cities in the establishment of a regional landfill site.

GOVERNMENTAL STRUCTURE AND OTHER PUBLIC FACILITIES POLICIES

1. Clatsop County shall encourage schools that most economically serve the population of the County and consideration should be given to development of a consolidated district.

2. Clatsop County shall rely upon the various school districts in the County for the provision of public education.

3. Clatsop County shall notify the appropriate school district of all subdivisions, planned developments and mobile home park applications

4. Clatsop County shall continue to cooperate with all appropriate governmental jurisdictions, agencies, and special districts (including water, sewer, roads, etc.) in developing a coordinated approach for the planning and delivery of health and social services.

5. Clatsop County shall continue to encourage the upgrading of the level and quality of the County Sheriff's Department as funds become available.

6. Clatsop County should work with local residents as well as with the rural fire protection districts in examining various methods to improve fire protection. One method which could be used is to require subdivisions and planned developments to dedicate a site, funds, equipment, and/or construction materials for a fire station.

7. Clatsop County should work with the U.S. Postal Service in developing a new address system to facilitate the immediate location of buildings by emergency and support services in Clatsop County.

8. Rural fire protection districts shall be encouraged to expand service boundaries to include lands designated Rural Lands.

CLATSOP COUNTY COMPREHENSIVE PLAN

Background Report

PUBLIC FACILITIES AND SERVICES

September 1979

Prepared by

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Clatsop County Department of Planning and Development

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INTRODUCTION

Certain facilities and services are required to support the various levels of development in Clatsop County. The type and intensity of development determine the level of needs for these facilities. On the other hand, the availability of public facilities and services is a very significant determinant of the land use pattern. The existing pattern is primarily due to the location and level of public services available. The County and State highway system, for example, has had a dominant affect on the establishment and extent of development. With the ease of auto travel, individuals no longer need to live near their work or goods and services.

Public facilities are usually built to satisfy an existing or anticipated need for the services. When provided, these facilities can also have the effect of encouraging or making possible additional more intensive development within their service area. They also usually increase value and add benefits to each property served.

Within urban areas, the provision of public services is a necessary requirement for urban density development. In rural areas, however, the establishment of public facilities can have a detrimental effect of encouraging urban sprawl which destroys the rural character by overdevelopment. Basic facilities include sewage disposal, water, police protection, fire protection, schools, roads and utilities. The level of provision of these facilities varies from minimal provision of the basic services in rural areas to the more elaborate and complete provision of public facilities and services in incorporated cities.

Public services are provided either by an incorporated city government, by special purpose private districts, or by County service districts. The revenue to support these facilities is usually gained by levying user fees and property taxes. Providing public facilities is expensive. Therefore, the provision of public services is much more cost effective in the more intensely developed urban areas than in lower density rural areas.

GROWTH SHAPERS

Public Facilities affect local growth by influencing the location and costs of new construction, and can have a powerful affect on the density, timing, and amount of new development. It is important that public facilities be designed to enhance the positive features of new trends in development. At the least, local decision makers should be aware of the land use implications of their public facilities decisions, and the economic and environmental impacts likely to follow.

The following information taken from The Growth Shapers: The Land Use Impacts of Infrastructure Investments, discusses further the relationship between public facilities and land use planning.

> "The link between infrastructure* investments and land use changes has long been recognized in a general way, but little has been done to control the design and location of new infrastructure.

*Infrastructure means public facilities.

Instead, the tactic has been to attempt to reduce the negative impacts of unplanned growth with tools such as zoning, subdivision controls, and local planning. These techniques often fail, particularly when land use is changing rapidly, as it often does following construction of new infrastructure. Changing the design of the infrastructure itself can be an effective additional control method, reinforcing the effectiveness of the other land use controls.

"Economic impacts of development are separated into costs that are privately borne and costs paid by the government. The private costs of development depend primarily on the type of dwelling unit and the amount of amenities provided by the developer. In general, single-family housing is much more expensive in its capital and operating costs than multi-family housing.

"The evidence on how public costs are affected by population growth is conflicting. It seems to depend very much on the particular characteristics of both the community involved and the growth that occurs. For large communities, several studies have indicated that most per capita service costs rise rather than fall as the communities get larger.

"For smaller communities, on the other hand, average costs may fall with further development as facilities become used to capacity. One police car or fire station may be able to handle more people without reducing service quality, while splitting the costs over the larger population. With extensive growth, however, the additional people are likely to require new schools, fire houses, police stations, and the like, and tax rates are likely to rise. Existing residents may wind up paying more money for the same level of service they received before because they are paying for facilities built to serve future populations.

"New development may bring in residents of a different socio-economic status than existing residents with resulting benefits and costs. A common example is where a new highway turns a rural community into an affluent suburb of a metropolitan area. In such cases, the new residents may demand additional public services such as libraries, sport facilities (golf courses, tennis courts), recreation centers, parks, and public parking lots. The costs and the benefits must be shared by the existing residents."[1]

[1] Urban Systems Research and Engineering, Inc., The Growth Shapers: The Land Use Impacts of Infrastructure Investments. Council on Environmental Quality, May 1976.

Development induced by public facilities, such as a new county road or water line, frequently occurs in scattered locations away from already developed areas. The "leap frog" development, as discussed in The Growth Shapers, creates many problems.

> "This 'leapfrog' development pattern carries high public costs, since utility lines, streets, and services must be extended long distances through vacant land. Even if the intervening land is ultimately filled in, the community must bear unnecessarily high service costs in the interim. It also finds itself locked into sprawled out low density development patterns for the long term, with all its implications for higher public service costs.
>
> "If development occurs at a rapid rate, as is often the case where infrastructure changes are made in a region with strong economic growth, another group of economic impacts may be felt. In an area where a great deal of single-family housing is built over a short time, most of the residents moving in will be about the same age, as will their children. It will be necessary to build schools to serve this large group of children, but after they pass through the number of school age children in the community will drop suddenly. A large portion of the school space may then be useless."

Because the economic impact of new development depends so much on the particular characteristics of the situation, any conclusions about a specific development have to be based upon specific analyses. Below are some general conclusions on the impacts of growth taken from Impacts of Urban Growth on Local Government Costs and Revenues prepared by Oregon State University Extension Service, 1974.

GENERAL CONCLUSIONS

Three overall conclusions were drawn from this study:

1. Impacts of residential growth on municipal government expenditures depend upon location and density of development. Expenditures per home on streets, water lines and sewer lines are related to mileage of streets and utility lines. Initial investment in extending utility lines and streets into urbanizing areas is partly paid for by property owners benefiting from new services provided. Local government, and hence all taxpayers, pay for annual maintenance and operating expenses plus some construction.

2. Effects on city or school expenditures appear small when streets, water and sewer systems, school buildings, etc. have enough capacity to accommodate growth. In these cases, no major capital outlays are needed for urban expansion to occur. However, even though the investment in these major facilities has already been made, it is still a cost of urban expansion.

3. Comparison of expenditures and revenues per capita in different cities and in areas outside cities are not

always meaningful because of differences in municipal services offered. Changes in expenditures and revenues caused by urban growth in different places are difficult to compare for the same reason.

Larger cities offering a more complete range of urban services, including parks and recreation programs and a public transit system have higher expenditures per capita.

Different sources of revenue and use of volunteer help for services such as fire protection also distort comparisons from one place to another.

URBAN SERVICES

The 5 cities and 1 town in Clatsop County provide differing levels of public facilities. Almost all of the urban areas provide police and fire protection, sewer, water and library service. As the size of the city increases, the services provided become more varied.

The growth and development of urban areas is dependent upon their ability to provide the basic urban services. Urban growth boundaries should be developed on the premise that an efficient means of supplying needed services are planned, can be achieved and can be financed. The provision of urban services should be designed to maximize the efficiency of developing urbanizable lands according to each city's land use plan.

As urban growth policies recognize, urban services should not extend beyond the urban growth boundary of each city. This not only limits the development potential in rural areas, it also maintains the integrity of the urban growth program.

RURAL FACILITIES

There are limited public facilities and services provided in rural Clatsop County. This is due to the low density of development characteristics and the lack of need to serve open farm and forest lands. Most rural land use is sufficiently dispersed so as not to require public facilities such as sewer systems. Various types and sizes of community water systems, Rural Fire Protection, Schools, and septic tanks provide the service needs. In some cases, the major difference between urban and rural facilities and services is the quality of services being provided. Rural facilities and services are provided on either a general County-wide basis or by special districts.

The provision of public facilities and services in rural Clatsop County should be limited to those necessary to support the level of rural activity. The development of rural areas should consider the impact on existing services and the anticipated need for additional facilities.

It is the intent of Clatsop County to maintain the character of rural areas by limiting their need for urban type services. Only those facilities and services that are necessary to accommodate projected rural land use activities should be provided. The demand for rural facilities and services should be expected to increase within areas designated for rural development. The provision of additional public facilities and services should not significantly increase in agriculture and forest designated areas.

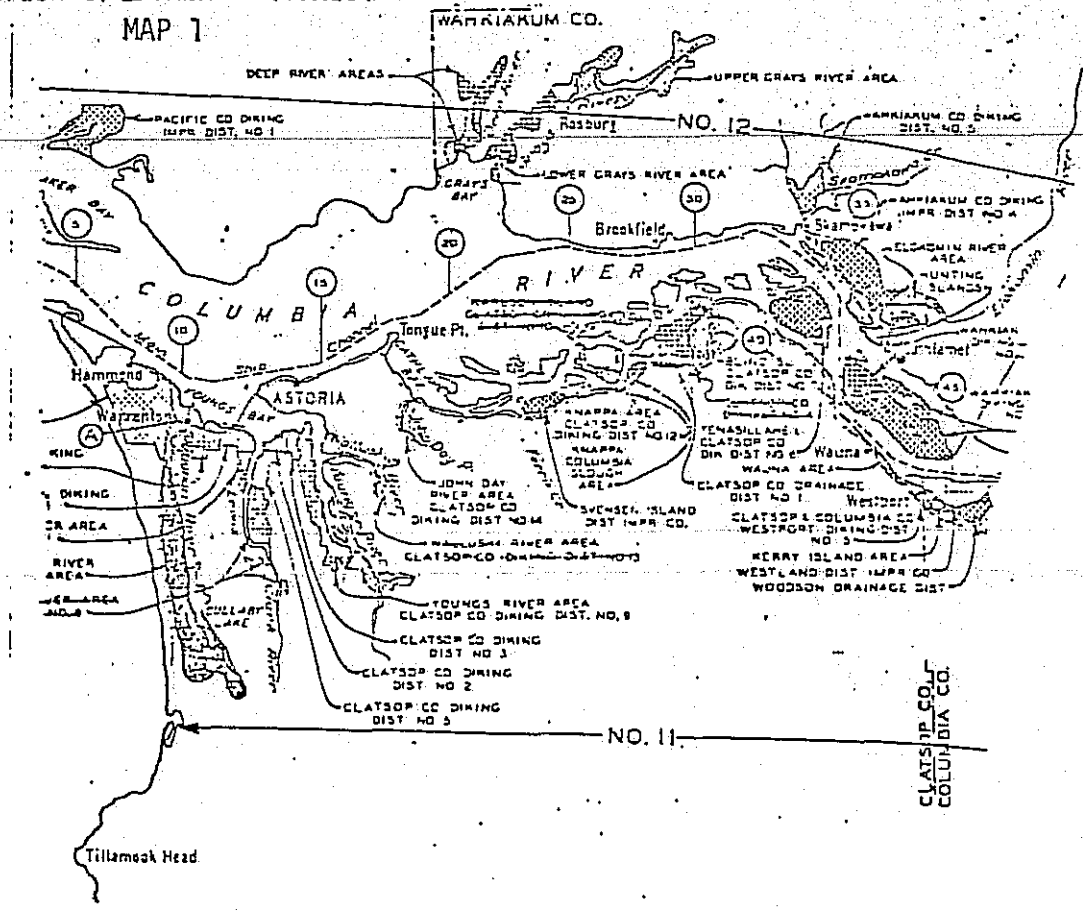
DIKING AND DRAINAGE DISTRICTS

The alluvial lowlands forming the floodplain have been used for raising and grazing for many years. As early as the 1900s, the floodplain has been used for agricultural activity, which required dikes to protect the land from annual floods. Most of the existing flood protection facilities in the area were constructed prior to the 1940s. Land uses in these diked areas range from farming to industry. By far the largest land use of diked lands is agriculture.

Within the County there are 7 active diking districts, 7 inactive diking districts, 2 drainage districts and 1 water control district. (See Map 1) The administration positions within these districts are elected. The districts are considered political entities, and as such, have taxation powers. The dikes are sufficient in height to withstand the previous high water. But many of the dikes are in serious states of disrepair and could possibly be breached during flood stages.

LOCATION OF DIKING DISTRICTS

MAP 1



In 1974, a committee consisting of Directors from each diking district was appointed to provide a list of the advantages and disadvantages of reorganizing diking districts to drainage districts and to consolidate districts. Little or no progress was made by the committee in reorganizing and consolidating the districts.

Part of the reason little or no progress was made by the committee was the concern that some diking districts would have to subsidize the poorly maintained diking districts.

The following are the committee's findings:

MAINTAINING DIKING DISTRICTS

Advantages

1. Restricted to operation and maintenance of tidegates and dikes.

2. Less area of responsibility (smaller area to govern).

3. District sets assessment with landowner approval given to County Commissioners as suggested assessment to be placed on tax roll. Bills presented to County Commission for payment. Directors need to be bonded.

Disadvantages

1. There is no way or responsibility to get water from flooded lands to outlets at tidegates.

2. One landowner at outlet can plug up or flood several landowners upstream from him by not maintaining drainage through his property.

REORGANIZE AS A DRAINAGE DISTRICT

Advantages

1. Has control over main internal ditches (one that benefits two or more landowners) for maintaining water level as well as control over dikes and tidegates.

   a. Better water table control in areas of septic tank drainfield.

   b. Water won't stand on fields as long - earlier and longer growing season.

   c. Grow larger variety of plants or crops.

2. Wider assessment base (assessment per acre plus possible set assessment per building) not based on ad valorem tax.

3. Landowner at outlet of main ditch or slough couldn't plug water outlets to people upstream by poor maintenance.

4. District Directors and landowners set assessments, make up assessment rolls, deliver to County for collection on property taxes, County returns tax money to Drainage District for payment of bills. Bills can be paid faster so advantage could be taken of discounts if paid by 10th of month, etc. Money can be maintained in savings account to draw interest until needed.

5. Landowners who are totally protected by their own diking system and who do not desire or need protection can be excluded from drainage district during reorganization.

6. Could join the Statewide Drainage District Association for getting increased assistance and information for improved maintenance.

Disadvantages

1. Higher cost to landowner over Diking District if additional internal drainage is done.

2. Probably no larger area of assessment than Diking District.

CONSOLIDATION OF DIKING OR DRAINAGE DISTRICTS

1. Spread the cost of repairing or improving small critical areas over larger tax assessing areas.

2. Larger districts could economically afford to own and operate specialized equipment (spray equipment, mowing equipment) where small districts could not.

3. Larger districts could hire someone to inspect dike areas or oversee construction work whereas small districts cannot always depend on someone being able to volunteer this much time.

4. A large district would have a better chance to elect a landowner with good leadership ability.

5. Larger districts may have more influence (voter power) to encourage State and Federal agencies to provide help on projects.

6. Consolidate all districts into one unit that could be effected if a dike should break. (Possibilities - Districts 3, 9 and 13 and 2, 5, 8 and 11).

The following is some information on the various diking and drainage districts within the County by planning areas.

CLATSOP PLAINS

Skipanon Water Control District

Location: Skipanon River Area - Warrenton - Cullaby Lake
Size: 1,860 acres - assessment units
Length of Dikes: 150 feet
Tideboxes: 2 water control structures
Date Organized: 1959
Comments: None

LEWIS & CLARK/WALLOOSKEE RIVER VALLEYS

Diking District #2

Location: South of Youngs Bay, East of Lewis & Clark River and North and West of old Highway 101
Size: 185.6 acres
Length of Dikes: 1.3 miles
Tideboxes: 2
Date Organized: 1937
Comments: From the Corps of Engineers' Report and other information, the tideboxes and dikes appear to be in good condition.

Diking District #3

Location: Along the Wallooskee River, 2 miles South of Astoria along Youngs Bay.
Size: 642 acres
Length of Dikes: 8.3 miles
Tideboxes: 17
Date Organized: 1939
Comments: Maintenance and repair of levees, tideboxes and drainage ditches is the responsibility of the residents in the respective areas since no district organization exists. The Corps of Engineers inspection indicates that maintenance has been accomplished on several of the levees, but none on others.

Diking District #8 -- Inactive

Location: Both sides of the Lewis & Clark River
Size: 1,506 acres
Length of Dikes: 10.5 miles
Tideboxes: 14
Comments: The Corps of Engineers inspection indicates the condition of the flood protective works has become progressively worse. Tideboxes continue to deteriorate and dense growth on the levee embankment prevents an adequate assessment of erosion damage

Diking District #5

Location: Jeffers Garden Area, Lewis & Clark River, South of old U.S. 101
Size: 537 acres
Tideboxes: 7
Date Organized: 1937
Comments: Generally, maintenance of the levee and drainage facilities was considered to be satisfactory.

Diking District #9

Location: Youngs River
Size, Tideboxes, Date Organized: Unknown
Comments: Generally, maintenance of the protective works is considered marginal.

Diking District #11

Location: West side of Lewis & Clark River, just South of Clatsop County Airport
Size: 365 acres
Tideboxes, Date Organized: Unknown
Comments: Generally, maintenance of the protective works is considered good by the Corps of Engineers.

NORTHEAST

Diking District #15 -- Inactive

Location: In and near Crown Zellerbach's Wauna mill near Westport
Size: 233 acres
Length of Dikes: 2.08 miles
Tideboxes: 1
Date Organized: 1920, reorganized in 1941
Comments: The levee system was considered to be in satisfactory condition by the Corps of Engineers.

Diking District #7

Location: On Blind Slough south of Brownsmead
Size: 935 acres
Length of Dikes: 1 mile
Tideboxes: 4
Date Organized: 1937
Comments: The flood protective works was considered to be in satisfactory condition by the Corps of Engineers.

Diking District #12 -- Inactive

Location: On Warren Creek near Knappa
Size: 105 acres
Length of Dikes: 450 feet plus the Burlington Northern railroad embankment
Tideboxes: 1
Comments: There are dense growths of brush, trees and berry vines on the embankment slopes, as well as slight leaks during high tide in the two tideboxes.

Diking District #10

Location: Karlson Island
Size: 370 acres
Tideboxes: 3
Date Organized: 1940s
Comments: The dike has been broken. It would be expensive to repair.

Diking District #14

Location: John Day River area
Size: 229 acres
Length of Dikes: 3.5 miles
Tideboxes: 16
Comments: The condition of the levees has improved very little for the past several years. The Corps of Engineers has told the district its maintenance program is inadequate.

Diking District #4 -- Inactive

Location: Gnat Creek area near Brownsmead
Size: 90 acres
Length of Dikes: 2 miles
Tideboxes: There were 3
Date Organized: 1918
Comments: The lagoon is filled with each tide. The County has put in a dike along the road to protect it. It would cost more to reclaim the land and repair the dike than the land would be worth.

Diking District #1 -- Inactive

Location: Near Brownsmead
Size: 1391 acres
Length of Dikes: 9.4 miles
Tideboxes: 6
Date Organized: 1915
Comments: None

Diking District - Svensen Island Improvement Company -- Inactive

Location: Svensen Island
Size, Tideboxes, Length of Dikes: Unknown
Comments: Maintenance work needed to restore the protective facilities to full efficiency was noted in the Corps of Engineers inspection of the system.

TABLE 1

FLOOD CONTROL DISTRICTS

Local Name	Legal Name	Floodplain and Elevation	Elevations, Top of Levee	Freeboard	Datum
CLATSOP COUNTY, OREGON					
Blind Slough Area	Clatsop County Diking District #7	1933 H.W. 8.6	11.6	3.0	M.S.L.
City of Warrenton Diking District #1	Formed one district effective 2/12/73	1933 H.W. 7.6	11.6	4.0	M.S.L.
City of Warrenton Diking District #2		1933 H.W. 7.6	11.6	4.0	M.S.L.
City of Warrenton Diking District #3		1933 H.W. 7.6	11.6	4.0	M.S.L.
Clatsop County Drainage District #1		1933 H.W. 8.8	11.8	3.0	M.S.L.
Clatsop County Diking District #2		1933 H.W. 7.6	11.6	4.0	M.S.L.
Clatsop County Diking District #5		1933 H.W. 7.6	10.6	3.0	M.S.L.
John Day River Area	Clatsop County Diking District #14	1933 H.W. 7.8	8.8	1.0	M.S.L.
Karlson Island	Clatsop County Diking District #10	1933 H.W. 8.5	10.5	2.0	M.S.L.
Knappa Area	Clatsop County Diking District #12	1933 H.W. 8.6	10.6	2.0	M.S.L.
Lewis & Clark River Area	Clatsop County Diking District #11 & 8	1933 H.W. 7.7	10.7 to 8.7	3.0 to 1.0	M.S.L.
Tenasillahe Island	Clatsop County Diking District #6	1933 H.W. 11.9	14.9	3.0	U.S.E.:2. Below M.S
Walluski River Area*	Clatsop County Diking District #13	1933 H.W. 7.7	7.7 to 6.0	None	M.S.L.
Westport District	Clatsop & Columbia Counties, Diking District #15	1876 H.W. 11.0	13.0	2.0	M.S.L.
Young's River Area	Clatsop County Diking District #9	1933 H.W. 7.7	8.7	1.0	M.S.L.

(from CREST Inventory)

WATER SUPPLY SYSTEMS

There are presently some 22 different water systems in the County serving approximately 6,700 people. There are also 5 city water systems serving approximately 20,000 people. Several of these water systems have water quantity and/or quality problems. Many of the water systems along the coast are vulnerable to a combination of tourism peak demand and low stream flows.

MUNICIPAL WATER SYSTEMS

The City of Astoria's water system is the largest in Clatsop County, serving approximately 3,600 industrial, commercial, and domestic connections within the City, and also providing water to Fern Hill, John Day, Willowdale, Olney-Wallooskee, and Burnside Water Districts, as well as to Tongue Point.

Astoria's water comes from three reservoirs in the Bear Creek watershed, approximately 10 miles southeast of the City. The watershed consists of 3,700 acres owned by the City. The three reservoirs have a combined capacity of about 360 million gallons; another 1.5 million gallons are stored around the system in elevated tanks. Although the City's population has remained stable over the years, water demand has increased 13 percent in the last five years, due primarily to increases in the shrimp processing industry. Approximately 26 percent of water demand is from commercial or industrial users. In three out of the last five years the maximum daily flow recorded has exceeded the practical capacity of the watershed and main system. There are signs that without major modifications of the water supply system and/or water redistribution programs, the City's water system will not be adequate indefinitely for the needs of the community it serves.

In addition to demand considerations, two recent federal requirements impose standards hard for Astoria to consistently meet. The Federal Water Quality Act of 1972 caused the Oregon State Health Division of the Department of Human Resources to adopt new Administrative Rules requiring that domestic water supply maintain a pressure of 20 psi which Astoria's system is not always able to meet. Furthermore, the Federal Safe Drinking Water Act of 1974 and subsequent Administrative Rules of the federal Environmental Protection Agency established domestic water system turbidity standards. Astoria's water system does not meet these standards during five months of the year, generally from August to December. Periodically, the EPA has expressed interest in having the City cover its reservoirs 2 and 3 and install a filtration system at the Headworks, in order to meet these standards.

None of the water districts obtaining water from Astoria have their own water storage facilities which could be a problem in times of repairs on the main water line. If the districts continue to rely on Astoria as their water source, they will be limited as to future areas they can provide service to. At this time, the City is most reluctant to give more water to those water districts than has already been committed.

The City of Warrenton operates a water system which supplies water to Warrenton, Hammond, Fort Stevens State Park, Sunset Beach Water District, Palisades Pipeline Co., Gearhart and scattered properties in the Clatsop Plains rural areas. The estimated July 1979 population of this service area was 6,163 with approximately 1,995 connections of which 512 are in the unincorporated plains.

The main water line has a capacity of between 12 to 15 mgd. The current maximum daily consumption of the Warrenton system is 3.9 mgd. The City draws water from the Lewis & Clark River and three of its tributaries. The City currently holds water rights for the use of approximately 4.5 mgd. Under normal operating conditions, turbidity levels are below the EPA's allowable level of 1.0 turbidity units. As with Astoria's system, during periods of extremely high rainfall turbidity counts exceed the 1.0 turbidity unit level. In 1979, the City of Warrenton completed a comprehensive water study. The study found that the Lewis & Clark River is probably adequate in meeting the peak demand to the year 2000, but source augmentation, however, will be required beyond that time. The major recommendations were installation of meters in the City, increased fire flow capacity and constructing of a reservoir.

As mentioned before, the City of Gearhart and Town of Hammond obtain their water through the City of Warrenton water system. Gearhart and Hammond water systems have no storage at the present time. Both are entirely dependent upon the Warrenton water system and any break in the Warrenton pipeline could potentially deprive both systems of their source until the break was repaired.

Seaside's water system serves an estimated population of 6,500 including 2,167 metered services plus the Stanley Acres Water Association just northeast of the City limits. The main water supply is from a source on the south fork of the Necanicum River about eight miles southeast of the City. Water flows by gravity from a diversion dam at the headworks for six miles to a point where it is pumped to an 18 million gallon reservoir. The reservoir is at an elevation of 154 feet and has a nine-day storage capacity. An auxiliary supply source is located on the Necanicum River below the reservoir. The distribution system consists of lines from 6 to 12 inches with some laterals four inches or smaller. The system is generally in good condition, although recently large water loss has been recorded. The water system must serve a five-month summer population of up to 15,000 on weekdays and 30,000 on weekends.

Future water supply capability is good, but additional storage capacity may be necessary. Expansion of the system will not be a great problem if the area served is contained and future development is kept below the 80-foot elevation line to avoid further pumping.

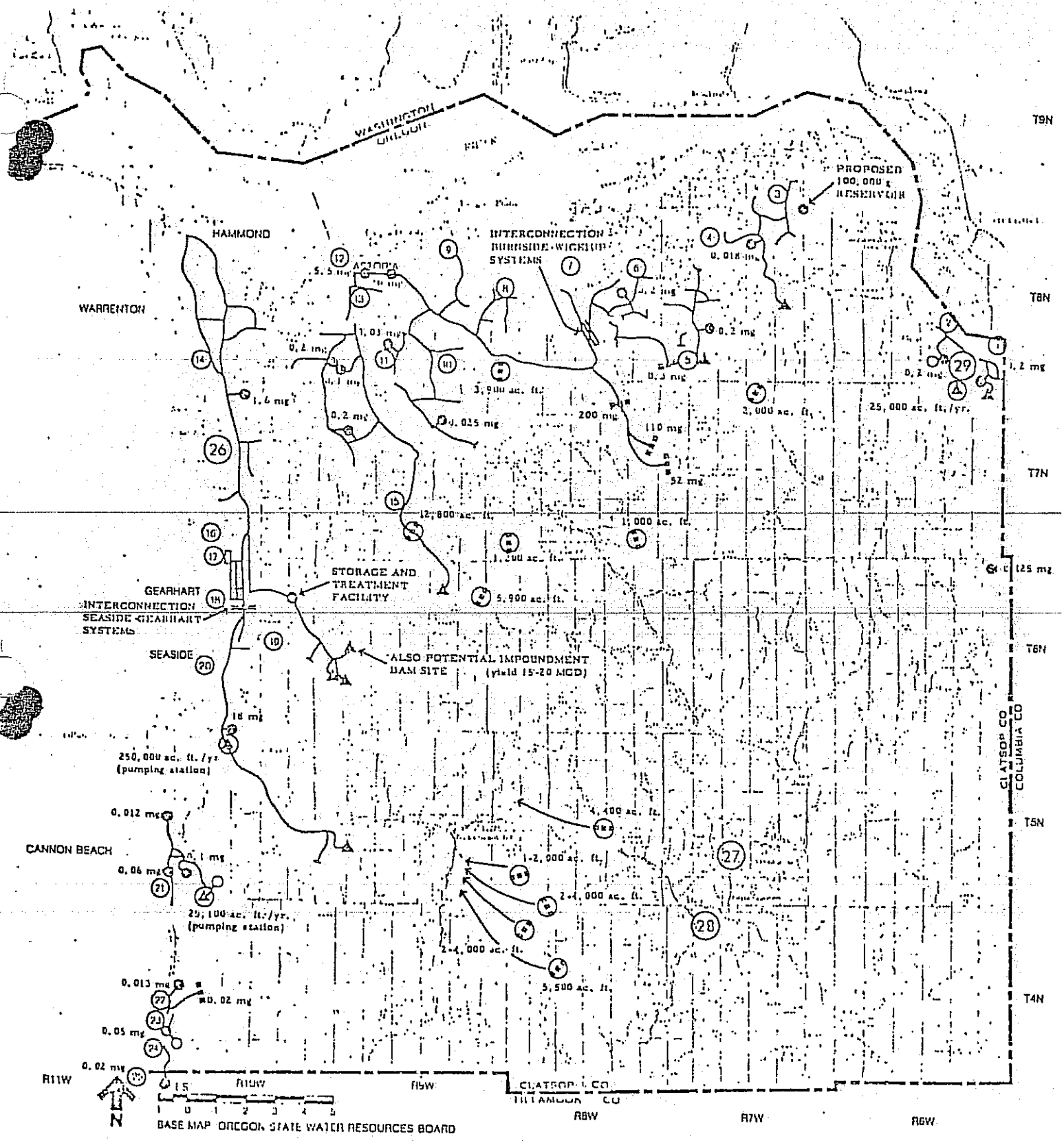
The Cannon Beach municipal water system was purchased from a private owner in 1972. The source of supply is two springs. The system's major problem is the old and undersized distribution lines. There are adequate sources, storage, and capital equipment for the immediate future. Additional storage capacity could be warranted as the City grows, but the most serious deficiency is the condition of the water pipes themselves. The water superintendent estimates that 65-70% of the water lines are either undersized, in poor condition, or both.

COMMUNITY WATER SYSTEMS

A Community Water Supply System is defined under the Safe Drinking Water Act as one that provides piped water for human consumption that has at least 15 service connections or regularly services at least 25 people. An inventory of these Community Water Systems was extracted from the State Water Resources Board fact sheets developed in 1974 and updated by the County planning staff. (See Table 2) Below are the current water systems in the County. (See Map 2)

WATER SUPPLY MAP INDEX
(See Map 2)

Index Number	Water Supply
1	Westport Water Association
2	Wauna Water District
3 and 4	Knappa Co-op Water Company
6	Wickiup Water District
7	Burnside Water Association
8	Fern Hill Community Water System
9	John Day Water District
10	Olney-Walluski Water Association
11	Willowdale Water District
12	City of Astoria
13 and 15	Youngs River - Lewis & Clark Water District
14	City of Warrenton
16	Surf Pines Development
17	Palisade Pipeline Company
18	City of Gearhart
19	Stanley Acres Water Association
20	City of Seaside
21	City of Cannon Beach
22	Cannon View Park, Inc.
23 and 24	Arch Cape Water County Service District
25	Falcon Cove Beach Domestic Water Supply System
26	Sunset Lake Water County Service District
27	Evergreen Acres Water System
28	Elderberry/Nehalem Water System
29	Westport Heights Water System



MAP 2

CLATSOP COUNTY WATER SYSTEMS

SOURCE: ENGINEERING REPORT BY CARL L. GREEN AND ASSOCIATES

EXISTING PIPELINE

EXISTING RESERVOIR

EXISTING SPRINGS

EXISTING DIVERSION DAM

EXISTING IMPOUNDMENT DAM

POTENTIAL DIVERSION DAM

TABLE 2

CLATSOP COUNTY WATER SYSTEMS

System:	Arch Cape Water County Service District
Estimated Total Population Served:	448 (172 services, no metering)
Existing Source and Water Rights:	Unnamed tributary stream of the Arch Cape Creek and Shark Creek
Estimated Capacity of System:	Close to Capacity
Potential Source:	Arch Cape Creek
Storage Sites - Existing	(No.) (Cap.)
- On system reservoirs and capacity	2 wood stave 20,000-30,000 g.
- Impoundments and capacity	2 small concrete dams
Storage Sites - Potential	
- On system reservoirs and capacity	1 100,000 g.
- Impoundments and capacity	Arch Cape Creek
Existing Potential to Support:	No Data
Treatment:	Chlorination
Comments:	

An engineering study was done on the water system in 1976. The system was found to be deficient in treatment, storage and pipe size. The estimated cost for improvements to the system in 1976 was $767,000 to $811,000.

System:	Burnside Water Association
Estimated Total Population Served:	190 pop., all metered
Existing Source and Water Rights:	City of Astoria
Estimated Capacity of System:	Has capacity for some additional hookups, exact amount is unknown.
Potential Source:	No Data
Storage Sites - Existing	(No.) (Cap.)
- On system reservoirs and capacity	None
- Impoundments and capacity	None
Storage Sites - Potential	
- On system reservoirs and capacity	No Data
- Impoundments and capactiy	No Data
Treatment:	By the City of Astoria
Comments:	

Storage reservoir should be developed for fire protection and to allow for repairs of the main line.

System:	Cannon View Park, Inc.
Estimated Total Population Served:	96 (37 services, no metering)
Existing Source and Water Rights:	Spring
Estimated Capacity of System:	No Data
Potential Source:	Arch Cape Creek
Storage Sites - Existing	(No.) (Cap.)
- On system reservoirs and capacity	1 75,000 g.
- Impoundments and capacity	None
Storage Sites - Potential	
- On system reservoirs and capacity	No Data
- Impoundments and capacity	No Data
Treatment:	None
Comments:	

Recent improvements to the system; new distribution lines and storage tank have addressed the system's supply and fire protection problems.

System:	Elderberry-Nehalem Water Company
Estimated Total Population Served:	150 (50-55 services)
Existing Source and Water Rights:	Unnamed Creek
Estimated Capacity of System:	No Data
Storage Sites - Existing	(No.) (Cap.)
- On system reservoirs and capacity	1 35,000 g.
- Impoundments and capacity	Concrete retaining wall
Storage Sites - Potential	
- On system reservoirs and capacity	No Data
- Impoundments and capacity	No Data
Treatment:	Chlorine-filter
Comments:	

This system was unapproved following inspections conducted by Health Division Staff during the spring of 1977. There have been numerous complaints by users on the water quality and pressure.

System:	Evergreen Acres Water System
Estimated Total Population Served:	75 (28 services, no metering)
Existing Source and Water Rights:	Well
Estimated Capacity of System:	60 services
Storage Sites - Existing	(No.) (Cap.)
- On system reservoirs and capacity	2 280 g. ea.
- Impoundments and capacity	None
Storage Sites - Potential	
- On system reservoirs and capacity	No Data
- Impoundments and capacity	No Data
Treatment:	None--in the process of building a treatment plant
Comments:	

The owner would like this system to become a public water system.

System:	Falcon Cove Beach Domestic Water Supply System
Estimated Total Population Served:	Summer 120 (53 services, no metering)
Estimated Capacity of System:	No Data
Existing Source and Water Rights:	2 springs - 0.13 cfs
Storage Sites - Existing	(No.) (Cap.)
- On system reservoirs and capacity	1 20,000 g.
- Impoundments and capacity	None
Storage Sites - Potential	
- On system reservoirs and capacity	None
- Impoundments and capacity	None
Existing Potential to Support:	No Data
Treatment:	None
Comments:	

It is difficult to assess the ability of this system to meet emergency situations due to lack of source data, population statistics, etc. Although the system is relatively small, given any potential growth, it is likely this system will have to seek the resource from other than their present supply.

System:	Fern Hill Community Water System
Estimated Total Population Served:	150 (60 services, all metered)
Existing Source and Water Rights:	City of Astoria
Estimated Capacity of System:	At Capacity
Potential Source:	No Data
Storage Sites - Existing	(No.) (Cap.)
- On system reservoirs and capacity	None
- Impoundments and capacity	None
Storage Sites - Potential	
- On system reservoirs and capacity	No Data
- Impoundments and capacity	No Data
Treatment:	By the City of Astoria
Comments:	

The system is currently at capacity and will not be able to have new connections until 1983. At this time there are no fire hydrants in the system.

System:	Fishhawk Water Company
Estimated Total Population Served:	53 services
Existing Source and Water Rights:	Fishhawk Creek
Estimated Capacity of System:	270 services
Storage Sites - Existing	(No.) (Cap.)
- On system reservoirs and capacity	1 125,000 g.
- Impoundments and capacity	None
Storage Sites - Potential	
- On system reservoirs and capacity	No Data
- Impoundments and capacity	No Data
Treatment:	Chlorination, charcoal and sand filtration

System:	John Day Water District	
Estimated Total Population Served:	225 (75 services, all metered)	
Existing Source and Water Rights:	City of Astoria	
Estimated Capacity of System:	Near Capacity	
Potential Source:	No Data	
Storage Sites - Existing	(No.)	(Cap.)
- On system reservoirs and capacity	None	
- Impoundments and capacity	None	
Storage Sites - Potential		
- On system reservoirs and capacity	No Data	
- Impoundments and capacity	No Data	
Existing Potential to Support:	No Data	
Treatment:	By the City of Astoria	
Comments:		

There is a problem with some hydrants having too low a volume of water. The district plans to replace the 4 inch line with a 6 inch line, which will increase capacity by 25 connections. These improvements will occur as soon as funds are available.

System:	Knappa Co-op Water Company	
Estimated Total Population Served:	780-900 (311 services, all metered)	
Estimated Capacity of System:	400 services	
Existing Source and Water Rights:	Mill Creek/Wells	
Potential Source:	Big Creek/Astoria System/Wells	
Storage Sites - Existing	(No.)	(Cap.)
- On system reservoirs and capacity	2	7,650 g.
- Impoundments and capacity	None	
Storage Sites - Potential		
- On system reservoirs and capacity	1	200,000 g.
- Impoundments and capacity	1	2,000 ac.ft.
Existing Potential to Support:	No Data	
Treatment:	Chlorination	
Comments:		

In 1974, the Co-op had an engineering study of the system. The study found the present system operates with a number of problems which include excessive leakage, low pressure problems, pump station problems, and inadequate overall system reliability.

System: Olney-Walluski Water Association

Estimated Total Population Served:	335 (124 services, all metered)	
Existing Source and Water Rights:	City of Astoria	
Estimated Capacity of System:	540 pop. or 200 services	
Potential Source:	No Data	
Storage Sites - Existing	(No.)	(Cap.)
- On system reservoirs and capacity	1	25,000 g.
- Impoundments and capacity	None	
Storage Sites - Potential		
- On system reservoirs and capacity	No Data	
- Impoundments and capacity	No Data	
Existing Potential to Support:	No Data	
Treatment:	By the City of Astoria	
Comments:		

None.

System: Palisades Pipeline Co.

Estimated Total Population Served:	33 services, all metered	
Existing Source and Water Rights:	City of Warrenton	
Estimated Capacity of System:	No Data	
Potential Source:	No Data	
Storage Sites - Existing	(No.)	(Cap.)
- On system reservoirs and capacity	None	
- Impoundments and capacity	None	
Storage Sites - Potential		
- On system reservoirs and capacity	No Data	
- Impoundments and capacity	No Data	
Existing Potential to Support:	No Data	
Treatment:	By the City of Warrenton	
Comments:		

This system has had no new connection since 1974; they have no plans at this time for any improvements or expansion of the water system.

System: Shoreline Development Inc.

Estimated Total Population Served:	69 services	
Existing Source and Water Rights:	City of Warrenton	
Estimated Capacity of System:	89 services	
Potential Source:	No Data	
Storage Sites - Existing	(No.)	(Cap.)
- On system reservoirs and capacity	None	
- Impoundments and capacity	None	
Storage Sites - Potential		
- On system reservoirs and capacity	No Data	
- Impoundments and capacity	No Data	
Treatment:	By the City of Warrenton	
Comments:		

None.

System:	Stanley Acres Water Association
Estimated Total Population Served:	325 (86 services, all metered)
Existing Source and Water Rights:	City of Seaside
Estimated Capacity of System:	150 services
Potential Source:	No Data
	(No.) (Cap.)
Storage Sites - Existing	
- On system reservoirs and capacity	None
- Impoundments and capacity	None
Storage Sites - Potential	
- On system reservoirs and capacity	No Data
- Impoundments and capacity	No Data
Treatment:	By the City of Seaside
Comments:	

The system is generally in good condition.

System:	Sunset Lake Water County Service District
Estimated Total Population Served:	460 (200 services, all metered)
Existing Source and Water Rights:	City of Warrenton
Estimated Capacity of System:	400+ connections
Potential Source:	Clatsop Plains Aquifer
	(No.) (Cap.)
Storage Sites - Existing	
- On system reservoirs and capacity	None
- Impoundments and capacity	None
Storage Sites - Potential	
- On system reservoirs and capacity	None
- Impoundments and capacity	None
Treatment:	By the City of Warrenton
Comments:	

The district was organized in 1977 serving the Sunset Lake area. Fire hydrants are within 1000 feet of all houses in the district.

System:	Surf Pines Water Association
Estimated Total Population Served:	300 (110 services, all metered)
Existing Source and Water Rights:	Two well systems
Estimated Capacity of System:	No Data
Potential Source:	No Data
	(No.) (Cap.)
Storage Sites - Esisting	
- On system reservoirs and capacity	2 20,000 g.
- Impoundments and capacity	None
Storage Sites - Potential	
- On system reservoirs and capacity	No Data
- Impoundments and capacity	No Data
Treatment:	None
Comments:	

The Association plans to improve pumping capacity by adding an additional pump to each well system. The system's 4 inch line does not have sufficient water volume to hook up to a fire truck.

System:	Wauna Water District		
Estimated Total Population Served:	213 (76 services, all metered)		
Existing Source and Water Rights:	Unnamed springs - 0.423 cfs Unnamed stream - o.223 cfs		
Estimated Capacity of System:	140-160 services		
Potential Source:	(*)		
Storage Sites - Existing		(No.)	(Cap.)
- On system reservoirs and capacity		2	2,000
- Impoundments and capacity		None	
Storage Sites - Potential			
- On system reservoirs and capacity		1	200,000 g. (1968)
- Impoundments and capacity		None	
Treatment:	None		
Comments:			

(*) Same as Westport - See Westport 'comments'.

System:	Westport Heights Water System		
Estimated Total Population Served:	33 services, all metered		
Existing Source and Water Rights:	Well		
Estimated Capacity of System:	No Data		
Potential Source:	Westport Water System		
Storage Sites - Existing		(No.)	(Cap.)
- On system reservoirs and capacity		None	
- Impoundments and capacity		None	
Storage Sites - Potential			
- On system reservoirs and capacity		No Data	
- Impoundments and capacity		No Data	
Existing Potential to Support:	No Data		
Treatment:	None		
Comments:			

Present lines are inadequate for fire protection; system is close to capacity.

System:	Westport Water Association
Estimated Total Population Served:	375-400 (150 services, all metered)
Existing Source and Water Rights:	West Creek - 0.50 cfs
Estimated Capacity of System:	300-400 services
Potential Source:	Gnat Creek Artesian Aquifer Plympton Creek

	(No.)	(Cap.)
Storage Sites - Existing		
- On system reservoirs and capacity	1	200,000
- Impoundments and capacity	None	-
Storage Sites - Potential		
- On system reservoirs and capacity	None	
- Impoundments and capacity	None	

Treatment:	Chlorination
Comments:	

Plympton Creek has been identified as a potential source for the Westport-Wauna area. However, extreme low stream flows, estimated at 1.1 cfs, would provide very limited supplemental supply to either system during the summer dry period. Further, any draw on the source during low flow periods could seriously endanger the ability of the stream to support any fish life or other natural life systems.

The Gnat Creek Artesian Aquifer is another potential source for the two systems. Upon examination of existing information, the aquifer appears to offer some potential for supplementing their present supplies. Additional studies of the aquifer are necessary though, to determine the feasibility of supplying that water to the Westport and Wauna systems.

System:	Wickiup Water District
Estimated Total Population Served:	1,300-1,600 (467 services, all metered)
Existing Source and Water Rights:	Little Creek - 2.1 cfs
Estimated Capacity of System:	475
Potential Source:	Astoria System

	(No.)	(Cap.)
Storage Sites - Existing		
- On system reservoirs and capacity	1	200,000 g.
- Impoundments and capacity	2	300,000 g.
Storage Sites - Potential		
- On system reservoirs and capacity	None	
- Impoundments and capacity	None	

Existing Potential to Support:	Near Capacity
Treatment:	Chlorination
Comments:	

With an extremely small (300,000 g) impoundment reservoir, only 2.1 cfs in water rights, and an extreme low stream flow of 0.31 cfs, the system has almost no potnetial to support any additional growth. Through their connection with the Burnside Water Association which is interconnected with the Astoria system, it is feasible that they could purchase sufficient water to support some limited, controlled growth. This would necessarily assume that Astoria would develop at least part of the available water rights.

System:	Willowdale Water District	
Estimated Total Population Served:	155 (37 services, all metered)	
Existing Source and Water Rights:	City of Astoria	
Estimated Capacity of System:	No Data	
Potential Source:	No Data	
Storage Sites - Existing	(No.)	(Cap.)
- On system reservoirs and capacity	None	
- Impoundments and capacity	None	
Storage Sites - Potential		
- On system reservoirs and capacity	No Data	
- Impoundments and capacity	No Data	
Treatment:	By the City of Astoria	
Comments:		

None.

System:	Youngs River/ Lewis & Clark Water District	
Estimated Total Population Served:	1,750 (695 services, all metered)	
Existing Source and Water Rights:	Barney Creek (NF & SF) - 2.0 cfs	
Estimated Capacity of System:	Near Capacity	
Potential Source:	Youngs River (Astoria System)	
Storage Sites - Existing	(No.)	(Cap.)
- On system reservoirs and capacity	3	5,000 g.
- Impoundments and capacity	None	
Storage Sites - Potential		
- On system reservoirs and capacity	None	
- Impoundments and capacity	2	18,700 ac.ft.
Existing Potential to Support:	*Near Capacity	
Treatment:	Chlorinated	
Comments:		

*This system could support as many as 4,400 residents if they were to draw their full 2.0 cfs from Barney Creek. However, due to the extreme low flow estimate of 0.55 cfs, a more realistic figure is in the order of the present population estimate or about 1,600. There is a potential storage site identified on the Youngs River that would impound some 12,800 acre feet and certainly would, if developed, afford the Youngs River - Lewis & Clark system adequate water commensurate with their needs for future growth. The district has hired an engineer to do an analysis of the system and develop a program for future improvements.

INDIVIDUAL WELLS/SPRINGS

As it becomes more difficult in certain parts of the County to obtain water from a rural water system, more people will turn to a well or a spring as an alternative water source. Within this County springs are more likely to provide a source of water than wells. The number of people using springs as a water source is unknown. In those areas of the County where springs are used, the major problems have been quantity and quality of water. September tends to be the time of the year when many springs run dry or have very low flows. Persons who are using a spring as a source of water are required to apply to the Water Resources Board for water rights.

The availability of groundwater to wells depends on the permeability of geologic formations and their capacity to absorb, store and transmit water. Due to the sedimentary formation in vast areas of the County, drilling for potable water is somewhat a gamble. (See Map 4) Rain falling on the impermeable slopes of volcanic and marine sedimentary rock is rejected and runoff is rapid. The amount of water that enters the rock units is small; although it will often yield an adequate amount for domestic use, it might be brackish. Groundwater in the alluvial plains is more abundant due to the permeability of the gravels and sands and seepage from the river. Generally, water can be obtained at shallow depths in the wider floodplain areas. Most wells in the alluvial lowlands produce good quality water for domestic use. Hard water, usually high in calcium and magnesium, is likely to occur in wells in marine sedimentary and volcanic rocks.

POTENTIAL WATER SUPPLY FOR CLATSOP COUNTY .

The potential water supply includes, in addition to numerous reservoirs that have been considered in the past, substantial quantities of groundwater from the Clatsop Plains dune sand aquifer, the artesian aquifer in the Gnat Creek area, and water from the Columbia River. A summary of potential surface water supplies is contained in Table 3 on page 31.

Columbia River

The Columbia River could supply all the water needs for Clatsop County. Average low flows at the mouth of the river are recorded in the range of 90,000 cfs, while the consumption rate for the entire population of Clatsop County, based on a maximum daily per capita use of 290 gallons, is about 13.5 cfs. This shows the relatively insignificant amount of water that would be taken from the Columbia River to serve all of the needs of the County. Another comparison would be with the Crown Zellerbach Mill at Wauna 1/ which processes about 40 million gallons of water a day, or 61.9 cfs of water--more than four times that required for the remainder of the County.

Although there are large quantities of water available, there are problems involved with the use of the Columbia River as a water supply that require careful study and analysis. First, the river contains some, no matter how minute, radioactive material.2/ Second, considerable liquid waste effluent, some raw, some with only primary treatment, is discharged into the river upstream. Third, saltwater intrusion could dictate a potential water treatment plant location no further downstream than the Wauna area, as it is not yet economically feasible to process saline water for human consumption. Fourth, were there a significant diversion of water upstream, such as to California, or very high tide level with extreme low stream flows, the saltwater intrusion zone could move even further upstream, making it more expensive to the consumer to process and transmit Columbia River

1/ Clatsop County Long-Range Plan, 1968.

2/ "Plutonium-production reactors at Hanford, Wash., release many radionuclides to the Columbia River. Most of these radioactive materials quickly decay after their release to the environment. Longer lived radionuclides, however, do persist to become associated with particulate matter in the water and be precipitated to the river bottom, or to remain in solution and be carried to the sea."

A.T. Pruter and D.L. Alverson. The Columbia River Estuary and Adjacent Ocean Waters. (Seattle: University of Washington, 1972) pg. 777.

water to Clatsop County. With these considerations and the U.S. Corps of Engineer's data,[1] it would appear more feasible at this time to consider Columbia River water for uses which would not require large capital investments in treatment, storage, and transmission systems.

Artesian Aquifer - Gnat Creek

A recent report from the State Engineer's office on a well drilled for the Gnat Creek Fish Hatchery, east of Knappa Junction, indicates that the lava rock underlying the area could be a significant artesion groundwater aquifer. The well was drilled to 305-ft. and developed to 250-ft. Yield from the boring was up to 100 gallons per minute with a pressure of 42 psi.

The potential of the aquifer cannot be measured until further studies explore the limits of it. We can surmise, however, that subsequent borings yielding a similar capacity to the test well might be sufficient to adequately augment the water supplies of the independent water districts in the area. Map 3 on page 32 shows the location and general area the aquifer could possibly cover, based on present geological data.

The Clatsop Plains Aquifer

A report prepared in 1970 by Mr. F.J. Frank of the U.S.G.S. in cooperation with Clatsop County [1] has shown the Clatsop Plains dune sand area to have considerable potential as a groundwater resource. Presently, the only area where the dune sands groundwater is being used as a primary community water supply source is in the private Surf Pines Development. About 90 homes are connected to the system, some occupied only on a seasonal basis.

According to the report, there are approximately 10 square miles in the central part of the dune area which are favorable for development of this water supply (see Map 3 on page 32). The areas immediately adjacent to the ocean, the Necanicum River at its mouth, and the northernmost extension of the dune area, are not considered good withdrawal areas because excessive pumping from the aquifer could permit saline water intrusion. Further, the dune area east of U.S. Highway 101 lies in low, boggy areas and groundwater from there could have an excessive iron content which, although not harmful to health, has an unpleasant taste and would tend to stain plumbing fixtures, cooking utensils and laundry.

The total volume of deposits saturated with freshwater in the dune sand aquifer is estimated at more than 900,000 acre feet. The estimated maximum volume of freshwater that could be pumped from that reservoir is 180,000 acre feet (20%), or nearly 60 billion gallons. Given that storage in the aquifer, an annual infiltration of up to 60-inches of precipitation into

1/ Carl E. Green & Associates, op. cit., pg. 91.

2/ F.J. Frank, Ground Water Resources of the Clatsop Plains Sand Dune Area, Clatsop County, Oregon. U.S.G.S. Water Supply Paper 1899-A (Washington D.C.: USGS, 1970) p. 41.

the dune sands (of which approximately 15-inches is lost to the evapotranspiration process), as much as 2,500 acre feet of water per year per square mile (2 million gallons per day per square mile) may be available for withdrawal. Based on a maximum daily per capita consumption rate of 290 gallons, a water system using the 10 square mile area of potable water from the aquifer could potentially support a resident population in excess of 50,000 persons.

Although development of the dune sand aquifer has the potential mentioned above, it is not likely to be economically or environmentally feasible to withdraw all the water that is available. It would require a great many wells and might possibly lower the level of the nearby lakes. A more feasible use for the aquifer, should it be developed, would be to augment the existing water systems of the Seaside-Gearhart and the Warrenton-Hammond areas.

TABLE 3

PRIMARY SOURCES OF POTENTIAL DOMESTIC SURFACE WATER SUPPLIES

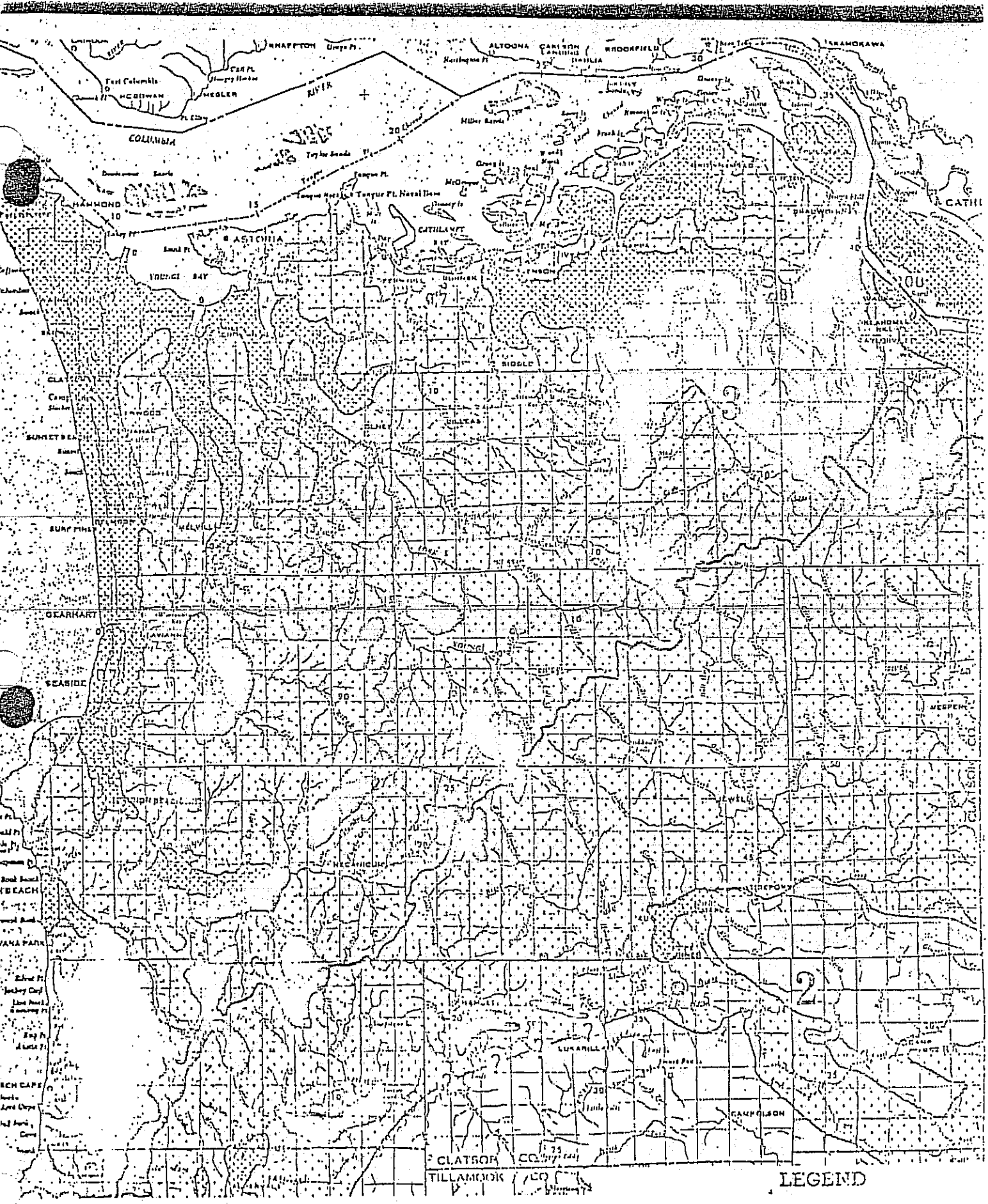
Source	No. of Systems on Source Now	Estimated Population on Source Now	Est. Avg. Summer Population	Existing Water Rights (cfs)	High/Low Stream Flow (cfs)	Present Storage Capacities (Mg) @ Impoundment 1/ On System 2/	Potential Impoundment 1/ Capacities	Comments
Plympton Creek	0	0	-	0.4 S.P.S. KR	20/1.1 diversion site	0		Limited potential for Wauna-Westport area
Bear Creek (Astoria Sys.)	7	Not sufficient data	No Data	3.0 City of Astoria	15/3.0	I = 202.0 R = 25.55	None	No additional water available
Big Creek 3/	0	0	-	27.38 (25.0 to O.S.F. Comm.)	50/3.0 storage site	0	2,000 acre ft.	Storage potential to benefit fish and municipal requirements.
Valluski River	0	0	-	0.05 Non-Consumpt.	No Data 0.36 stor. site	0	3,500 acre ft.	Good potential to supplement Astoria system.
Klaskanine River 3/ (No. Fork)	0	0	-	None	44/0.8 storage site	0	1,000 acre ft.	High cost to transmit water to Pupulous.
Klaskanine River 3/ (So. Fork)	0	0	-	None	40/2.2 storage site	0	1,200 acre ft.	Areas could be developed to augment Astoria system.
Lewis & Clark River 3/	3	3,900	11,000	17.0 Warrenton intake	45/3.6	R = 1.6	No Data	Good potential for Warrenton system - storage will be required.
Youngs River & Tributaries	1	1,600	-	49 Astoria	40/4.1 storage site	I = 3,912.0 R = 0.1	18,700 acre ft.	May yield from 12 - 20 mgd for city and industry - good potential.
Nehalem River	2	2,300	15,000	15.0	20/3 at intake	R = 18.0	Lacks good impoundment sites - water could be diverted from Nehalem River to supplement flow year 'round.	
Elk Creek Basin	1	1,100	4,100	2.6	23/0.8 at diversion	R = .172	None	Good potential for Cannon Beach area.
Nehalem River Drainage Basin	None in Clatsop County	-	-	None in Clatsop County	200/0.7 (North Fork)	None in Clatsop County	15,000 (+) acre ft.	Water could be pumped from Nehalem R. tributaries to Nehalem River tributaries.
TOTALS	14	20,000	40,000 (+)					

1/ Impoundment - (I) - storage reservoir site on stream (back-up behind dam).

2/ On system - (R) - storage reservoir in or near community (usually a large tank).

3/ Although these rivers exhibit some potential for domestic water use, they are presently closed to further development for any purpose other than the protection and propagation of fish life. Note: A systematic analysis of any source, whether being used or considered for potential use, is needed to determine each's ability to supply domestic water systems and still adequately maintain natural life systems dependent on the source.

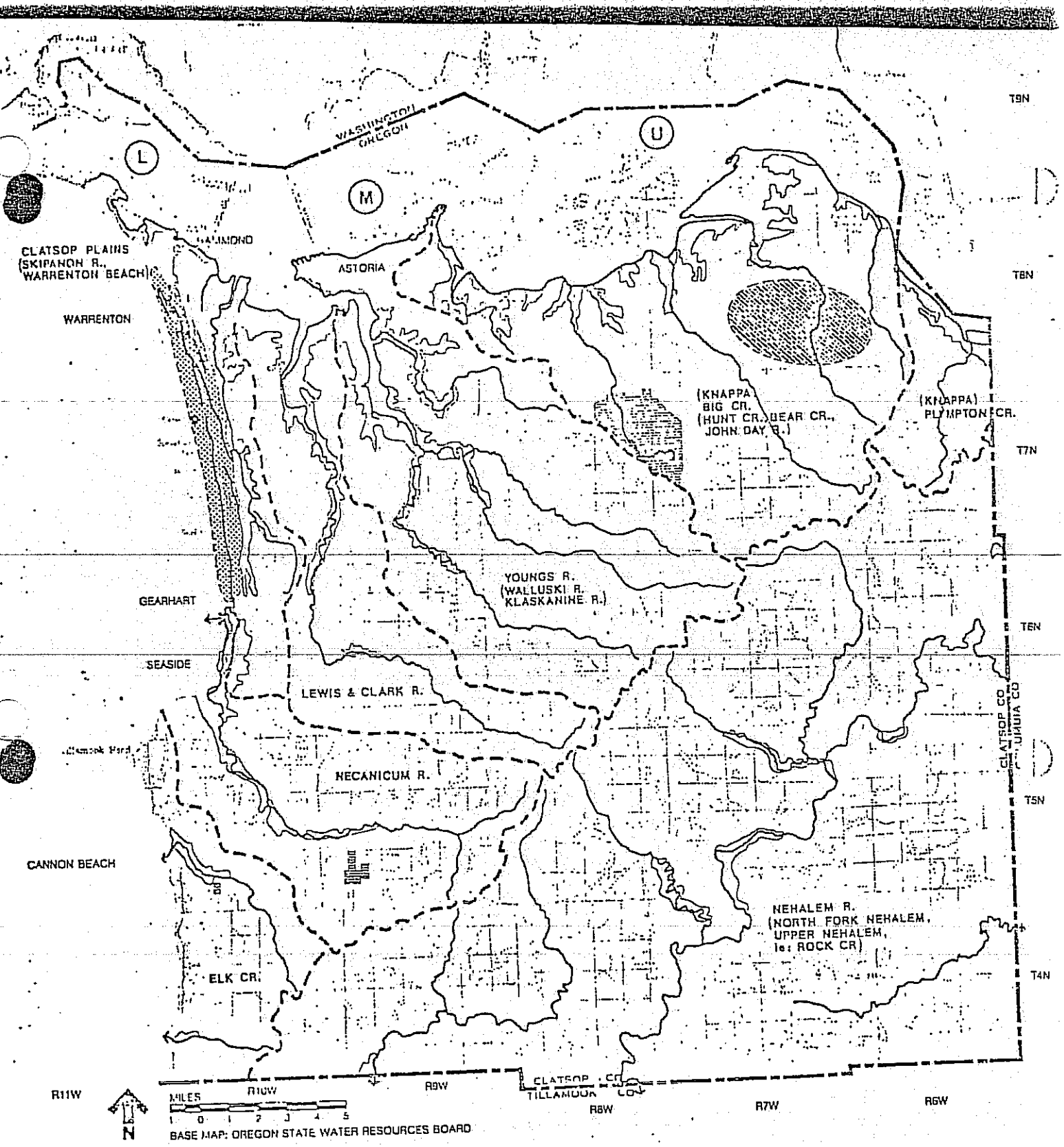
Source: Engineering and Planning Report - Water Supplies and Sewerage of Clatsop County, Carl E. Green & Associates, Portland, Oregon 1968
Resource Analysis - Clatsop County, Oregon, Compiled by Cooperative Extension Service, Resources Development Section, Oregon State University; Corvallis, Oregon, January 1964.
Report of Clatsop County Long-Range Planning Conference, 1968.



MAP 4

WELL YIELD CAPABILITY

GEOLOGIC UNIT	YIELD CAPABILITY
Alluvium	Medium
Columbia River Basalts	Low
Basaltic Lavas and Tuffs	Very low



MAP 3

CLATSOP COUNTY
GENERALIZED
HYDROLOGY

SOURCE: OREGON STATE WATER RESOURCES BOARD, OREGON STATE ENGINEER, & U.S. SOIL CONSERVATION SERVICE
(Estuary Zones and Coil Sims, U.S.N.M.F.S.)

WATERSHED BOUNDARIES

MAJOR RIVERS & CREEKS

WETLAND AREAS
(Bogs & Marshlands, Tidelands, and Floodplains)

DUNE SAND GROUND WATER AQUIFER

LAVA ROCK GROUND WATER AQUIFER

MUNICIPAL WATERSHED

ESTUARY SALINITY ZONES (Approximate)

L — LOWER - (Saline Water) MARINE ZONE

M — MIDDLE - (Brackish Water) TRANSITION ZONE

U — UPPER - (Fresh Water) TIDAL ZONE

WASTE DISPOSAL

MUNICIPAL SEWER SYSTEMS

Astoria

Astoria's lagoon treatment facility was built in 1974 at a cost of $8.6 million. The system was designed to handle 4 million gallons per day (MGD) average and a peak flow of 24 MGD. Presently (1977) the average flows range from 1.36 MGD (July) to 7.86 MGD (Nov.). Peak flow recorded since 1974 was 18.7 MGD. The plant currently achieves a 92-99 percent reduction of sewage wastes. Effluent is discharged into the middle of the Columbia River channel. Storm sewers and sanitary sewers are combined throughout most of the city. Only the downtown area has separate systems. The interceptor and lagoon system was designed for a population of over 20,000. At an average yearly increase of 50 persons per year, the system should accommodate residential growth well past the year 2030 originally used as a design goal. No industrial development is planned which would exceed system requirements.

Since the city has been meeting its wastewater discharge requirements and is within its system capacity, it does not appear necessary to separate storm water and sanitary sewer systems.

The city is currently planning extension of the system to the Williamsport area (55 homes), and the connection of 30 houses in Alderbrook. Tongue Point and Emerald Heights are being considered as additions to the system since the treatment plant serving those areas is deteriorating.

It is not clear what costs or other alternatives are possible for the extension of sewer service to the Miles Crossing-Jeffers Gardens area. The possibility of a low pressure sewer is being explored, but this system (using a pressurized 4" PVC pipe connected to existing septic tanks) would not support major growth in the area. A conventional system has been very tentatively estimated to cost between $1.5 - $2 million for an interceptor.

Warrenton

The city of Warrenton operates and maintains a sanitary sewage collection system and primary and secondary treatment facility.

In June of 1978, a sewage lagoon study was completed for the city by Dorner and Tunks, Consulting Engineers. This study calculated the capacity of the existing lagoon system and estimated current use levels. Projections were then made upon future use demands for Warrenton and the impacts of connecting the town of Hammond and Fort Stevens State Park to the Warrenton treatment plant. The lagoon study estimated that 1750 to 2000 residential inhabitants are now served by the collection system and that the existing treatment plant could serve a population of 4500. Accordingly, the plant is currently operating at 45% of its rated capacity.

The average per capita flow into the lagoons was estimated to be 120.5 gallons per day. Based on the capacity and daily flow information above, the following

estimates were made as to when the treatment plant would reach its capacity, both with and without the addition of flows from Hammond and Fort Stevens State Park. It it is assumed that the population of Warrenton will grow at an annual rate of 3%, the treatment plant has the capacity to handle in-city waste flows until the year 2000. If the same 3% growth rate is assumed and Hammond and Fort Stevens State Park are connected to the system, the lagoon capacity would be reached by the year 1985.

On November 15, 1978, the city of Warrenton entered into an agreement with the town of Hammond to allow Hammond to connect into the Warrenton treatment plant. Hammond will be responsible for the construction of the collection system within its municipal boundaries and for the construction of a sewer main line from the Hammond city limits to the Warrenton treatment plant, south along NW Warrenton Drive. As part of this agreement, initial steps were taken to obtain federal funding to partially offset the cost of expansion improvements to the Warrenton treatment plant. Also, a preliminary estimate was prepared for determining the shares which Warrenton and Hammond would be required to contribute as local matching funds to a federal grant.

The city of Warrenton will require Fort Stevens State Park to enter into a similar agreement if it desires to connect onto the Hammond collection system and, in turn, have its sanitary wastes treated at the Warrenton treatment plant.

Gearhart

Wastewater disposal in Gearhart is achieved by on-site systems, principally septic tanks. This practice and potential influences on groundwater quality has been a subject of debate for several years. The concern is over the level of nitrates in the groundwater, which is increased by septic tank discharges and other human activities as well as by natural vegetation.

The City of Gearhart has prepared a wastewater facilities plan considering wastewater management alternatives within its incorporated limits. The findings are that the low density development existing within the community and projected in the City's Comprehensive Plan would not result in nitrate levels exceeding five milligrams per liter (mg/l), which is the administrative limit set by DEQ for the Clatsop Plains Aquifer. As a result, the proposed plan is to continue with on-site waste disposal but to establish a City utility to assure the proper maintenance and repair of septic tank installations.

The Department of Environmental Quality has since amended the moratorium in Gearhart and is allowing some new construction. Currently building permits are based on an averall city density rather than a density per lot. Monitoring results from the County groundwater quality study during 1978 indicate that the observed nitrate concentrations are less than the conservative estimates initially predicted.

Gearhart is participating in a Groundwater Quality Study under the Section 208 Program (PL 92-500). It is anticipated that this study will establish the water quality parameters and wastewater management quality protection program. Implementation of the City's proposed Wastewater Facilities Plan is therefore held in abeyance until completion of the 208 study.

Seaside

The sewage treatment plant of the City of Seaside is serving a population equivalent of 5,000 people which is close to the capacity of the treatment plant.

In recent years, the City of Seaside's sewage treatment facility has experienced difficulty in meeting effluent standards for discharge into the Necanicum River. The treatment plant frequently has sewage flows which greatly exceed the 1.0 million gallons per day plant design capacity. This is due to the severe infiltration and inflow in Seaside's sewage collection system, caused by the widespread occurrence of defective joints and broken pipes. Many sewers are severely plugged with sand and sludge. Infiltration and inflow into Seaside's sewage system has also resulted in occasional overflows of untreated combined sewage into the Necanicum River. DEQ has estimated the City has a sewer capacity for an additional 135 hookups. These conditions have resulted in a Stipulation and Final Order issued by the Oregon Department of Environmental Quality that required the City of Seaside to prepare a Facilities Plan which has been completed. The City is in the process of doing detailed engineering and obtaining funds for the improvements needed.

Cannon Beach

The City of Cannon Beach operates a 12-acre lagoon system to treat its wastewater. The system meets treatment requirements during the fall, winter and spring, but does not meet water quality requirements during the summer months due to low flows in Elk Creek.

The City and DEQ have been discussing limitation to sewer hookups. The City has decided to pursue a low technology approach to waste treatment. The consulting firm hired by the City has recommended a marsh system. At this point, it is unclear when any improvement will be made to the existing sewer system.

COMMUNITY SEWER SYSTEMS

Community sewer systems have developed in the unincorporated County as a result of a health hazard (such as in Arch Cape) or the wish to develop an area where septic systems were not feasible (such as Cullaby Lake). DEQ in the past has discouraged the development of these package systems due to the regulation and quality control problems normally experienced. Below is information on various small sewer systems in Clatsop County.

Location	Comments
Arch Cape	The Arch Cape Sewer County Service District located south of the City of Cannon Beach has a sewer system that was completed in 1975. The system is designed for a population equivalent of 1,150 persons with a present population in the summer months of 450 to 500 people.

Location	Comments
Camp Rilea	To meet the continued expansion of the National Guard training program, a sewage lagoon system has been constructed on the southeast boundary of Camp Rilea. The system is designed for a population equivalent of 2000 to 3000 people on a year-round basis. The present usage is around 1,500 people during the summer months. Camp Rilea sewer system could provide treatment to a sanitary district in the area around Sunset Beach and Cullaby Lake. The district, if formed, would have to operate and pay for expansion of the treatment plant.
Shoreline Sanitary District (Cullaby Lake)	Shoreline Sanitary District, a private system, serves a population equivalent of 220 people with a capacity of 500 people. The owner of the system is looking into the possibility of expanding the plant's capacity to an equivalent of 1,200 people.
Tongue Point	Located east of Astoria, the Tongue Point Job Corps Center, originally a Navy installation, has a primary and secondary treatment plant. The system was tied into the City of Astoria treatment plant in 1979.
Sundown Sanitary District	A primary system built for the Navy hospital during WWII. The site is no longer being used for a hospital. At the present time the system is being used for residential as well as manufacturing uses. The system has a design capacity of 62,000 gpd with a present usage varying from 16,000 to 35,000 gpd.
Fishhawk Lake	A small private domestic sewer system with a design capacity of 270 hookups. Present usage is approximately 53 hookups, most of which are seasonal.
Wauna Mill	The Crown Zellerbach mill has a sewerage treatment plant designed for industrial treatment.
Florence I. Tagg Grade School (Westport)	This system is designed for school use only. Present usage is around 4000 gpd while design capacity is at 5000 gpd.

Location	Comments
Olney School	A small domestic system designed for school use only.
Westport-Wauna	The Westport-Wauna area has poorly operating septic tanks that daily dump raw waste into lower Plympton Creek. A sewer district has been formed, as well as a preliminary draft of the Wauna-Westport Facilities Plan developed by CH2M-Hill. What has and will continue to delay the system from being built has been the lack of EPA funds. At this point, the district is looking at 3 to 5 years before construction could begin.
Miles Crossing	There has been some interest expressed by the people in the area for a sewer system. Provisions have been made in Astoria's Comprehensive Plan that at such time as development is proposed which would require urban services, the County should investigate the cost of extension of City services versus the formation of special districts.

SEPTIC SYSTEMS

The majority of non-urban county areas are served by septic systems. All areas cannot, however, be served due to limitations imposed by high water-table, insufficient soils above the bedrock, slopes greater than 25%, lot size and soil type/composition and its associated permeability.

The best soils for domestic septic tank systems are those which are well drained, have moderate permeability, and gentle slope. Also, soils should not be subject to flooding, high water table, and ponding nor should they overlie open, gravelly material which would allow contamination of ground water.

Soils which are dry and have good drainage characteristics will permit absorption and filtration of the organic matter suspended in discharged effluent. This drainage process is known as percolation and is essential to the proper functioning of a drainfield. In order to insure effective treatment, the soil must have a moderate drainage rate--too slow and the effluent may rise to the surface and too fast the unfiltered effluent may enter underground water sources or seep into streams and rivers. In either case, the potential for contamination exists.

In general, soils in Clatsop County have characteristics which allow drainfield operations. There are, however, septic system limitations in the diked tide land and steep sloped areas of the County. Each proposed subsurface sewage disposal site is considered on an individual basis.

First of all, there are geological and topographical considerations. A large majority of the area in Clatsop County is composed of steep and rugged terrain which is highly unsuitable for septic tank operations. Not only is the slope too great, but the depth of the soil is shallow. In most cases, these areas are used exclusively for forestry.

The lower valley areas have less severe limitations. Here the soil characteristics themselves--texture, structure, shrink-swell potential, permeability, etc.--are generally more conducive to proper drainage rates that insure effective treatment. There are, however, problems in some areas with high water tables and winter surface water predominantly in the diked tidelands area.

A critical consideration in septic tank operation is development density. With the exception of steep terrain, high water table, bedrock, and flood plain areas, a septic tank system, if properly designed and constructed, can be made to function adequately in most soils. Problems result when development densities become too great for the soil to accommodate the resulting effluent discharges. For example, a few homes scattered about a new subdivision on one acre lots may operate very effectively with individual drainfields. However, when the subdivision becomes fully developed with homes on every adjacent lot, the soil may become saturated with unfiltered effluent which could eventually surface and/or contaminate wells and other groundwater sources. The result is a potentially dangerous health situation.

The subsurface sewage disposal program is operated by the Department of Environmental Quality. Statistics for the inspection of septic sites indicate a 90% approval rate for installation of systems in 1978, while in 1977 it was 88% and 92% in 1976.

In areas where conventional systems may not be feasible, alternative and/or experimental systems may be utilized. The experimental systems program began on a non-funded basis in late 1975 with funding supplied by the legislature in 1977. Presently, there are 148 permits for use of 11 experimental systems in Oregon. Some of these systems are potentially available for Clatsop County; all are alternatives. These systems are not part of a standard permit process for property that has been found to be unsuitable for a standard system. Possible alternative systems are as follows: disposal trenches in soil shallow to weathered bedrock; disposal trenches in drainable wet soils; pressure distribution system in sandy and gravelly soils; seepage trenches in soils on steep slopes; sand filter followed by disposal trenches; mound; and gray waste water disposal trenches. There are 2 experimental systems presently approved for operation in Clatsop County. Another alternative system presently utilized in the County is a holding tank for commercial or industrial use.

Below is some general information on septic tank limitations in various parts of the County.

LOCATION	COMMENTS
Westport-Wauna	Floodplain, foothill, and upland soils (low permeability and slope). Area generally considered not good for septic drainage. An ad hoc building ban currently exists in the area. SCS soil limitation rating--Severe.
Bradwood	Terrace bench and floodplain soils (low permeability or high water table). Area generally considered poor for septic drainage. SCS soil limitation rating--Severe.
Knappa-Svensen	Problem with houseboats on John Day River. Area has some of better drained terrace soils in County (Knappa). Seasonal high water table and moderate permeability of the Wallooskee soils make it marginal for septic systems. SCS soil limitation rating--Moderate to Severe.
Jewell-Elsie	Terrace soils (Knappa) with moderate drainage. (Chitwood and Hebo) with seasonal high water table and ponding. Floodplain soils (Nestucca) moderately slow to moderate drainage--subject to occasional flooding. Area considered poor for septic drainage. SCS soils limitation rating--Moderate to Severe.
Olney	Terrace soils (Chitwood and Hebo) west of Olney have seasonal high water table and ponding. Floodplain soils along river subject to high water table and occasional flooding. Foothill soils (Tolovana) north of Olney have moderate permeability. Area considered poor for septic drainage. SCS soil limitation rating--Moderate to Severe.
Miles Crossing-Jeffers Gardens	Diked tideland soils. Water table near surface at all times. Area considered poor for septic drainage. SCS soil limitation rating--Very Severe.

LOCATION (cont'd)	COMMENTS (cont'd)
Clatsop Plains	The Clatsop Plains are underlain by windblown sands with a high hydraulic conductivity. Septic tank drainfield effluent is easily disposed of but is not adequately treated for all contaminants in this medium. High density residential development which uses septic tank drainfield disposal systems will pollute the aquifer.

SOLID WASTE

Introduction

Solid waste affects the quality of the County's environment in several ways by degrading the land, fouling the air and water, and providing a continuing problem for people and officials charged with disposing of it. As population increases, it is no longer a simple matter of taking the garbage to the dump. The environmental considerations, as mandated by State and Federal laws, must be given equal weight with economic and political factors. The County must overcome the problem identified by the former Mayor of Houston, Louie Welch, when he said "Everyone wants us to pick up his garbage, but no one wants us to put it down."

The County's solid waste "stream" consists of the old refrigerators seen along logging roads, the household garbage burning in the dumps, and the many tons of fish wastes that , at this time, cannot be utilized in other ways. Solid waste can be seen as both a burden and an opportunity as resources become scarce.

Clatsop County, with a permanent population of approximately 30,700 in 1975 generates about 17,670 tons of solid waste per year. Virtually all of this solid waste is deposited in open dumps. (See Table 4)

TABLE 4
SOLID WASTE GENERATION
In Tons

	1975	1980	1985	1990	1995	2000
CLATSOP COUNTY *(Population)*	*30,700*	*32,600*	*34,500*	*36,100*	*37,500*	*38,800*
Permanent Residents	15,870	18,630	21,840	25,070	28,855	32,940
Seasonal Residents	1,800	2,350	3,075	4,020	5,250	6,860
TOTAL	17,670	20,980	24,915	29,090	34,105	39,800

Source: Clatsop-Tillamook Solid Waste Management Plan, June, 1974, Clatsop-Tillamook Intergovernmental Council

Below in Table 5 is a brief discussion of the five solid waste disposal sites in Clatsop County. Of the five sites, three are land fills and two are dumps. A sanitary land fill is distinguished from a dump in that the sanitary land fill process compacts and confines the refuse to the smallest possible area and then covers the refuse with a layer of earth at the end of the day or, at least, at frequent intervals.

TABLE 5

CLATSOP COUNTY SOLID WASTE DISPOSAL SITES

Site Location	DEQ Permit	Area Served	Type of System	Comments
Astoria	Yes	City of Astoria	Sanitary land fill backfilled daily	Pick-up is mandatory for city residents. Burning of paper and cardboard. Water pollution potential--stream runs through site. Rodent population controlled by monthly poisoning.
Warrenton	Yes	Warrenton Hammond Ft. Stevens North Clatsop Plains	Sanitary land fill compacted and backfilled daily.	No burning. No rodent population. No present danger of water pollution.
Seaside	Yes	Seaside Gearhart South Clatsop Plains	Dump over embankment.	Frequent complaints: potential leachate during rainy season. No controls on burning. Large rodent population, although poisoned monthly.
Cannon Beach	Yes	Cannon Beach Area	Dump over embankment.	Potential air-water pollution problems due to occasional burning and surface runoff. Rodent population controlled by monthly poisoning.
Elsie	Yes	Elsie and Area	Sanitary land fill--dump in trench; cover when full.	No pollution problems. No rodents.

Source: Clatsop County Planning Commission Staff and Oregon Department of Environmental Quality.

Over the last several years, a few solid waste sites in Clatsop County. have either been filled up or closed due to new environmental standards developed by the federal government. Also many of the current sites are close to capacity.

As a result of the problems with the existing solid waste sites, a study was completed by CTIC in 1974 which is titled Clatsop-Tillamook Solid Waste Management Plan. The recommendations from the study follow.

SUMMARY OF RECOMMENDATIONS FROM CLATSOP-TILLAMOOK SOLID WASTE MANAGEMENT PLAN

Essential elements of the recommended solid waste management system in District One are as follows:

1. Establishment of a Service District in each county which will coordinate solid waste management for that entire county. Adoption of intergovernmental agreements with all cities for full participation in implementation of this plan as a part of their respective Service District.

2. Mandatory collection in all areas so designated by the Service District (on the basis of concentration of residences). The landfill will not be open for private vehicle hauling of wastes except at set hours each week during which yard wastes or other special loads (garage cleaning, etc.) will be accepted. Exceptions to the collection requirement in mandatory collection areas may be granted if it is demonstrated that all waste from the premises in question is being disposed of in some other acceptable fashion.

3. Landfill development for Tillamook County at the Vogt Site on the Trask River; for Clatsop County, at the Skipanon Site in Warrenton.

4. Installation of a grinding facility at the Skipanon Site; no processing in Tillamook County.

5. Transportation of waste to the landfills from distant collection points considered part of the disposal system and financed through it; that is, separation of the collection function from the long haul. Initially, Service Districts will contract with distant collectors to perform the long haul in their collection vehicles.

6. Eventual installation of transfer facilities in the Pacific City and Rockaway areas.

7. Assessment of an annual disposal fee from each residence and business to provide operating funds and funds for discharging debts incurred in setting up the transfer and disposal systems. Initially, this fee will be assessed by the Service District through tax rolls and direct billing. When the system is operating in a stable fashion and mandatory collection is well established, it may become more efficient for the collector to bill for disposal and reimburse the Service District.

8. Continuous review and evaluation of all system components by an Advisory Committee or committees so that necessary revisions of the Plan or operating procedures will be recommended and acted upon at the earliest possible time.

9. Service District oversee a program for closure of existing dumps, as outlined.

After five years, these recommendations have not been implemented. Essentially the same open dumps and modified landfills are still in use now as in 1974. The reasons for the present situation are varied and complex, but some of the factors are:

1. The problems of high rainfall, steep slopes, poor soils and citizen concerns make finding a landfill very difficult. The Department of Environmental Quality has been reluctant to approve any landfill sites it feels could cause water pollution problems.

2. Some sites, such as Clifton near the Columbia County border, are too remote. The Skipanon site was rejected because of environmental problems and proximity to the airport. The BPA site is not available due to federal land transfer policies.

3. Smaller volumes of waste make resource recovery uneconomical on a large scale. The County was actively supporting a two-county composting/recycling operation for a period of time, but found that the costs and lack of market for the product made the concept infeasible.

4. Waste recovery prices do not provide sufficient revenue to make recycling feasible on a mass scale. Community recycling still must depend largely on volunteer labor. However, if a County-wide system was initiated, there is the possibility that a "coordinator" could be paid on a part-time or full time basis. The technology still does not exist to separate recyclables at the end of the "waste stream" (the dump or landfill). Hand separation is still too costly.

5. Although a solid waste district has been established, there is no staff to provide the work needed. The County road-master has had to function as the principal staff person in between other duties.

Since other efforts have not as yet provided a solution, the County is preparing to hire an engineering consultant to investigate other landfill sites. The solid waste collection system will continue to rely on private haulers throughout the County, although the possibility of transfer sites has been investigated as a function of the solid waste district. Both the collection and disposal systems would be financed through user fees.

If the County selects an engineering firm in the fall, the final selection of disposal method or sites should occur by the spring of 1980. Financing and organization could take a year to arrange. Construction of the site could then be started during the spring or summer of 1981, and disposal could begin in the fall of 1981. Closure of other inadequate County dumps would occur after the new site became operational.

The cooperation of the municipalities in the County is essential, since cities establish or approve franchises and collection fees. According to the solid waste plan, it is important that there be a uniform fee schedule, and that credit be given for low income persons.

Recycling

Perhaps a further recommendation might be that credit be given to persons who recycle, possibly through a voucher that could be obtained at a recycling center. This system could stimulate more participation in recycling, and a County-wide system of recycling centers. At the present time, there is a full-range recycling center in Cannon Beach, and newspaper drops in Seaside and Astoria. The Cannon Beach center is funded by a $1000 yearly budget allocation, and by the receipts from the sale of the materials. Once a month, the community collects enough recyclables to fill a 55 foot "semi" trailer. This has generally consisted of the following:

Glass	5 tons
Tin Cans	1 ton
Aluminum	.1 ton
Newspaper	2 tons
Cardboard	1 ton
Magazines	.5 ton
Miscellaneous Paper	.1 ton
TOTAL	9.7 tons

Source: City of Cannon Beach

Current market prices for this material are as follows:

	June 1979	June 1978
Glass	$ 30/ton	$ 30/ton
Tin Cans	30/ton	20/ton
Aluminum	560/ton	340/ton
Newspaper	18/ton	30/ton
Cardboard	47/ton	35/ton
Magazines and Miscellaneous Paper	3/ton	7/ton

NOTE: Refer to 1974 prices in Appendix V.

Source: Beyond Waste, DEQ, July, 1979.

There are a number of options for handling of recycling in the district. They are:

1. Continue strictly volunteer recycling operations.

2. Retain voluntary program, but provide coordination, space and other assistance to volunteer operators.

3. Conduct a fee-supported County operation. At this time a County-wide program would be excessively expensive, but it may become feasible in the future.

Many future actions could reinforce voluntary recycling success. The counties might adopt a credic system whereby individuals reduce their disposal fee through accumulated recycling credits issued at recycling centers. Within the coastal area (as elsewhere) there is a great need for jobs suitable for the handicapped, and the potential of a recycling operation to support a sheltered workshop program ought not be overlooked. Over the long term, the value of a successful community recycling effort as a tool for changing attitudes from viewing household by-products as waste to considering them a reusable resource, with consequent reduction in total volume discarded, should not be discounted.

As the value of various salvaged materials rises, more and more individuals and firms are entering what can prove to be a highly competitive field. In some areas severe conflicts have developed between persons involved in salvage operations (newsprint, cardboard, etc.) and franchised collectors who feel that their businesses are being threatened and their franchise rights violated by these salvage operations. Many problems can be avoided by early clarification of the status of materials which may one day be considered waste and the next, a desirable commodity. The Solid Waste Committee should provide a forum for open discussion of this question, obtain legal advice, and recommend clarification of the Solid Waste Ordinance if such is found necessary.

Energy Recovery

The Solid Waste Plan stated that as of 1974, there was near complete utilization of wood processing residues, and that these "wastes" would become more valuable in coming years. The use of municipal refuse as a supplementary fule is receiving a great deal of attention. In Oregon, studies in Lane County, Lincoln County and the south coast have proposed using solid waste along with hog fuel to produce power. Utilization of the combustible fraction of the waste stream for fuel provides resource recovery in the form of energy from 80 percent of the waste stream.

The amount of processing needed to prepare the waste for use as fuel varies with the type of boiler. Some units can accept unprocessed wastes, while other require shredding and separation of the combustible matter from the non-combustible fraction. Shredding and classification of the wastes facilitate the recovery of other resources from the waste stream.

Alternate methods exist for energy recovery from solid waste. The wastes can be converted to combustible gases and oils by pyrolysis. These fuels can then be used to generate heat. However, pyrolysis and other conversion processes are still in the developmental stages and don't present a short-term solution to the solid waste problems in District One.

If separation can be accomplished at low cost, it is economically advantageous to use waste paper as a source of fiber rather than as fuel. The value of waste paper as a fiber source varies from $20.00 per ton to $60.00 per ton depending on the type and quality of the paper. The fuel value is at most $10.00 per ton based on Btu value.

Fiber recovery and energy recovery are compatible. Since even though the total amount of fuel would be reduced, the average Btu value of the remaining combustible wastes will remain the same or increase.

At present there is no facility in either Clatsop County or Tillamook County which can utilize the combustible fraction of the solid waste stream as a fuel. The plan recommended, however, that the County investigate the burning of combustible solid wastes at the existing mill sites, and that a market for the excess stream be explored.

GOVERNMENTAL STRUCTURE AND OTHER PUBLIC FACILITIES AND SERVICES

LOCAL GOVERNMENT

Within the boundaries of Clatsop County are six incorporated cities and several special purpose service districts, including seven school districts. The basic unit of local government is the county with jurisdiction in all areas for such responsibilities as tax assessment, public records, and the county court. For other responsibilities, such as land use planning, zoning and building regulation, jurisdiction is limited to those areas outside the boundaries of the incorporated cities.

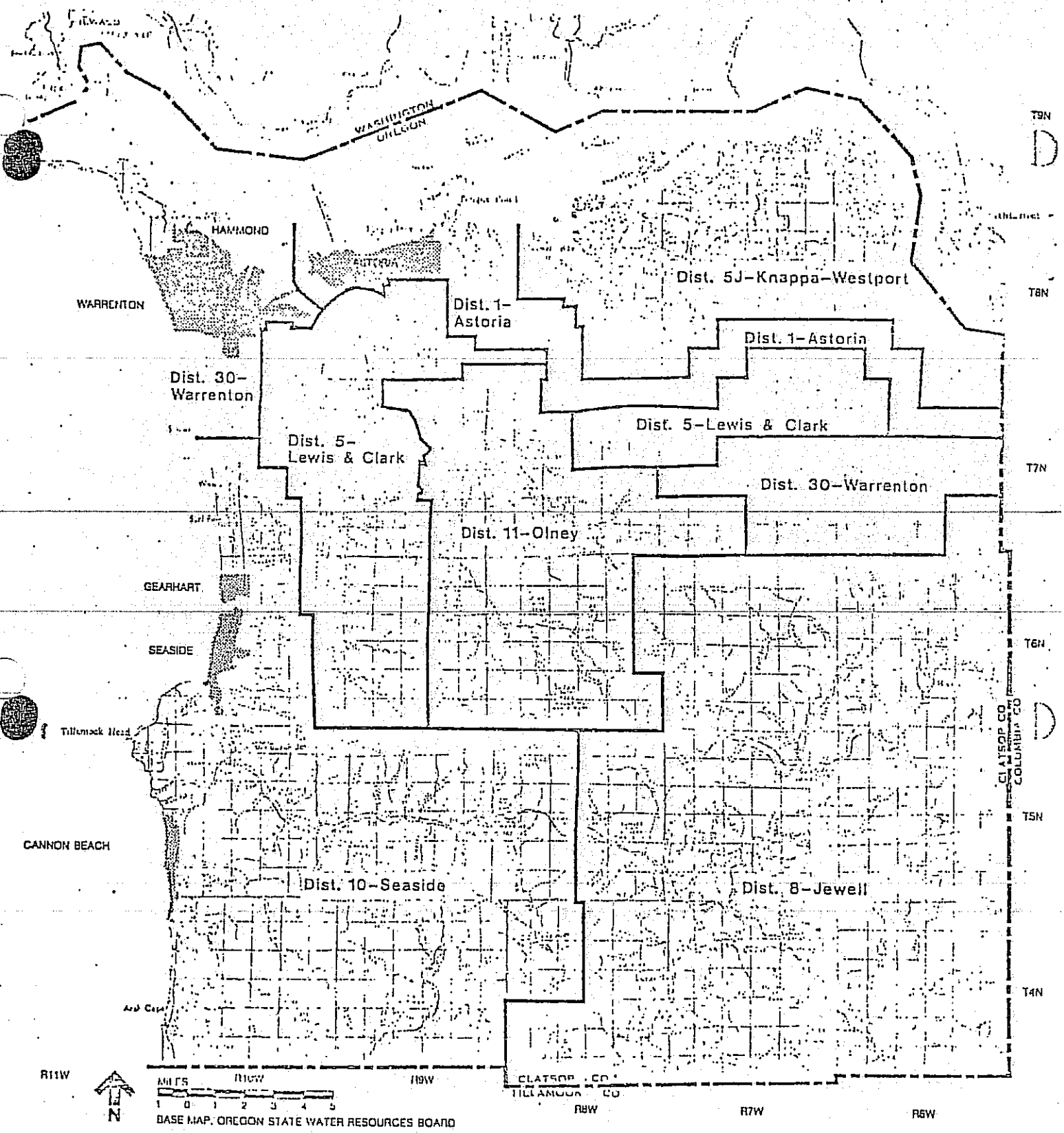
In addition to the cities and county which are general purpose governmental units, there are special purpose districts authorized by Oregon law. The seven school districts which are discussed in more detail below provide educational services. The county-wide intermediate education district provides special educational services. The Clatsop Community College District encompasses the whole county and provides educational services on the campus in Astoria. The Port of Astoria District and the Clatsop Soil and Water Conservation District also encompass the whole county.

The Port of Astoria, under the guidance of the publicly elected Port Commission, maintains a terminal for waterborne commerce at Astoria and the Clatsop Airport on the west side of Youngs Bay.

The Clatsop Soil and Water Conservation District administers land use controls in the Warrenton Dune Area, and provides technical assistance in the use and conservation of the soil and water resources of the county.

EDUCATION

Clatsop County has seven school districts and five complete school systems (defined as facilities to educate grades 1 - 12). The boundaries of the school districts are shown on Map 5, and the capacities of the various school districts are shown on Table 6. The districts are laid out for the purpose of equilizing tax revenue from forest lands which means that students in outlying areas of one district may find it more convenient to attend a school located closer to their homes on a tuition basis. Students in the Olney and Lewis and Clark Districts must attend Astoria Schools for grades 9 - 12 on a tuition basis because their districts do not maintain high schools. There are five private schools in the county: Star of the Sea in Astoria, the Seventh Day Adventist School in Olney, Lewis and Clark Christian Academy in Lewis & Clark, North Coast Christian School in the Clatsop Plains, and Philadelphia Kindergarten in Hammond.



MAP 5
CLATSOP COUNTY
GOVERNMENTAL
DISTRICTS

SOURCE: CLATSOP COUNTY PLANNING COMMISSION

INCORPORATED AREA

SCHOOL DISTRICT

TABLE 6

SCHOOL DISTRICTS IN CLATSOP COUNTY

Public Schools	Grades	Enrollment	Capacity	% of Capacity	Year Built
District #30 Warrenton		(As of 1978)			
Warrenton Elementary	K-6	369	370+	99	1916
Fort Stevens Junior High	7-8	101	125	80	1890
Warrenton High School	9-12	281	300	94	1948

Comments: The district is planning to build a new school to replace the Warrenton Elementary and Ft. Stevens Junior High School at the elementary school site.

District #10 Seaside		(As of 1978)			
Seaside Heights Elementary	K-6	458	478	96	1974
Gearhart Elementary	K-6	244	275	89	1948
Broadway Junior High School	7-8	251	280	90	1949
Seaside High School	9-12	508	600	84	1958
Cannon Beach Elementary	K-6	160	150	107	1948
District 5J Knappa-Westport		(As of 1977)			
Florence I. Tagg Grade School	1-7	118	200	59	1971
Lahti Grade School	1-8	388	450	86	1958, rem.'76
Knappa High School	9-12	256	500	51	1952, rem.'76
District #8 Jewell Consolidated		(As of 1979)			
Jewell	K-12	115	250	46	Grade Sch,1977 High Sch.,1976
District #5 Lewis & Clark		(As of 1977)			
Lewis & Clark Elementary *remodeled several times	K-8	365	425	86	1927*
District #11 Olney		(As of 1977)			
Olney Elementary	K-7	57	80-100	57	1967
Private Schools		(As of 1979)			
Lewis & Clark Christian Academy	K-12	97	200	49	
North Coast Christian School	2-12	28	30	93	
Philadelphia Kindergarten	K	10	15	67	
Star of the Sea	K-8	184	200	92	
Seventh Day Adventist School	1-8	9	30	30	

HEALTH CARE

Clatsop County is served by two general care hospitals, one in Astoria and one in Seaside. The new Columbia Memorial Hospital, located at McCallister Field, is privately operated in Astoria. The facility has 65 acute care beds, an attending staff of 30, a 24-hour emergency room and an occupancy rate of approximately 70 percent.

The Seaside General Hospital built in 1970 has a total capacity of 55 beds and is currently licensed for 34. Union Hospital District was formed in the SW corner of the County to build this hospital. It has an attending staff of 6 and a doctor on duty 24 hours a day. The hospital is under utilized, with occupancy rates averaging around 40 percent. Out-patient and emergency room activity increase in the summer months, with the influx of part-time residents into the County. The hospital conforms to federal standards and is complete with X-ray rooms, laboratories, emergency rooms, and an out-patient clinic that operates five days a week.

There are approximately 20 practicing physicians in Astoria and 6 practicing physicians in Seaside. Fifteen of these physicians are in general practice or internal medicine; the rest are in a variety of specialties. More intensive care or specialized services require a trip to Portland. The County also has 17 dentists and 4 optometrists. Many south county residents use the Rhinehart Clinic in Wheeler for medical care.

The Clatsop County Health Department operates a clinic in Astoria. The programs the clinic operates include preventative medicine information. family planning clinic, vaccine clinics, nutritional programs, school nurse programs and Home Health Agency with nursing and physical therapy. The Health Department has a bi-monthly immunization program in Seaside and clinics in Westport and Svensen. All the clinics include the Women Infant Children Supplemental Nutrition Program. The full-time County Health Department staff includes 11 nurses and a physician.

The County is also served by a mental health clinic which receives County, state and federal funds. The clinic runs a mental health center in Astoria which provides out-patient treatment in the form of group and individual therapy. They have an office in Seaside that is open one day a week. In addition, there is a 24-hour crisis hotline service. The mental health service also had an alcohol counseling program and has a half-way house for clients that have completed a residential treatment program.

There are four nursing homes in the County, two in Astoria and two in Seaside. Their occupancy ranges from 80 to 90 percent. The Clatsop Care and Rehabilitation Center District has recently been organized to provide multi-purpose nursing home care using the old Columbia Hospital. This district encompasses all of Clatsop County except the Seaside Union Health District.

Until June 1977, ambulance service in the County was privately owned. Due to financial difficulty, a County Ambulance District was formed in 1977 to help maintain the same level of service.

PUBLIC ASSISTANCE

The County also supplies public assistance services from its Welfare office located in Astoria. There are three public assistance programs administered by the Welfare office, General Assistance Program, Oregon Supplementary Income Program and Aid to Dependent Children Program. The County welfare office reports that currently 49 percent of their cases are in the Astoria area, 36 percent are in the Seaside-Cannon Beach area, 11 percent are in the Warrenton-Hammond area, and 3 percent are in the rest of the County.

As of November, 1976, there were 423 cases, or 1,204 individuals receiving Aid to Dependent Children Assistance. The County reports that about 75 percent of the households receiving ADC are headed by women. Additionally, in November 1976 there were 615 households, or 1,472 individuals who were not on public assistance programs but were receiving food stamps. The number of persons receiving some kind of public welfare varies from season to season depending upon the economics of the time. Layoffs by large plants such as Bumble Bee in Astoria often result in the temporary increase of the public assistance rolls.[1]

POLICE PROTECTION

The State, County and local governments all have a role in police protection. There were a total of 74 sworn officers in the study area in 1977. Within the unincorporated County about 80% of the crimes are burgleries and vandalism. The rural County has about the same crime rate per 1000 as do the cities in the County. Clatsop County has funding for 8 sheriffs to protect a rural population of 10,900. Clatsop County is deficient in the level of police protection that is currently being provided. The national median average is one officer to 1000 population, while in Oregon the average number of sworn officers to population is 1:877 for counties with populations of 25,000 to 99,000.[2]

Police Services (1977)

Department	Sworn Officers	Reserve Officers	Support Personnel	Patrol Cars	Special Vehicles*
Oregon State Police	22	6	2	8	6
Clatsop County Sheriff's Dept.					
Criminal Division	8	15	1	3	2
Jail Division	6	3	-	-	-
City of Astoria Police Dept.	17	10	6	4	1
Town of Hammond Police Dept.	1	0	0	1	0
City of Gearhart Police Dept.	3	8**	0	3	1
City of Seaside Police Dept.	12	15	7	5	3
City of Warrenton Police Dept.	3	3	0	2	0
City of Cannon Beach Police Dept.	4	2	0	3	1

*Special vehicles include game control trucks, 4-wheel drive patrol vehicles for beaches and rugged terrain, and motorcycles. **Plus three cadets.[1]

[1]Source: Brown & Root EIS 1977.
[2]Law Enforcement Data System 1979.

FIRE PROTECTION

Fire protection is provided by eight rural fire protection districts in the rural County. (See Map 6) With the exception of the City of Astoria, all of the city and rural fire departments are staffed by volunteers.

A useful index for gauging fire protection in the County is the protection class scale which the Oregon Insurance Rating Bureau has developed to aid insurance companies in fixing fire insurance premiums for homeowners. A maximum of 5,000 points in available. Points are deleted for inadequacies; therefore, the fewer points, the higher the class rating (i.e.: 5,000 points = Class 1 (best), 0 points = Class 10 (worst)).

The rating schedule encompasses four basic elements which contribute to a community's ability to prevent or reduce loss of life or property from fire. These elements and their relative weight in the overall evaluation are water supply, fire departments, fire service communications, and fire safety control.

TABLE 7
ISO RATINGS

RELATIVE VALUES AND MAXIMUM DEFICIENCY POINTS

Feature	Percent	Points
Water Supply	39	1,950
Fire Department	39	1,950
Fire Service Communications	9	450
Fire Safety Control	13	650
	100	5,000

This rating system DOES NOT measure the efficiency, economy, or quality of fire protection services on a daily basis. The rating system DOES evaluate the sufficiency of manpower, facilities, and equipment of a department against standards established by ISO. Consequently, the system should not be used in comparing fire departments except in their ability to prevent an extensive fire. The system was developed primarily to establish uniform insurance rates. Most of the rural areas of Clatsop County have a rating between 6 and 8. (See Table 8) Fire protection levels should be reflective of anticipated population distribution patterns and should also be reflected in land use decisions which might have an impact on a fire department's effectiveness.

TABLE 8
FIRE PROTECTION RATING

(Where two figures appear, the parenthesized number predominates)

Served by Cannon Beach R.F.P.D.	(6) – 9
Served by Seaside R.F.P.D.	4 – 8
City of Seaside	5
City of Gearhart	6
Served by Gearhart R.F.P.D.	7 – 9
City of Warrenton	(6), 8
Served by Warrenton R.F.P.D.	5 – 7
City of Hammond	(7), 8
City of Astoria	(5), 7
Served by Lewis and Clark R.F.P.D.	8 – 9
Served by John Day-Fernhill R.F.P.D.	9
Served by Knappa-Svensen R.F.P.D.	8 – 9
Served by Westport, Wauna R.F.P.D.	7 – 9
Served by Elsie-Vinemaple R.F.P.D.	10

The rating bureau's recommended premiums are not affixed linearly; thus, an expensive home in a class 10 area will cost more than twice as much to insure as a home half its value. The largest gulf between recommended premiums occur between ratings 8 and 9. A $15,000 home costs about $35 annually to insure in a class 8 area, $70 in a class 9 area.

Recommended	In Protection Class							
Premium on:	2	4	5	6	8	9a	9b	10
$15,000 home	16	20		25	25	69	83	91
$10,000 home	14		19					67
$ 5,000 home	12		16					45

Source: Oregon Insurance Rating Bureau

All class 2 areas receive excellent fire protection. The insurance companies affix only a base rate dependent on home value. What fire protection exists in a class 10 area is not sufficient to prevent the highest premium being charged.

ADMINISTRATIVE - INSTITUTIONAL

Each of the six incorporated areas in Clatsop County has a city hall. The cities of Astoria and Seaside maintain libraries.

The Job Corps Center at Tongue Point provides vocational skills and instruction in general studies for people between the ages of 16 and 22 who are from low income families or are unemployed. There are approximately 400 people using the center which is managed by RCA Corporation.

The County courthouse provides office space for assessors, circuit court, county engineer, county planning commission, district attorney, district court, humane officer and dog control, juvenile department, county sheriff, surveyor, treasurer, and veterans service office.

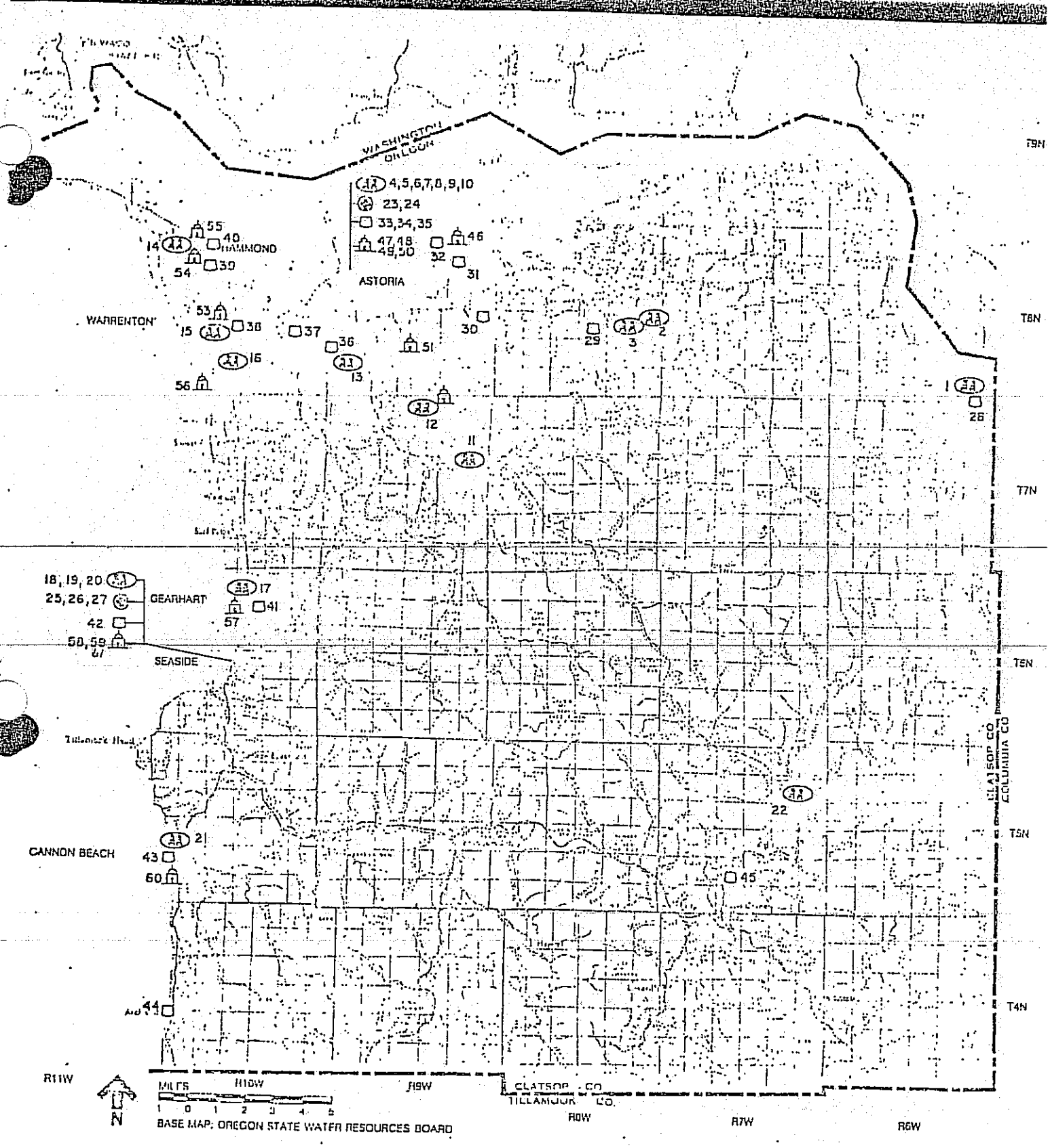
The federal building houses the extension service of Oregon State University, the agricultural stabilization and conservation service, selective service board No. 1, social security administration, vessel documentation, customs office and U.S. postal office.

Oregon State University College of Agriculture operates the John Jacob Astor Experiment Station which deals with dairy cattle management and nutrition, and a seafood laboratory in Astoria.

The National Marine Fisheries research marine life in the Columbia Estuary. Among current projects are studies on plankton, salmon migration, and crabs.

Camp Rilea is staffed by five full time federal technicians who maintain the equipment. In the summer, 750 National Guardsmen of the 12 - 49th Engineer Battalion train there for such projects as forest trail clearing. The Oregon-Washington labor school uses the camp in winter.

There are U.S. Post Offices in Astoria, Cannon Beach, Seaside, Warrenton, Hammond, Tolovana Park and Arch Cape. The U.S. Postal Service and the County are interested in the possibility of installation of a new grid system of addresses for the rural areas of Clatsop County. Such a system would assist in mail delivery, as well as police, fire and emergency services, in locating homes.



MAP 6
CLATSOP COUNTY
PUBLIC FACILITIES

SOURCE: CLATSOP COUNTY PLANNING COMMISSION

EDUCATION
HEALTH CARE
PUBLIC SAFETY
ADMINISTRATIVE AND/OR INSTITUTIONAL

(See text for explanation of numbered sites)

Index to Public Facilities Indicated on Map 6.

Map Index Number	Education
1.	Westport Grade School
2.	Knappa High School
3.	Hilda Haliti Grade School
4.	Astor Elementary School
5.	Clatsop Community College
6.	Star of the Sea School (private)
7.	Astoria Junior High School
8.	Central Elementary School
9.	Astoria High School
10.	Robert Gray Elementary School
11.	Olney Grade School
12.	7th Day Adventist School (private)
13.	Lewis and Clark Grade School
14.	Fort Stevens Junior High School
15.	Warrenton Grade School
16.	Warrenton High School
17.	Gearhart Elementary School
18.	Seaside High School
19.	Central Elementary School
20.	Broadway Junior High School
21.	Cannon Beach Elementary School
22.	Jewell Consolidated School
	Health Care
23.	Columbia Memorial Hospitals
24.	Crestview Convalescent and Nursing Center
25.	Seaside Hospital
26.	Ocean Air Nursing Homes
27.	Seaside Convalescent Center
	Public Safety
28.	Wauna Westport Fire Department
29.	Knappa-Svensen-Brownsmead Fire Department
30.	John Day Fire Department
31.	Tongue Point Fire Department
32.	Tongue Point Coast Guard Station

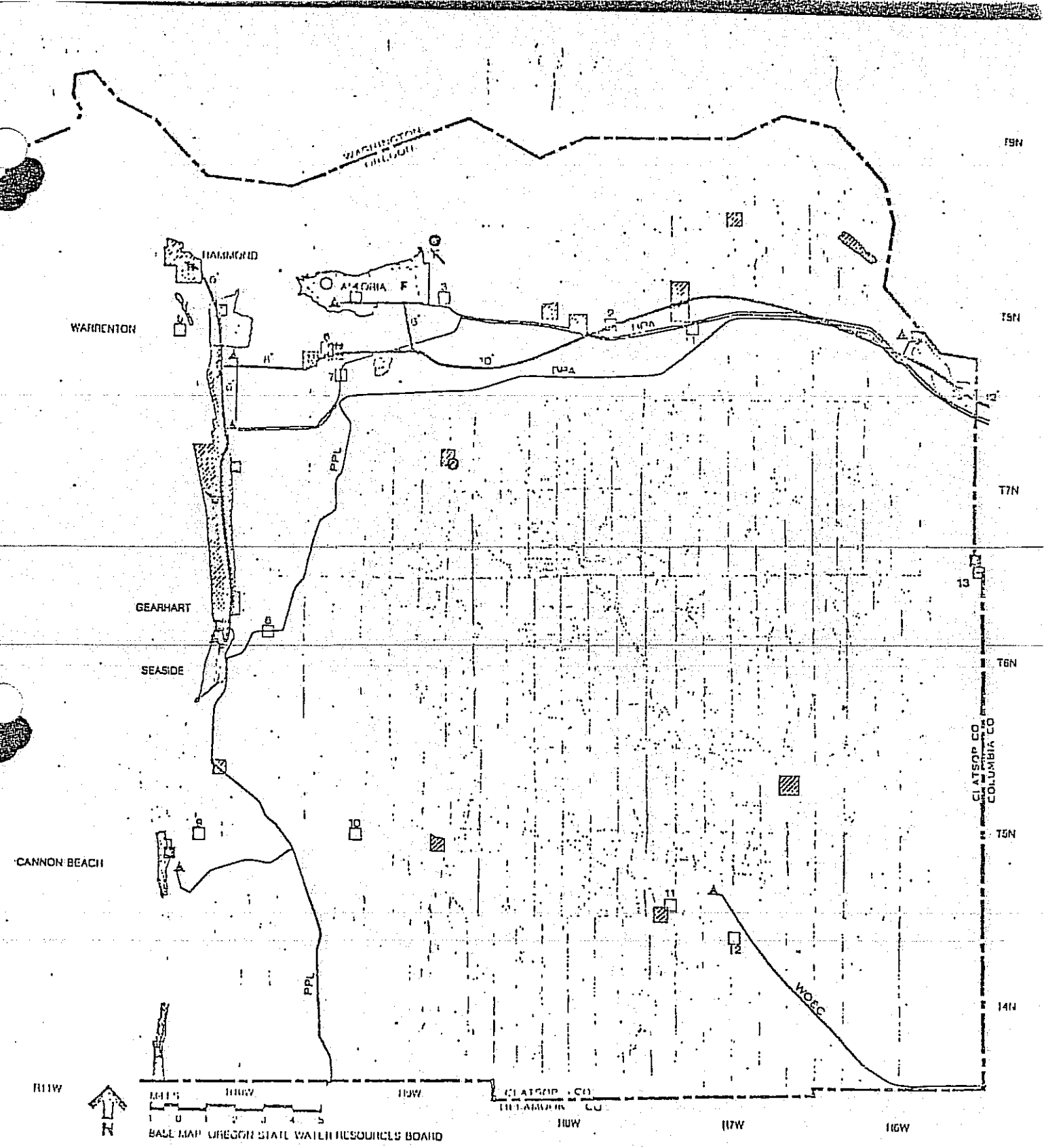
Map Index Number	Public Safety...cont'd
33.	Astoria Police and Fire Department
34.	Clatsop County Sheriff
35.	Oregon State Police
36.	Lewis and Clark Fire Department
37.	Coast Guard Air Station
38.	Warrenton Police and Fire Department
39.	Hammond Fire Department
40.	Point Adams Coast Guard Station
41.	Gearhart Police and Fire Department
42.	Seaside Police and Fire Department
43.	Cannon Beach Police and Fire Department
44.	Arch Cape Station of Cannon Beach Rural Fire Protection District
45.	Jewell Elsie Fire Department
	Administrative Institutional
46.	Job Corps Center
47.	Astoria City Hall
48.	Astoria Library
49.	County Courthouse
50.	Federal Building
51.	State Forestry Department
52.	John Jacob Astor Experiment Station
53.	Warrenton City Hall
54.	Hammond City Hall
55.	National Marine Fisheries
56.	Camp Rilea
57.	Gearhart City Hall
58.	Seaside Library
59.	Seaside City Hall
60.	Cannon Beach City Hall
61.	Sunset Recreation District (swimming pool)

GOVERNMENT FINANCE

Public facilities and services in Clatsop County are provided by a large number of general purpose local governments, special districts, and state and federal agencies. Most local governments in the area have a healthy financial history. Financial problems might occur for some of the County water districts when they try to meet Federal requirements for drinking water.

Education is the largest single area of expenditures for local governments in the County. In 1972, education accounted for $7.6 million of the $14.8 million spent by local governments. Other major items of expenditure in 1972 were highways, public health, police protection, parks and recreation, libraries, water supply and interest on general debt. At that time, there was $9.6 million in long-term general debt outstanding for local governments in the County, of which $4.8 million was for schools (1972 Census of Local Governments, 1974).

The County and cities of Clatsop County derive most of their revenue from property taxes, fees and service charges, state-shared revenues (gas, liquor, and cigarette taxes) and federal grants, (1972 Census of Local Governments, 1974). Property taxes account for approximately one-third of all general fund revenues. In addition, the County receives approximately $2 million annually from the State for timber sales on land the County obtained by foreclosure and turned over to the State. This revenue is distributed among the County, cities, the port, schools, and other taxing bodies as an offset to property taxes. This amounts to approximately 15 percent of the property taxes to be collected in fiscal year of 1976-77. Property tax rates for the cities of Clatsop County are generally higher than those for the Portland Metropolitan Area. The County also has a tax equalization measure for schools administered by the Intermediate Education District.



MAP 7

CLATSOP COUNTY PUBLIC UTILITIES

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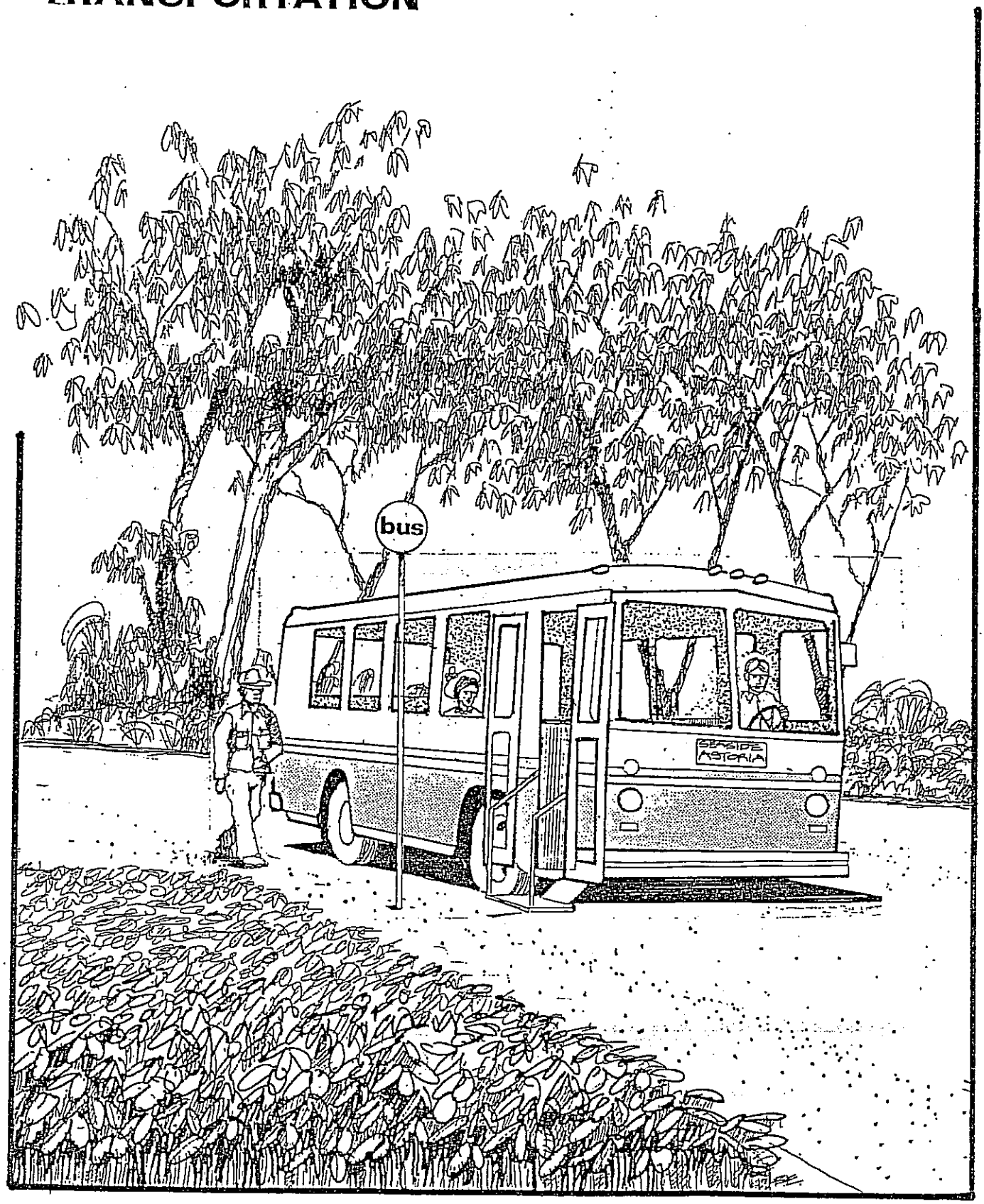
Goal 12

CLATSOP COUNTY
GOAL 12
COUNTY-WIDE ELEMENT

TRANSPORTATION



COUNTY-WIDE ELEMENT

GOAL 12 TRANSPORTATION

Adopted July 23, 1980 by
Clatsop County Board of Commissioners
Amended by Ordinance 94-02, 93-06, 93-14 and replaced by Ordinance 03-09

Introduction

Clatsop County is served by a full range of transportation systems: highway, rail, water and air. All of these systems have been heavily influenced by the natural features of the land and water; the single most important factor being the Columbia River. The river was the means of access for the earliest settlers, and has continued to be the major access route for the County from the Pacific Ocean inland to the Willamette Valley and beyond. The railroad follows along the south bank of the river in the County. The busiest access road on a year-round basis is the Columbia River highway. Ocean shipping and inland barge traffic follow the river and finally the major airport is located on the estuarine flats at the mouth of the river.

The interrelated nature of transportation and land use planning determines the form which development assumes. Housing and employment projects never locate where there will not be roads and roads are never planned unless they will link land use activities. Transportation systems are considered one of the primary leaders in development.

Basic Findings

Air Transportation

There are three airports in Clatsop County: Clatsop County Airport near Youngs Bay, Seaside Airport near Seaside, and Karpen Airport near Svensen. Clatsop County Airport is located on 870 acres in Warrenton approximately three miles southwest of Astoria. The airfield consists of three intersecting runways. The predominant activities of Clatsop County Airport are general aviation and the U.S. Coast Guard.

The Airport Master Plan is being developed by the Port of Astoria. Part of the study is the possibility of installing an Instrument Landing System to allow use by U.S. Coast Guard Falcon jets. Regulations and standards of the Federal Aviation Administration may require moving one section of dike to create a sufficient clear zone. The area to the southeast of Clatsop County Airport is within Warrenton's Urban Growth Boundary. For this and other areas the City has developed zones to protect the approaches to the airport.

The Seaside Airport, operated by the State of Oregon, is a general aviation airport which has low usage consisting mostly of single engine aircraft. The Aeronautics Division of Oregon Department of Transportation has been concerned with existing and proposed development around the end of the airport runways. The airport and surrounding area to the south is in Seaside's Urban Growth Boundary, while the area north of the airport is in the City

of Gearhart. Each of the cities has made provisions within their plan and zones to protect those areas in front of the runways.

The Karpen Airstrip is a private turf airfield used by the property owners along the field. The field has very low usage consisting of single engine aircraft. Land use round the airstrip is predominantly low density residential.

Rail Transportation

Clatsop County is served by the Burlington Northern Railroad. Until 1970, service was provided by the Spokane, Portland and Seattle Railroad which was combined with several other railroads to form Burlington Northern Railroad. There is approximately 50 miles of single track located along the Columbia River from Westport to Astoria with branches going to Hammond and Warrenton and Camp Rilea. Burlington Northern shipped five times as many carloads to Astoria as it brought out in 1974. Present demand does not warrant any additional lines. Future expansion of railroad service will depend to a large extent on regional and national policies concerning import and export of goods and resources. Existing tracks could carry much larger quantities of freight.

Water Transportation

Water transportation activities are dominated by the Columbia River which forms the north border of Clatsop County. The Columbia River ship channel handles all classes of waterborne commerce including dry cargo ships and tankers up to 50,000 tons, barges, log rafts, commercial fishing vessels and pleasure craft. The Skipanon Waterway is used primarily for log rafts, commercial fishing vessels and pleasure craft. The Youngs River is used extensively for log rafts. In addition, many of the sloughs and channels of the Columbia River are used for log raft transportation and storage.

The Port of Astoria district encompasses all of Clatsop County. Port facilities are located in the City of Astoria on the Columbia River adjacent to the main ship channel 10 miles upstream from the river mouth.

The State of Oregon Land Board is in the process of obtaining the land at Tongue Point and will be cooperating with the Port of Astoria to establish new port facilities for potential uses such as, log exports, container cargo and possible coal export. The State Land Board has been negotiating for several months with the General Services Administration which declared the property surplus to the needs of the Tongue Point Job Corps Center.

Land Transportation

Highways cover less than 1% of the land area of Clatsop County, but provide year-round access to all developed areas. The federal aid highway system in Clatsop County consists of approximately 242 miles of roads. In addition, there are over 400 miles of county roads, state park roads, city streets and other public roads.

There are three major roads which form the basic framework of the highway network and account for 80-90% of total vehicle miles traveled each year. U.S. 30 runs east-west along the Columbia River between the county line near Westport and the City of Astoria. This road provides the major connection between the Astoria area and the manufacturing towns of the lower Columbia River and Portland. U.S. 101 runs north-south along the Pacific Coast between the Columbia River Bridge at Astoria and the Tillamook County line near Arch Cape. The road provides the main connection between the two population centers of Astoria and Seaside, as well as access north into southwestern Washington and south along the coast to Tillamook County and beyond. The third major road is the Sunset Highway, U.S. 26, which runs east-west through the southern portion of the County between Cannon Beach Junction near Seaside on the coast, and the County line near Sunset Springs at the southeast corner of the County. This road provides a connection between the resort communities on the Clatsop coast and the population center at Portland.

Other principal roads include state route 53 which runs from Necanicum Junction, 13 miles east of Seaside on the Sunset Highway, south into Tillamook County; and state route 202 which runs from Astoria in a south-east direction across the central part of the county to the Nehalem River Valley and on into Columbia County. Other roads on the federal aid system totalling 94.99 miles provide local access primarily in the northwest and northern areas of the County.

High gasoline prices have cut down traffic on most Oregon highways, but not on the north coast. In 1979, Highway 101 at Gearhart was one of the few major state routes with more traffic than in 1978. Overall traffic in Oregon was down 4.1 percent in May 1979 as compared with May 1978. But at Gearhart, traffic increased by 1.5 percent during the period, to an average daily traffic volume of 7,700 vehicles in 1979. Highway 101 across the Clatsop Plains ranked seventh in terms of increased traffic in Oregon. Many of the cars and trucks that traveled Highway 101 in Clatsop County were tourists, but there apparently was an increase in local traffic as well.

Minimizing access is a major concern of the State Highway Department. However, authority must come from the local

jurisdiction to establish criteria or policies to reduce the number of accesses.

Driveway access to arterial streets is of primary concern. The long-term effects of poor access management are erosion of roadway capacity and high accident frequency. For example, there are approximately 170 different access points along U.S. 101 between the cities of Warrenton and Gearhart. If the number of new access points for commercial and residential development are allowed to continue, this will create additional congestion on an already congested highway.

As is the case with most other counties, one of the major problems confronting Clatsop County is providing enough funding to maintain the roads within the unincorporated County. The County road system has 216 different roads, consisting of 270 miles of road, of which 246 are maintained.

Seventy percent of all County roads are oil mat due to the large amount of expansion and contraction of soils in the County. As of 1980, none of the County roads exceed their design capacity.

Clatsop County is served by four trucking firms: City Transfer, Nehalem Valley Motor Freight, Oregon-Nevada-California (ONC) Freight, and United Parcel Service. The major ICC carrier service in the Astoria area is Nehalem Valley Motor Freight, Inc. Ninety-five (95) percent of their movements are along Highway 30. The time involved traveling this road from Portland to Astoria, plus a lopsided haul/backhaul ratio, limits the amount of goods traffic.

Bus passenger service is provided by Greyhound Bus Company from Portland to Astoria. In the past, the ridership has been low which has resulted in a reduction in service from four schedules to the present three runs a day.

Transportation has long been a problem for the elderly and handicapped in this County. The Area Agency on Aging provides mini-van service for the elderly in the County. Currently, the one mini-van in use carries an average of 800 people a month. They have a second van but lack of funds for a driver. Each area in the County gets service at least once a week except in the Jewell area which is on a call basis.

Escort services for clients of the Public Welfare Division, the Children Services Division and the Area Agency on Aging are provided in Clatsop County by volunteers. Transportation for the developmentally disabled adults is provided from Seaside, Gearhart, Clatsop Plains, Hammond, Warrenton and Astoria to the Clatsop County Developmental Training Center. The fixed daily route serves approximately 14 people doing about 22 days per month.

Goal 12 - Transportation

Goals and Objectives

The formulation of goals and objectives represent an important component of the Transportation System Planning (TSP) process. Goals and objectives are intended to reflect the vision and character of Clatsop County as the community develops its transportation system. The goals and objectives also are intended to implement and support the other elements of the Clatsop County Comprehensive Plan.

The Clatsop County TSP goals and objectives serve two main purposes: (1) to guide the development of the Clatsop County transportation system during the next 20 years; and (2) to demonstrate how the TSP relates to other County, regional, and State plans and policies. The goal statements are general statements of purpose to describe how the County and the TSP intend to address the broad elements of the transportation system. The objectives are specific steps that illustrate how the goal is to be carried out.

The goals and objectives were formed as part of the Clatsop County TSP planning process. They reflect the input of residents, businesses, and agencies that was obtained during the course of preparing the TSP. They also reflect current local, regional, and State goals and policies, and are intended to support these policies. Transportation-related goals and objectives in Clatsop County's Comprehensive Plan have been incorporated into the TSP goals and objectives.

Goal 1: Mobility

Develop a multimodal transportation system that serves the travel needs of Clatsop County residents, businesses, visitors, and freight transport.

Objectives:

1. Provide a network of arterials and collectors that are interconnected, appropriately spaced, and reasonably direct.
2. Balance the simultaneous needs to accommodate local traffic and through-travel.
3. Minimize travel distances and vehicle-miles traveled.
4. Safely, efficiently, and economically move motor vehicles, pedestrians, bicyclists, transit, trucks, and trains to and through the County.
5. Use appropriate, adopted Clatsop County road standards during development of new roadways.
6. Encourage development patterns that offer connectivity and mobility options for members of the community.
7. Work to enhance the connection of the Port of Astoria and the Warrenton Harbor to the surrounding communities.
8. Coordinate with rail and shipping entities to promote intermodal linkages for passengers and goods.

9. Recognize and balance freight needs with needs for local circulation, safety, and access.

10. Provide an interconnected system of roads, pedestrian and bicycle facilities, and other forms of transportation that will link communities.

11. Promote intercity connectivity between major population areas, including linkages to the Portland metropolitan area.

Goal 2: Livability

Provide a transportation system that balances transportation system needs with the desire to maintain pleasant, economically viable communities.

Objectives:

1. Minimize adverse social, economic, and environmental impacts created by the transportation system, including balancing the need for road connectivity and the need to minimize neighborhood cut-through traffic.

2. Preserve and protect the County's significant natural features and historic sites.

3. Promote a transportation system that is adequate to handle the truck, transit, and automobile traffic in such a way to encourage successful implementation of County economic goals and the preservation of existing residential neighborhoods.

4. Work with local and State governments to develop alternate transportation facilities that will allow development without major disruption of existing neighborhoods or downtown areas.

Goal 3: Coordination

Maintain a transportation system plan that is consistent with the goals and objectives of local communities, the County, and the State.

Objectives:

1. Coordinate transportation planning and implementing actions with state agencies, local governments, special districts and providers of transportation services.

2. Provide a County transportation system that is consistent with other elements and objectives of the Clatsop County Comprehensive Plan.

3. Provide a County transportation system that coordinates with other local transportation system plans and rural community plans.

4. Coordinate land use and transportation decisions to efficiently use public infrastructure investments to:

    a. Maintain the mobility and safety of the roadway system
    b. Foster compact development patterns in incorporated and rural communities
    c. Encourage the availability and use of transportation alternatives
    d. Enhance livability and economic competitiveness

5. Cooperate with local jurisdictions and rural communities in establishing and maintaining zoning standards that will prevent the development of incompatible or hazardous uses around airports.

6. Work to protect airspace corridors and airport approaches.

Goal 4: Public Transportation

Work to improve cost-effective and safe public transportation throughout Clatsop County.

Objectives:

1. Coordinate with the Sunset Empire Transportation District (SETD) to encourage commuter bus service to serve communities throughout Clatsop County.
2. Encourage a carpooling program for County employees and others to increase vehicle occupancy and minimize energy consumption.
3. Work with SETD to develop transit systems and stations and related facilities in convenient and appropriate locations that adequately and efficiently serve resident and employee needs.
4. Work to improve the signage and amenities at transit stops and stations.

Goal 5: Pedestrian and Bicycle Facilities

Provide for an interconnected system of pedestrian and bicycle facilities throughout Clatsop County to serve commuters and recreational users.

Objectives:

1. Coordinate with the goals and objectives and recommended improvements set forth in the Clatsop County Bicycle Master Plan.
2. Use unused rights-of-way for greenbelts, walking trails, or bike paths where appropriate.
3. Develop and periodically update inventory information on existing bicycle routes and support facilities.
4. Promote multimodal connections where appropriate.
5. Promote increased bicycle awareness and support safety education and enforcement programs.
6. Develop safe and convenient pedestrian and bicycle systems that link all land uses, provide connections to transit facilities, and provide access to publicly owned land intended for general public use, such as the beach.
7. Promote development standards that support pedestrian and bicycle access to commercial and industrial development, including, but not limited to, direct pathway connections, bicycle racks and lockers, and signage where appropriate.
8. Protect and expand public access via pedestrian ways, bikeways, and trails for recreational purposes.

Goal 6: Accessibility

Provide a transportation system that serves the needs of all members of the community.

Objectives:

1. Coordinate with SETD to encourage programs that serve the needs of the transportation disadvantaged.

2. Provide for the transportation disadvantaged by complying with State and Federal regulations and cooperating with local, County and State agencies to provide transportation services for the disadvantaged.

3. Upgrade existing transportation facilities and work with public transportation providers to provide services that improve access for all users.

4. All improvements to the transportation system (traffic, transit, bicycle & pedestrian) in the public right-of-way shall comply with the Americans with Disabilities Act of 1990.

Goal 7: Environment

Provide a transportation system that balances transportation services with the need to protect the environment and significant natural features.

Objectives:

1. Provide a transportation system that encourages energy conservation, in terms of efficiency of the roadway network and the standards developed for road improvements.

2. Encourage use of alternative modes of transportation and encourage development that minimizes reliance on the automobile.

3. Work to balance transportation needs with the preservation of significant natural features and viewsheds.

4. Minimize transportation impacts on wetlands and wildlife habitat.

Goal 8: System Preservation

Work to ensure that development does not preclude the construction of identified future transportation improvements, and that development mitigates the transportation impacts it generates.

Objectives:

1. Require developers to aid in the development of the transportation system by dedicating or reserving needed rights-of-way by constructing half- or full-road improvements needed to serve new development, and by constructing off-road pedestrian, bicycle, and transit facilities when appropriate.

2. Consider transportation impacts when making land use decisions, and consider land use impacts (in terms of land use patterns, densities, and designated uses) when making transportation-related decisions.

3. Ensure that amendments to the comprehensive plan, land use designation amendments and land use regulation changes that are found to significantly affect a transportation facility are consistent with the identified function and capacity of that facility.

Goal 9: Capacity

Provide a transportation system that has sufficient capacity to serve the needs of all users.

Objectives:

1. Protect capacity on existing and improved roads to provide acceptable service levels to accommodate anticipated demand.
2. Limit access points on highways and major arterials, and use alternative access points when possible to protect existing capacity.
3. Provide frontage setback requirements from the public right-of-way for all designated arterials within the County adjacent to commercial and industrial development.
4. Minimize direct access points onto arterial rights-of-way by encouraging common driveways or frontage roads.
5. Update and maintain County access management standards to preserve the safe and efficient operation of County roadways, consistent with functional classification.

Goal 10: Transportation Funding

Provide reasonable and effective funding mechanisms for countywide transportation improvements identified in the TSP.

Objectives:

1. Develop a Capital Improvements Program that establishes transportation priorities and identifies funding mechanisms for implementation.
2. Identify funding opportunities for a range of projects, and coordinate with local, State, and Federal agencies.

Goal 11: Safety

Provide a transportation system that maintains adequate levels of safety for all users.

Objectives:

1. Undertake, as needed, special traffic studies in problem areas, especially around schools, to determine appropriate traffic controls to effectively and safely manage automobile and pedestrian traffic.
2. Work to improve the safety of rail, bicycle, and pedestrian routes and crossings.
3. Coordinate lifeline and tsunami evacuation routes with local, State, and private entities.

CLATSOP COUNTY TRANSPORTATON SYSTEM PLAN

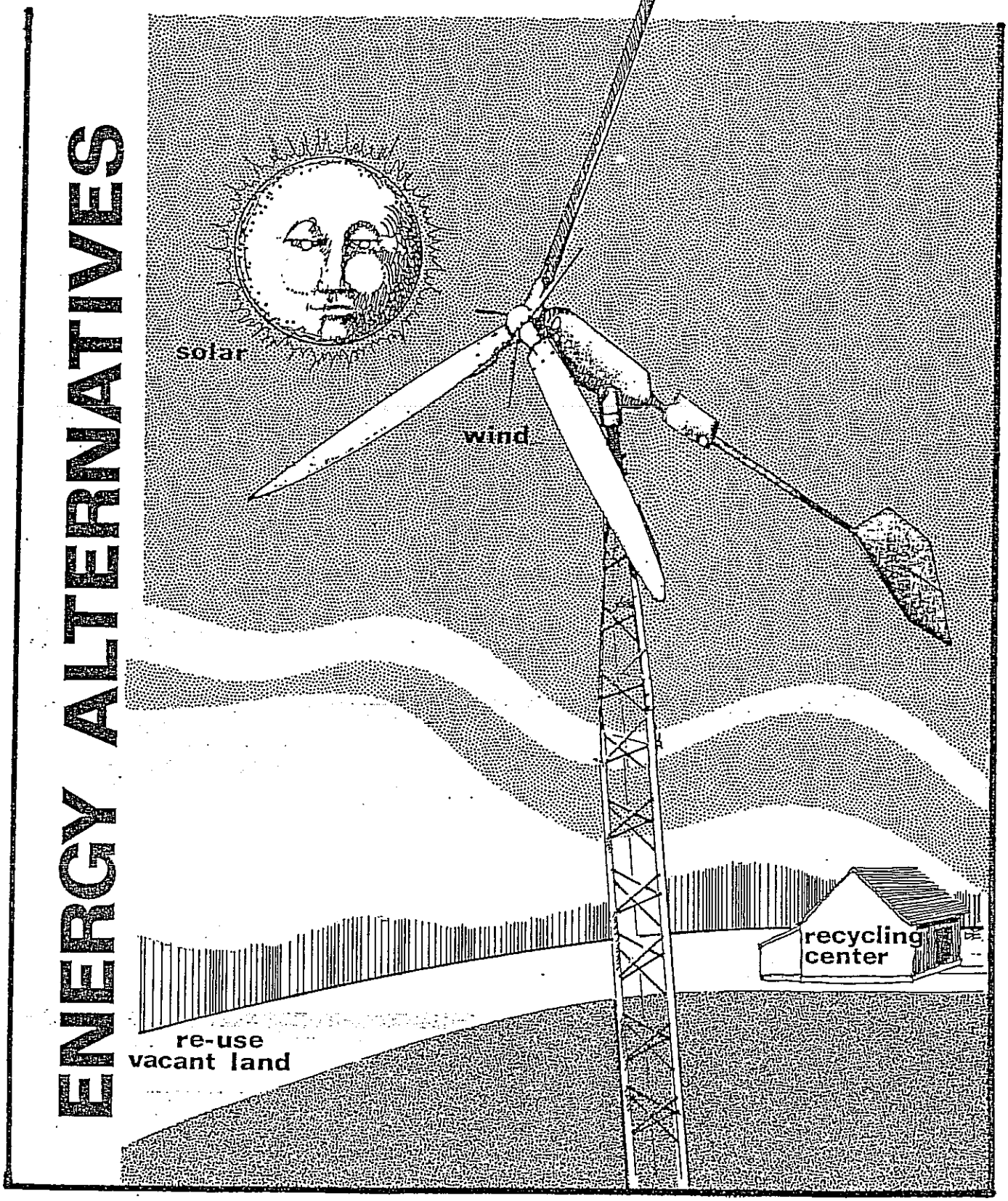
Supplemental Document to the Comprehensive Plan

On File in the Clatsop County Community Development Department
Adopted by the Clatsop County Board of Commissioners
on October 22, 2003 Ordinance 03-09

Goal 13

CLATSOP COUNTY
GOAL 13
COUNTY-WIDE ELEMENT

ENERGY CONSERVATION



COUNTY-WIDE ELEMENT

Goal 13

Energy Conservation

Adopted Ordinance 80-7, dated July 23, 1980

Introduction

Current patterns of consumption indicate that the world supply of conventional energy sources will diminish in the near future. The energy problem is serious. The solution to the problem involves protecting existing supplies through conservation and developing new conventional and alternative sources.

Basic Findings

At present, no energy is produced in this County. There are no dams, no known oil or gas reserves, and no nuclear power plants. More than one billion kilowatt hours of energy was imported into Clatsop County in 1978. This energy appetite is not expected to decrease in the years ahead.

Over half of the energy in this County is consumed by industry and nearly 30% by residences. The industrial sector utilizes energy as part of their production while the residential sector's primary use is for space heating. Much of this heat in the residential sector is lost through poorly insulated walls and cracks at joints between windows and doors. Recently, building codes have been modified to increase the effectiveness of buildings to resist heat loss. Under the new requirements, energy consumption in new dwellings can be reduced substantially at moderate cost. Older or existing homes present different problems. They are sometimes difficult and expensive to retrofit.

Energy savings can also be achieved through proper building site design taking advantage of local topography, vegetation, and climate. It is likely that these sites will be more valuable than others in the future.

Site designs that cluster buildings or activities can also save energy, reducing street lengths and public facilities. Another new design feature that will get serious attention in the future will be attached housing which reduces heat loss through walls, ceilings, and floors.

A consideration for the siting and construction of new buildings is the orientation of the sun for solar heating. The use of solar energy systems on homes is a new and growing trend today. To enable this growth to occur, the availability of sunlight to buildings being built now must be protected. Public officials can use their authority to assure that the application of solar technology is made possible.

Solar energy is not the only alternative to conventional sources. Other sources being developed are wind, geothermal, biomass, and tides and waves.

While scientists are making progress in the development of new energy sources, the public must make progress in conserving our existing resources. Growth must be controlled so that transportation and other costs are reduced. Metals, glass, and other resources need to be recycled. Walking, bicycling, carpooling, and mass transit opportunities should be promoted. Above all, however, the public must be educated in opportunities to conserve energy, even if it means a change in lifestyles.

Goal

To conserve energy.

Policies and Recommendations

1. The County recognizes the need for energy conservation through support of a County-wide conservation program in which the County government will play a leading role.

   a. Methods to reduce energy consumption should be explored, such as enforcing strict temperature and lighting controls in government buildings and incentive programs for carpooling, etc.

   b. New government buildings shall be energy efficient. Decisions on design and selection of equipment should not be based on the lowest initial cost alone. Operating and energy costs for a reasonable life expectancy of the building must receive equal consideration. Further, consideration should be given to the use of solar energy in heating and cooling all new government buildings.

   c. The County, cities, Extension Service and Community College should work together to establish an Energy Conservation Service with the assistance of private and public funds and expertise. This service could provide the following:

      1) Promote energy conservation through seminars, other educational programs, and information dissemination.

      2) Develop climate maps, energy efficient building standards and other guidelines for energy conservation.

      3) With the help of local utility companies, provide technical assistance to individuals desiring to retrofit their homes or buildings with improved insulation of alternative energy sources.

      4) Conduct audits with the assistance of local utility companies to identify sources of greatest energy wastes in buildings and recommend ways in which to reduce this waste.

      5) Provide technical assistance to evaluate the energy efficiency of new residential, industrial, and commercial building plans submitted for approval.

      6) Maintain information on the energy efficiency of brands and models of appliances, autos, etc.

   d. The County and cities should work together to establish a County-wide recycling operation (i.e. through a sheltered workshop program).

2. The following land use policies shall be adopted as part of the Comprehensive Plan to conserve energy and promote the use of alternative systems:

   a. Shopping, cultural, medical, educational and other public facilities shall be encouraged to cluster in urban growth boundaries so that one trip can serve several purposes and so that the possibility of public transportation will be enhanced.

   b. In new subdivisions, major or minor partitions:

      1) Should maximize the opportunity for solar orientation of windows in buildings by running streets in east-west directions, and lots on a north-south axis.

         When topographic conditions or natural features make street orientation for good solar orientation of units undesirable or difficult, lots shall be laid out so that units can be oriented to the south to the greatest extent possible. Clustering, innovative yard and setback approaches may be used in lieu of the street and lot plan if good solar orientation is achieved.

      2) Open space should be located whenever possible to buffer structures from shadows cast by other buildings.

      3) Easements for protecting solar access should be provided for every lot.

3. The County shall promote the application of renewable and alternative energy sources, by encouraging the use of total energy systems where, for example, electricity is generated and the waste heat is utilized for space heating and cooling purposes.

4. *The County shall consider energy conservation in the designation of RURAL LANDS and DEVELOPMENT lands.

*Amended 83-17, dated September 30, 1983.

GOAL 13

ENERGY CONSERVATION

By
Gail Hochhalter
Department of Planning and Development

January 1980

Adopted July 23, 1980 by
Clatsop County Board of Commissioners

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INTRODUCTION

In 1850 people in the U.S. obtained as much as two thirds of their energy from human muscle power and draft animals. Wood was the main fuel for most households; the water wheel and windmills supplied power to industry.

The introduction of coal as an important source of energy marked the beginning of the Industrial Revolution and the exploitation of a resource of limited life in comparison to the wood, wind, and water power of the past. Coal primarily was used for generating steam in making iron and steel, making the steam engine the epitome of progress.

The oil industry also began to emerge just as the nation started to industrialize. First used as a medicine and fuel for lamp lights, in its first forty years a total of only one billion barrels were produced. This changed drastically when the big oil gushers were discovered in Texas and in the next year the age of the automobile and airplane was launched.

Soon thereafter the electric motor was invented and within a short period of time today's complex dependent technology emerged.

Current patterns of consumption indicate that the world supply of coal can be measured in centuries. Oil extraction is expected to reach maximum and decline around the year 2000. Maximum extraction and subsequent decline of natural gas is seen within 10 to 15 years. Fossil fuels are getting harder to find, extract, transport, and process. They are also largely affecting our environment in very negative ways. They are the largest source of pollutants in the air, a major contributor to water pollution, scar our countrysides and degrade our surface and groundwater quality with noxious wastes and dangerous gases. Electric energy also is a major contributor to losses of our fish and wildlife.

This report describes the existing energy system in the County and the potential to conserve and utilize alternatives. Conserving energy will take strong public leadership and effective conservation measures and regulations. Conservation practices will mean utilizing less energy to produce a dollar's worth of goods and services so that more energy will be left for later use by us or by future generations.

ENERGY SOURCES AND SUPPLY

HYDROELECTRIC

Currently, all electrical power in Clatsop County is supplied by the Bonneville Power Administration (B.P.A.) and is distributed, mainly, through the Pacific Power & Light Company (PP&L). Small amounts of electricity in the County are sold and distributed by the Western Oregon Electric Co-op (WOEC) and the Tillamook Public Utility District (PUD), members of the Rural Electrification Administration (REA), and the Clatskanie PUD. The Crown Zellerbach Mill at Wauna buys directly from BPA.

The primary PP&L transmission lines serving the County are 115 KV from the Longview, Washington Substation. These lines provide service to areas along the Columbia, Astoria and surrounding areas, Warrenton, Hammond and along the coast. WOEC has 34.5 KV transmission line which serves Jewell, Elsie and the Nehalem Drainage area from the Timber Substation in Washington County. The low voltage lines of the Tillamook PUD and Clatskanie PUD serve small areas along the southern border and eastern border of the Coun respectively. The major electrical substations are located at Wauna, Clatsop, and Driscoll and smaller substations serve the Knappa-Svensen area, Warrenton, Seaside, and Cannon Beach. At present, there is no power generated within the County. There was a steam generator plant in Astoria on Youngs Bay, but it is no longer in operation.

In a Resource Survey of River Energy and Low-Head Electric Power Potential in Oregon, April 1979, at least 40 different sites in Clatsop County were identified which are presently undeveloped by dams and meet the low-head flow and power criteria of 36 cfs at least 50 percent of the time. Preliminary feasibility analysis and a screening process was used to identify relatively unconstrained reaches. Only the Lewis & Clark River from River Mile 19.0 to the headwaters was considered to warrant further investigation for a small hydroelectric power plant.

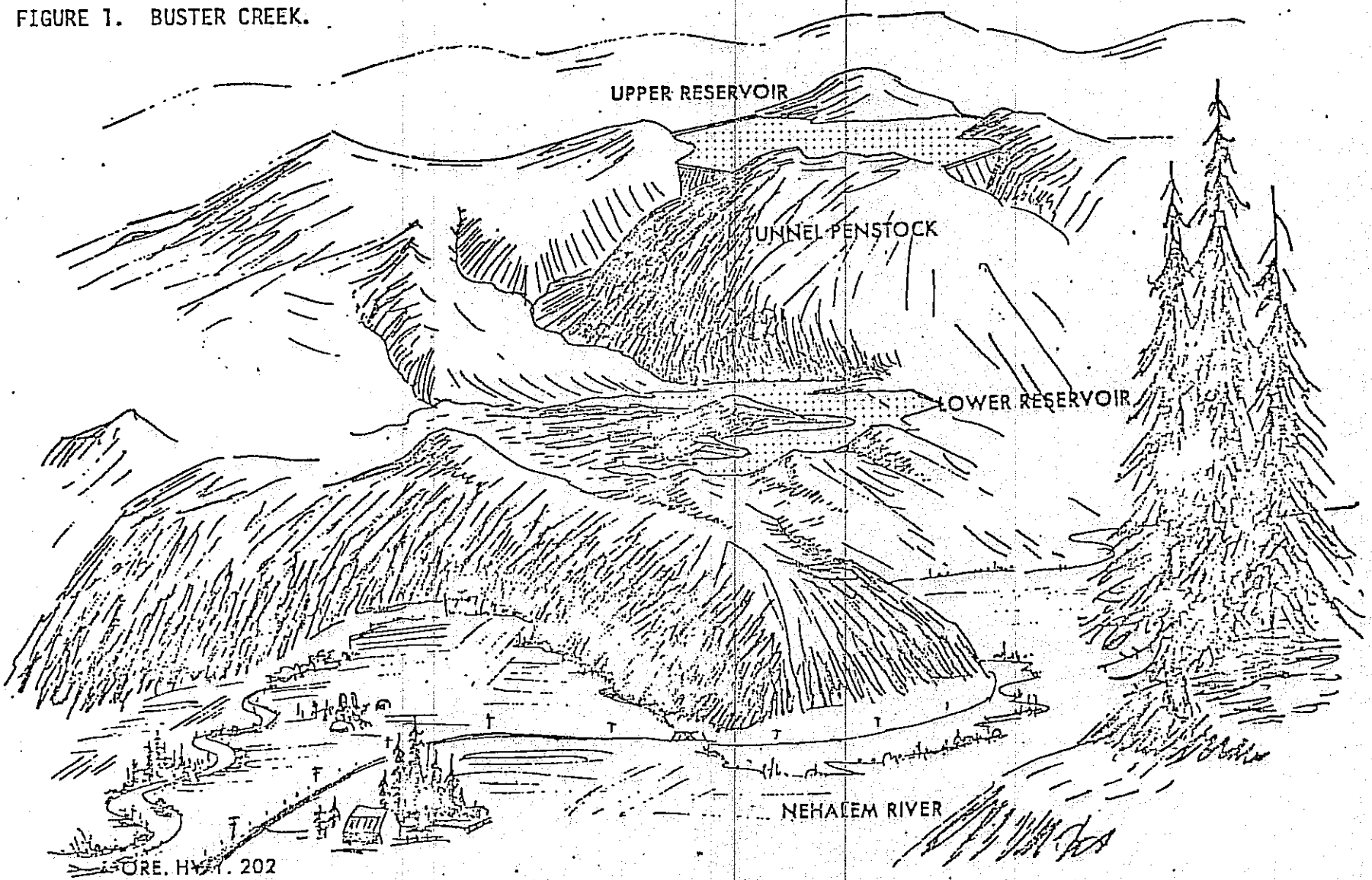
In August, 1976, the Corps of Engineers published a report for sites in Oregon that have potential for "Pumped Storage Power Plants". This type of plant is located at a higher elevation than an existing dam and reservoir. During periods of the day when electricity is needed most, water is released from the upper reservoir through electricity generating turbines to the lower reservoir. The water is later pumped back to the upper reservoir during periods of less demand and can be used over again for power generation. One of the sites that was selected is located on Buster Creek in Clatsop County. (See Figure 1 & Appendix A)*.

GAS

Natural gas has been supplied to Clatsop County by Northwest Natural Gas Company since 1965. The product is purchased from the El Paso Natural Gas Company who pipes it at 700 psi to their Deer Island Station from Canadian gas fields. A 400 psi high pressure feeder main system supplies gas to Clatsop County in pipes ranging in size from 16-inches leaving the station to 6-inches on the coast. The pipeline occupies both shared and

*A telephone conversation with the Corps of Engineers in 1979 concluded that this site, although surveyed, is now in the inactive files but has not been eliminated.

FIGURE 1. BUSTER CREEK.



Potential pumped-storage site on Nehalem River, Oregon Coastal Subregion. Example of a site located close to Portland load center: Buster Creek (592) view looking south.

exclusive rights-of-way, traversing the northern edge of the County. From a regulator just south of Astoria, service is provided to a junction on the Clatsop Plains where a pipeline is extended north to Hammond and south to Seaside. At the present time, there is no gas service to the Cannon Beach-Arch Cape area because of the difficult terrain that would be encountered. Also, there is no service to the interior areas of the County, nor are there any plans under consideration to serve those rural communities. There are no natural gas storage facilities in the County at the present time.

All industries connected to natural gas in the County have interruptible accounts which are served only when there is a surplus of gas from the domestic accounts (during the warmer summer months). During the interim periods, industry relies on the local suppliers of oil and propane. The Crown Zellerbach Pulp and Paper Mill at Wauna is the principle gas consumer in the County using over 42,000,000 therms[1] a year[2].

Columbia County has had a successful gas discovery in the area of Mist. As a result, a number of oil and gas leases have been released on land in this County that are of the same geologic formation.

There are approximately 32 tax lots for which Clatsop County has retained mineral rights but very few of the locations appear to have potential. Most of the properties lie within incorporated boundaries.

OIL

Oil products are refined in the Puget Sound area and piped here via the Olympic pipeline. Small tankers and barges deliver 34% of the total petroleum used in the state to the Ports of Portland, Astoria, and Coos Bay, with Portland receiving 70% of the tanker traffic.

According to the State of Oregon Department of Geology and Mineral Industries, the area with the most potential for discovery of petroleum or gas in Clatsop County is the Tertiary Marine area.

No significant surface seeps of oil are known to exist in Clatsop County and only traces of oil or gas have been found thus far in test drillings. (See Table 1). In 1976, an oil seep was located in Olney at Watson Falls (N1/2, S14, T7N, R9W). Samples were submitted for testing. The results of the tests indicate that the oil appears to be crude oil seeping from underlying ground. However, the possibility that the oil was brought into the area was not ruled out.

COAL

Coal is a nearly pure mineral form of compressed wood and other vegetative matter containing more energy per unit of weight than either wood or charcoal. It is supplied to this state by rail and truck from Utah, Wyoming and Montana to burn in coal plants and as a heating source for some homes and boats.

[1]A therm is a unit of heat energy equivalent to 100,000 BTU's.
[2]Northwest Natural Gas Co.; interviews with representatives 1973.

Table 1. Petroleum exploration

LOCATION	WELL NAME	LOCATION AND ELEVATION	DATE	DEPTH	REMARKS
		Clatsop County, Oregon			
Astoria Shale	Oil shale?	Astoria area	1914	--	The Astoria Shale yields minute traces of oil by distillation at many locations. (Oil is found in concretionary limestone on the "Hawkins Ranch" 11 miles northwest of Astoria at Beaver River, Washington.)
Harrison, H. C.	Water well	Warrenton area; sec. 21, 8N., 10W (at Harrison Machine Shop) Elev. 25'	1910	280'	Gas blew water 10' or 15' above the top of the casing and sustained a good flame.
Lower Columbia Oil & Gas Co.	Brown No. 1	Astoria Airport - NW¼NW¼ sec. 25, 8N., 10W. Elev. 20'± Gr.	1922	4608'	Gas shows and a trace of oil reported. Bottomed in upper Eocene marine sediments.
Standard Oil Co. of Calif.	Hoagland Unit No. 1	South of Astoria, SE¼ sec. 11, 7N., 10W. 311' N. & 499' E. from S¼ corner. Elev. 72' Gr.	1955	7101'	Rotary. Several fluorescent spots on fracture surfaces of core at 5470-5465'. Bottomed in upper-middle Eocene volcanics.
		Tillamook County, Oregon			
Mohler Sand & Gravel Co.	Oil occurrence	Nehalem area. NW¼ sec. 5, 3N., 9W.	1958	--	Kerosene-like oil found in gravel bordering the Nehalem River.
Necarney Hydrocarbon Oil Co.	?	Nehalem area. Sec. 32, 3N., 10W. Elev. 35'	1910	1535'	Traces of gas reported
Portland Coal & Devel. Co.	?	Tillamook area. SW¼ sec. 10, 2S., 9W. Elev. 90'	1910	2532'	Small amount of gas. See analysis Table No. 1.
?	?	Tillamook area. Within few yards Portland Coal & Devel. Co, well	Before 1910	700'	Small amount of gas reported.
Skukum Lake	Asphalt occurrence	Approx. 6 miles southwest of Skukum Lake, 1N., 6W.	1914	--	Veinlets of asphalt found in rocks of Nestucca age.
		Continental Shelf, Oregon			
Shell Oil Co.	Ex Test 2	27 miles S.W. from mouth of Columbia R. OCS Tract 18	1965-1966	8219'	No significant shows obtained. Bottomed in Oligocene sediments (?)
Shell Oil Co.	Ex Test 1	17 miles W. from mouth of Columbia R. OCS Tract 22	1966	10,160'	No significant shows obtained. Bottomed in U Eocene sediments (?)
		Pacific County, Washington			
Richfield Oil Co.	Weyerhoeuser 1	West side of Gray's Bay SW¼ sec. 31, 10N., 8W.	1955	9110'	Hydrocarbon fluorescence at 7500' and 8300'. Mostly fine-grained marine sediments. Bottomed in U-M Eocene volcanics.
Union Oil Co.	McGowan 1	North side of Columbia R. across from Astoria	1929	4385'	Slight gas show reported. Drilled entirely in Eocene volcanics.

In the early days of Clatsop County, Captain Clark used coal as ballast for his ship, selling it as fuel when he docked in Astoria. Utilizing coal as a heating source today, however, is coupled with problems including reluctant investors, wary miners, lack of equipment and numerous environmental constraints.

The coal deposits in the County have never been significant and according to local history books were of very low grade.

WOOD

Clatsop County residents are fortunate to be near vast stretches of forest land. Wood in Clatsop County could easily provide energy for perhaps one-third to a half of the future population.

Wood heat is both aesthetically and physically pleasing to people. It's also healthy and gives people a chance to enjoy the outdoors. The wood gatherer usually picks up the scraps left after the commercial harvest or thins out alder and undergrowth from private woodlots. Cutting wood slash usually requires a permit from the landowner. These permits have been free in the past but because of the increased popularity of wood as a heating source, some property owners are requiring payment. Utilizing forest residues as residential firewood is still low cost, however, with the greatest expense coming from transportation.

It is anticipated that wood slash and mill wastes, in combination with municipal wastes, will be in demand as an energy source as well as for gasohol and wood pellets. Using forest residues in these ways is not yet a commercial reality and the technology is still being developed. In 1978, a Longview, Washington firm chose Clatsop County as one of the several potential sites for the location of a wood pellet plant.

On-site utilization of mill residues for energy production is widely practiced by the forest products industry. Residues from the lumber industry include chips, shavings, and bark. Chips are used in pulp and paper mills, shavings in particleboard mills, and the bark is either sold as "hogged" fuel or is used to generate energy at the mill site.

NUCLEAR POWER

In a Nuclear Plant Siting Study prepared by the Washington Public Power Supply System in 1975, a 400 acre site in Brownsmead was sited. This site was ranked number 9 and may be situated on an old landslide.

ALTERNATIVES

Solar

Very few homes are presently equipped to use this resource. Each system must be custom designed at the present time, making the process expensive. Solar energy development, however, is making progress in mass-produced systems.

There are two approaches to solar systems. One is the high technology system involving sophisticated hardware to capture, transport, and store heat. These are active systems. The second are passive systems which are equally sophisticated but less mechanical. No matter how complex, sophisticated, or inexpensive a solar system may be, adequate sunlight must reach the collector and be converted to heat; otherwise the entire system is useless. But even on cloudy days on the coast enough energy can be produced to make the process worthwhile. There are several homes in the County that are presently using solar heating systems as a primary or supplementary heating source.

Besides building orientation and angle, a solar system also needs sufficient space. A report by the Office of Technology Assessment of the Energy Research and Development Administration (ERDA) states that a solar system for a single family home providing 100% of space and water heating must have 440 square feet of collector area and a 1,000 gallon storage facility. However, with a back-up heating system, space requirements are much lower.

With a community solar heating system there is no concern for building site orientation or individual space requirements. The Lawrence Berkeley Laboratory has found that to provide space and water heating for 1,000 people, from 28,000 to 46,000 square feet of collector area is required. This is far less land area than if each unit was self-equipped. It is also easier and farl less costly to install, especially at the time a subdivision development is being planned. A community solar system, therefore, has many advantages:

1. retrofitting or adaption problems are avoided,
2. issue of solar rights is minimized,
3. need for solar rights zoning and setback flexibility is reduced,
4. could be applied where on-site systems are unfeasible, and
5. eliminates need for each household to provide storage.

Research is still underway to make community solar systems a reality. Some say that solar farms may be constructed in Oregon by the year 2000. Such farms have huge collectors that capture the sun's heat and use to to make steam capable of driving electrical generators.

WIND

Generating power from wind is not expected to be developed in the near future because of the lack of technology to store the power. If fully developed, it could be applied in this County, especially on the coast where it is windy much of the time.

In 1980, the University of Oregon Extensive Program will be monitoring wind speeds of two wind anemometers (wind measuring instruments) in the County. If results are favorable, the Department of Energy may offer tax credits to individual property owners who utilize wind power.

*In 1983, the Oregon Department of Energy completed a study titled "Oregon Coastal Zone Wind Data Inventory". This study summarizes locations at which reliable wind information has been collected. Six sites in Clatsop County are identified: Clatsop Spit, Columbia River Jetty, Fort Stevens, Astoria Weather Bureau, Astoria WBAB (Port of Astoria Airport), and Wickiup Ridge.

* There is no inventory information available on potential wind energy sites. clarify

Biomass

Biomass is defined as the material formed by biological processes utilizing solar energy. The majority of the biomass available in Oregon is in the form of forest products and/or agricultural products. It also consists of combustible industrial and municipal refuse.

The maximum energy available from biomass is obtained from direct combustion. Facilities that utilize biomass by combustion are currently either producing steam for heating or producing electricity by using the steam to drive turbines. Technology is also available to make alcohol by biomass fermentation and/or distillation.

Many technical and social improvements are needed to reduce air pollution problems, problems with collection and handling, and slash burning practices. If some barriers are removed, it can be expected that full utilization of the energy available through biomass could be accomplished within the next twenty years.

Tides and Waves

Enough energy might be harnessed to be important in some places, like islands, but not enough energy could be trapped to operate cities under present technology.

* Amend 84-9, dated May 23, 1984

More than one billion kilowatt hours of energy flowed in Clatsop County in 1978. This figure includes electricity, gas, and oil. Examination of Table 1. shows that more than half of the energy consumed was by the industrial sector, and the other half by residential and commercial users, with the residential usage being the largest of the two.

Industries use 92% of all the natural gas delivered to the county. The Wauna Mill is by far the largest user, being highly mechanized, requiring few people in the total operation. As a rule, the more labor intensive the industry, the more energy efficient it is.

The residential sector is the largest user of electricity and oil, accounting for 29% of the total energy consumed in the county. The largest direct use is probably space heating. As shown in Table 2., oil and electricity are the most utilized heat source in residential dwellings in the county. Table 5. shows that oil is used mostly in conventional dwellings and electricity is popular in mobile homes. Most of the conventional homes in the county are older; they once utilized wood or coal burners and later converted to oil. Only 5% of county residents use wood heat as their sole source of heat. As shown in Table 4., most of these are located in the rural unincorporated areas of the county.

Table 2.

Clatsop County Energy Consumption
1978 in KW-HRS

	Residential	Commercial	Industrial	Total
Electric	162.8×10^6	88×10^6	36.7×10^6	287.5×10^6
Natural Gas	64.2×10^6	51.9×10^6	547.2×10^6	663.3×10^6
Oil	108×10^6	74.3×10^6	12×10^6	194.3×10^6
Percent w/Total	335×10^6 29%	214.2×10^6 19%	595.9×10^6 52%	$1,145.1 \times 10^6$

Source: Telephone and Letter Surveys of August, 1979
Conversions to KW-HRS

Table 3.

Total Clatsop County Heating Fuel by Sector
(Number of Buildings)

	Oil	Gas	Electricity	Wood	Other or Unknown
Residential	5448	2290	4265	488	227
Commercial	248	166	143	69	411
Industrial	1	1	6	1	29
Public	78	15	26	6	37
	5775	2472	4440	564	704
Percent of Total	(41%)	(18%)	(32%)	(4%)	(5%)

Table 4.

Total Clatsop County Heating Fuel by Residential Sector
(Number of Housing Units)

	Oil	Gas	Electricity	Wood	Other
Conventional Single Family	5355	2211	3617	477	1
Mobile Homes	36	67	611	-	226
Multiple Family	57	12	37	11	-
	5448	2290	4265	488	227
Percent of Total	43%	18%	34%	4%	1%

Table 5.

Unincorporated County Heating Fuel by Sector
(Number of Buildings)

	Oil	Gas	Electricity	Wood	Wood or Unknown
Residential	1977	585	1864	360	180
Commercial	32	15	23	10	93
Industrial	-	-	-	-	9
Public	19	1	6	2	-
	2028	601	1893	372	282
Percent of Total	(39%)	(12%)	(37%)	(7%)	(5%)

Table 5 is an example of heating fuel usage by the residential sector of Clatsop County in 1970. It is interesting to note that use of electric heat has risen approximately 9% in eight years, while oil and gas use had declined. This clearly indicates that most of the new homes, including mobile homes, have electric heat. Use of wood heat has risen only 1%. However, wood is commonly a supplement to the main heating source, and this percentage probably does not represent existing circumstances.

TABLE 6.
SPACE HEATING FUEL BY COUNTY
(Percent of Housing Units)

County	Utility Gas	Fuel Oil Kerosene	Coal or Coke	Wood	Elec-tricity	Bottled or LP Gas	Other	None
Baker	39	43	6	2	4	4	1	--
Benton	36	21	.1	4	35	2	1	.3
Clackamas	23	40	.1	3	32	1	1	.1
Clatsop	20	48	--	3	25	2	1	--
Columbia	14	40	--	7	35	3	1	.2
Coos	2	40	.1	11	39	7	1	.15
Crook	23	41	--	7	26	2	--	--
Curry	2	10	--	25	52	10	1	.4
Deschutes	25	36	1	8	25	7	1	--
Douglas	16	34	.1	16	29	5	1	.4
Gilliam	2	69	--	--	22	6	--	.4
Grant	3	65	--	19	4	8	1	--
Harney	3	65	--	5	12	12	--	--
Hood River	9	49	2	5	30	3	2	--
Jackson	28	22	.1	11	30	8	.1	.3
Jefferson	17	34	--	6	31	11	--	--
Josephine	22	20	--	20	25	12	--	.6
Klamath	25	33	--	4	28	7	3	--
Lake	2	44	--	9	36	9	--	--
Lane	16	21	.1	6	54	1	1	.2
Lincoln	11	22	1	1	52	4	--	--
Linn	41	25	--	8	22	3	1	--
Malheur	32	45	8	2	30	2	1	.04
Morrow	--	54	1	3	30	12	--	--
Multnomah	26	51	.2	.5	20	1	1	.05
Polk	21	31	--	6	37	4	1	.2
Sherman	--	62	--	3	27	8	--	--
Tillamook	1	36	--	8	51	4	1	--
Umatilla	24	40	1	4	29	2	1	.1
Union	40	37	6	5	3	2	1	--
Wallowa	1	49	13	13	17	4	2	--
Wasco	9	29	1	2	56	3	1	--
Washington	32	32	.1	1	33	1	1	.08
Wheeler	--	49	--	31	11	6	3	--
Yamhill	18	34	--	31	36	3	1	.2
Oregon	24	38	.4	5	30	3	1	.1

Source: 1970 Census of Housing.

BUILDING DESIGN AND CONSTRUCTION

Heating represents the major demand of all energy used in residential dwellings as a result of the manner in which they are constructed.

All buildings are barriers to heat loss to some degree: retarding and reducing the flow of heat. But some types of construction resist heat loss better than others.

Recent studies show that 40 percent of all heat loss in buildings are a result of leakage through cracks or small openings at joints between walls, floors, ceilings and roofs, or around poorly fitted windows and doors. Another 43% of heat loss is through poorly insulated walls, floors, and ceilings. Unfortunately, building codes are more concerned with safety, and ignore such factors which directly affect heating and cooling losses.

TABLE 7.
Sources and Percentages of Energy Loss in House

Joints and Fittings	40.0
Glass	15.0
Doors	2.0
Exterior Walls	19.0
Slab	15.0
Ceiling	9.0
	100.0

Source: David Myhra, Westinghouse Electric Corporation, Saving Energy in Residential Sector through Planning, Figure 1.

Chapter 53 of the Uniform Building Code recognizes that insulation, used in certain quantities can increase the effectiveness of a building to resist heat loss, thereby saving energy. This chapter pertains to all hotels, motels, apartments, and other residential dwellings which are heated and/or cooled mechanically. To reduce heat loss, all ceilings must use insulation of an R-19 value, exterior walls must use R-11, basement walls (if basement is heated) must use R-45, and floors must use insulation of an R-9 value. An "R" resistence is the measurement of a material's ability to resist the passage of heat.

Oregon may even toughen the code further. Attic insulation may be increased from 6 inches to about 9 inches (changing the rating from R-19 to R-30), underfloor insulation in houses without basements from 3 1/2 inches to 6 inches (R-9 to R-19) and insulation on furnace ducts in unheated spaces from 1 inch to 3 inches. Walt Pollack, supervisor of energy conservation and resource development for the State Department of Energy says that under these new requirements, energy consumption in new dwellings would be reduced 30-40 percent and add about $800-900 to the cost of a new home.

Optimum energy efficiency can only be achieved if this effort is initiated during construction. Older or existing homes present different problems. Homeowners would rather spend money on painting or decorating (visible improvements) than to invest in some material hidden in walls and attics. Many others simply cannot afford expensive retrofitting (installation of new material into an existing building). It is expensive to insulate an existing home according to the new standards. Some homes may not ever be able to meet these standards without blowing insulation into walls, changing draperies, window locations, and adding arbors and awnings -- all very costly improvements. It is important, however, to realize that just one inch of insulation in the attic can do an effective job of reducing heat loss. Also, if more homeowners were aware of the cost benefits of weatherstripping and sealing doors and windows may be more inclined to take action.

Most retrofit programs initiated by the government promote the most obvious and least expensive methods. The weatherization programs in Clatsop County are aimed at the low-income and elderly homeowners with a maximum spending limit of $800/dwelling. Labor costs can eat up the money in a hurry so most of the retrofit programs depend on volunteer labor.

The City of Portland may resolve the issue of retrofitting. They will be applying performance standards to the sale of all homes. Before the home can be sold, it must meet certain heat loss standards. They will not be mandating these requirements for a period of five years which may give them enough time to find a workable and effective method of implementing the requirement.

The Federal Energy Administration (FEA) has a program to encourage the voluntary incorporation of energy efficiency criteria into the real estate lending process. They found that during the period of 1974-1975, 2½ percent of foreclosures of FHA-insured loans were directly attributable to rising energy costs, particularly in states where energy costs now equal mortgage payments.

The Energy Conservation and Production Act enacted by Congress in August, 1976 requires that HUD develop standards for new construction to prevent waste of energy in heating, cooling, ventilating, and heating water. Thus, a national building code with strict energy conservation measures could be operating throughout the United States in the near future. Also contained within the act is a review process to assure that buildings receiving federal financial assistance use energy efficient construction features. Another part of the act authorizes funds to make existing build-

ings more energy efficient. One of the ideas HUD is considering is a $400 grant program which can apply to the interest on a home improvement loan to finance energy conservation measures. Lenders would receive the $400, allowing individuals to deal directly with the lenders rather than HUD.

Even if a vast amount of funds were made available for weatherization and insulation upgrading, primary consideration should be given to the local climate conditions. Detailed climatic data should be collected and put on a building climate map for easy referral. Then guidelines should be developed which help builders and architects meet building perofrmance standards to achieve a desired comfort level using the lowest possible use of energy. The guidelines may include such elements as limiting glass area, shading or glazing, requiring thermal mass, or colored roofs. Unfortunately, staff expertise in the County is very limited in this field. There also may be opposition to such a code. With the limits of the County budget and the problems encountered of increasing restrictions, the likelihood of an energy conservation building code in the area ever materializing through local funds appears dim.

A new major design feature that will get serious attention in the future will be attached housing. This type of design reduces loss of heat through walls, ceilings and floors. Additional savings can be realized through the utilization of community lighting and heating systems, roads, sewage lines, and other public facilities. It is estimated that multi-family dwellings consume 30 percent less energy than the conventional detached dwelling.

The same methods prescribed for residences can also be applied to the commercial and industrial sectors. The differences are due to such things as limited building usage and the potential for overheating because of high lighting levels and dense human occupancy. There is an obvious advantage for these sectors to conserve since they may be able to reduce operating and maintenance costs. Ideally, this reduction could be passed on to the consumer.

SUBDIVISION DESIGN AND BUILDING SITING

Energy savings could be realized if building sites were designed to take advantage of topography, vegetation, and climate. It is a long-range strategy, however, aimed primarily at new dwellings. In temperate and cool regions such as Clatsop County, building sites could be located away from cold pockets, oriented towards the sun, and protected from winter winds.

To benefit most from sunlight heat, front windows on the longest side of the house where major living areas usually are located (such as living room and kitchen) should be on the south-facing walls. Strategically placed buildings among trees can also have positive effects on energy savings. Trees located on the south, southeast, or southwest of buildings, if dedidiuous types (shedding their leaves in winter) can absorb radiation and provide shading in summer and provide access for the sun in the winter. Earth berms or natural hills can also reduce heat loss if properly located by slowing the rate at which winter winds such heat from buildings.

Solar orientation will also be important to those persons considering a solar energy system. Solar heating systems will not work if they do not receive sufficient sun. Often lot layout or shape prevents solar orientation of buildings. Sometimes neighboring buildings or landscaping block sunlight. In England and Japan, courts have recognized property rights to the sunlight that reaches a persons property. If access is blocked then the courts could find that compensable damage has occurred. In this country, however, sunlight access is not recognized as a property right.

Solar access can be regulated by the powers of zoning, subdivision review, and comprehensive planning. If public utilities get involved they may use their power of eminent domain to create solar easements. The State of Oregon (H.B. 2036, Chapter 153 of Oregon Laws of 1975) recognized the need to protect and encourage solar utilization by authorizing the enactment of ordinances and regulations for solar energy utilization and for protecting and assuring access to incident solar energy, including height and setback restrictions.

Ordinances that in any way restrict the application of solar technology to buildings are counterproductive and should be avoided. Public officials should assure that this doesn't occur either through aesthetic treatment or outright restrictions. Indirect restrictions such as ordinances protecting the removal of trees or which specify a theme for buildings should be approached cautiously. Restrictions on street patterns and lot line angles can also hinder solar orientation.

Site designs that cluster buildings can save energy in several ways. Buildings can be sited to protect one another from winter winds; street lengths and public facilities can be shortened saving energy in paving and construction materials. Clustering can also be especially efficient when mixed land uses are contained within the same development permitting residences to border a place of employment, shopping, schools, and other community facilities.

Clustering and planned unit developments (PUDs) provide for higher densities and smaller lot sizes and allow for usable open spaces. Relaxing setback requirements for these types of designs can also allow the orientation of houses to respond to solar radiation and wind protection.

TRANSPORTATION

Transportation is a great user of non-renewable sources of energy. One way or another, changes must be made.

Motor freight traffic will probably maintain present role in moving merchandise. taken over the railroad in the past and unless rail service is improved it is unlikely that changes will be seen very readily. Railroads are more efficient users of energy and it will be important to the nation to preserve this mode of transportation. The recent abandonment of the railroad track from Warrenton to Seaside could potentially close a transportation option that could be utilized in the future.

Compact and subcompact cars will probably dominate the domestic car fleet in the near future. People will think twice before making short neighborhood trips by car, will begin carpooling to work, and will stay home more often.

Clatsop County residents will probably continue to use their cars for travel because they virtually have no choice. They only form of mass transit available is the bus service in Astoria and a small mini van service for senior citizens. As more people become aware of the scarcity of fuel there may be pressure to expand bus services to outlying areas. Unfortunately, bus services serving a wide dispersed population have been deficit operations.

Walking is a good mode of travel for short distances and bicycling for somewhat longer distances. Often their needs are ignored. It is important for the County to encourage these two modes of travel, not only for recreation but for every day travel. Many routes may serve a dual role because of their proximity to school, work, parks, etc. Although inclement weather is a problem, these modes of travel can provide energy savings for many months out of a year.

The legislative mandate for bikeways in Oregon came in the form of "the Bicycle Bill" passed by the 1971 Legislature. This bill is implemented through the appropriation of funds for bikeways to every city and county in the state. Utilizing these funds the County may be able to begin an effective bikeway system.

Another transportation consideration is the space which the street or facility occupies and the material energy used in its construction. Road rights-of way probably represent 20% of land area in cities of the County. Reducing paved street widths and lengths, therefore, can preserve valuable space and at the same time reduce the petroleum needed to produce the asphalt. Fronting most housing on cul-de-sacs and loops also has these advantages.

WASTE RECYCLING

There is some concern that the nation may soon run out of our precious metals. Fortunately, however, metals can be reused. Widespread recycling will become an everyday practice in the future; there is literally no choice. Recycling also conserves energy. For steel, aluminum, and copper, the energy consumed in production from recycled scrap is considerably less than the energy required for production from raw ores.

Recycling of metals, paper, glass, petroleum products and other non-renewable resources, would conserve oil, energy, recover valuable products and alleviate the solid waste disposal problem. The latter can be further alleviated by recovery and recycling of wood waste, municipal garbage and sewage sludge in the production of energy, as can waste heat from industry.

In Clatsop County, recycling efforts are minimal and becoming considerably more expensive because of the increased costs of transportation. The City of Cannon Beach, for instance, subsidizes a recycling depot which makes deliveries to a Portland distribution center nearly 100 miles away. A local can company collects used cans from a drop-in container at their building in Astoria; rags are recycyled and sold for maintenenace and cleaning companies via the Clatsop County Rehabilitation office; and oil can be recycyled through local distributors and gasoline service stations.

Recycling involves changes in life styles. It also requires collection, storage, sorting, transportation, etc. To a greater extent, the foremost problem in recycling is organization. Recycling has many benefits too. It can strengthen community pride, develop community leadership and cooperative skills, and enhance environmental quality.

DOMESTIC FACILITIES

Both direct and indirect energy costs can be saved by the design of utilities. The use of composting toilets can eliminate 40% of water use as can using 3½ gallon toilet tanks instead of the standard 5 gallon tank. Drainfield requirements are also reduced. Cisterns for rain water storage could be included in water systems. Storm water drainage systems can use natural drainage ways which maintain or enhance groundwater systems and at the same time reduce costs in construction of curbs, gutters, storm water pipes, manholes, etc.

EDUCATION

An important method in conserving energy is education of the public in the wise use of energy. Greater action on the part of the public could be expected if more people were aware of energy conservation techniques and their economic benefit. The local Community College offers special courses in the study of solar systems and other alternative energy sources. Community groups in the area have sponsored energy conservation fairs such as Sun Day. The Energy Fair sponsored by the Oregon State Extension office should be encouraged to become an annual affair.

APPENDIX A

BUSTER CREEK SITE

Physical Description

The site is located in the Nehalem River Basin on the west slope of the Coast Range of Oregon, a relatively rugged mountainous area with relief averaging about 2,000 feet. Both upper and lower reservoirs would require dams. The lower reservoir would be on Buster Creek and would include the lower part of Walker Creek drainage. The upper reservoir would be on the drainage divide between Buster Creek and North Fork Rock Creek. Both would be within the Clatsop State Forest in Clatsop County and would be located about 50 miles northwest of Portland, the major load center. Mean annual precipitation in the area is about 68 inches.

The lower reservoir at full pool would cover about 920 acres while the upper reservoir at full pool would cover about 250 acres. The lower reservoir site has large Douglas fir trees scattered among alder, with grassy meadows in the lowlands. The upper reservoir site is covered by mixed-age second growth Douglas fir and hemlock. The site shows no unusual geologic features which would make it infeasible and it appears stable under relatively high annual precipitation. Some 1,100 feet of generating head could be developed between the two reservoirs.

Pertinent Data

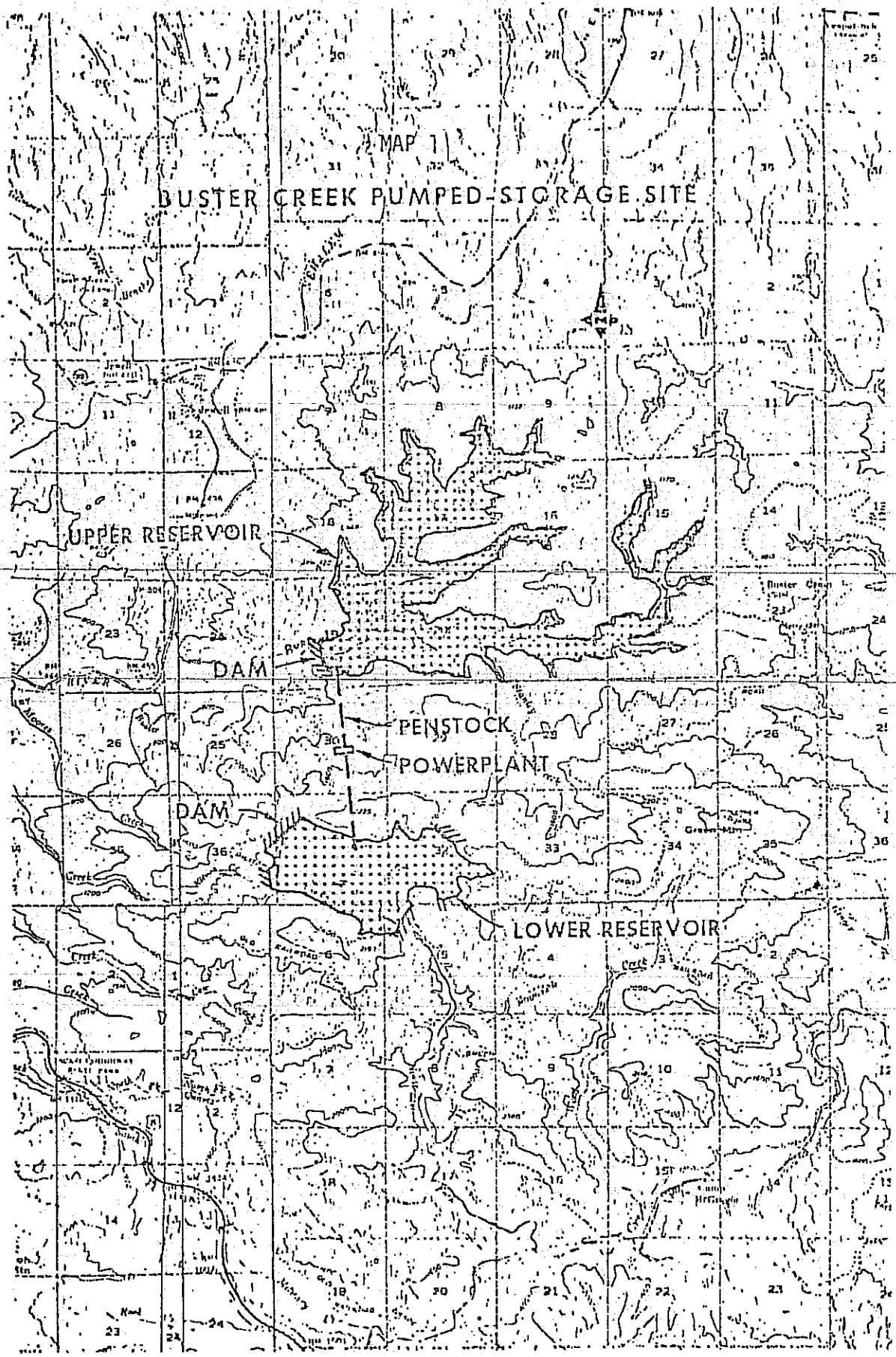
The project could develop from 1,000 to 6,000 megawatts of capacity, operating on a weekly cycle. Investment costs would be from $211 to $164 per kw.

Environmental Considerations

The area provides very good summer and winter range for Roosevelt elk and Blacktail deer, which together with many other animals, would be adversely affected by creation of reservoirs. Some fish presently spawn upstream from the lower reservoir site, and mitigation measures would be required. The site would offer some potential for recreation development, if the power operation could be minimized during the summer season.

Economics

A few non-power benefits could be developed such as recreation boating, fishing, and possibly some downstream water quality enhancement. However, peaking power would provide the main benefits. A benefit cost ratio as high as 2.8 to 1.0 could be realized.


MAP 1
BUSTER CREEK PUMPED-STORAGE SITE
UPPER RESERVOIR
DAM
PENSTOCK
POWERPLANT
DAM
LOWER RESERVOIR

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Goal 14

COUNTY-WIDE ELEMENT

GOAL 14 URBANIZATION

Adopted July 23, 1980 by
Clatsop County Board of Commissioners
Amended by Ordinance 03-11

Goal 14 - Urbanization

Goal

To provide for an orderly and efficient transition from rural to urban land use.

Policies and District Agreements:

Policy:
Urban growth boundaries shall be established to identify and separate urbanizable land form rural land. Establishment and change of the boundaries shall be based upon considerations of the following factors:

(1) Demonstrated need to accommodate long-range urban population growth requirements consistent with LCDC goals;
(2) Need for housing, employment opportunities, and livability;
(3) Orderly and economic provision for public facilities and services;
(4) Maximum efficiency of land uses within and on the fringe of the existing urban area;
(5) Environmental, energy, economic and social consequences;
(6) Retention of agricultural land as defined, with Class I being the highest priority for retention Class IV the lowest priority; and
(7) Compatibility of the proposed urban uses with nearby agricultural activities.

Policy:
Establishment and change of the urban growth boundaries shall be a cooperative process between a city and the county or counties that surround it.

Policy:
Land within the urban growth boundaries separating urbanizable land from rural land shall be considered available over a time for urban uses. Conversion of urbanizable land to urban uses shall be based on consideration of:

(1) Orderly, economic provision for public facilities and services;
(2) Availability of sufficient land for the various uses to insure choices in the market place;
(3) LCDC goals or the acknowledged comprehensive plan; and,
(4) Encouragement of development within urban areas before conversion of urbanizable areas.

Policy:
Plans should designate sufficient amounts of urbanizable land to accommodate the need for further urban expansion, taking into account (1) the growth policy of the area, (2) the needs of the forecast population, (3) the carrying capacity of the planning area, and (4) the open space and recreational needs.

Urban Growth Boundary Management Agreements:

Each City and the County have adopted the UGB management agreements. As of June 1996, through the adopted UGB agreements the cities of Astoria, Cannon Beach, Gearhart, Seaside and Warrenton are administering and enforcing the UGB Comprehensive Plan and Zoning Ordinances inside the UGB outside the city.

Policy:

The County shall review these agreements every three to six years, or as needed and update accordingly.

See each respective City's Urban Growth Boundary Plan:

- Astoria
- Cannon Beach
- Gearhart
- Seaside
- Warrenton

Clatsop County has adopted each of the UGB plan and zoning for each of the above. They are contained in separate documents in the Clatsop County Community Development Department or respective City Hall.

Policy:

The size of the parcels of urbanizable land that are converted to urban land should be of adequate dimension so as to maximize the utility of the land resource and enable the logical and efficient extension of services to such parcels.

Policy:

Plans providing for the transition from rural to urban land use should take into consideration as to a major determination the carrying capacity of the air, land and water resources of the planning area. The land conservation and development actions provided for by such plans should not exceed the carrying capacity of such resources.

Unincorporated Rural Communities:

Clatsop County has identified and established boundaries for the following rural communities: Miles Crossing - Jeffers Gardens, Arch Cape, Svensen, Knappa and Westport. Land use plans in these areas recognize the importance of communities in rural Clatsop County.

Policy:

In unincorporated communities outside urban growth boundaries the county may approve uses, public facilities and services more intensive than allowed on rural lands by Goal 11 and 14, either by exception to those goals, or as provided by OAR 660 rules, which ensure such uses do not;

(1) Adversely effect agricultural and forest operations, and
(2) Interfere with the efficient functioning of urban growth boundaries.

District Agreements:

Clatsop County has adopted agreements with the service districts with respect to land use planning and coordination. These agreements are contained in separate documents located in the Clatsop County Community Development Department and the respective district offices.

Policy:

The County shall review these agreements every three to six years, or as needed and update accordingly.

Policy Implementation:

1. The type, location and phasing of public facilities and services are factors which should be utilized to direct urban expansion.
2. The type, design, phasing and location of major public transportation facilities (i.e., all modes: air, marine, rail, mass transit, highways, bicycle and pedestrian), and
3. Improvements thereto are factors which should be utilized to support urban expansion into urbanizable areas and restrict it from rural acres.
4. Financial incentives should be provided to assist in maintaining the use and character of lands adjacent to urbanizable areas.
5. Local land use controls and ordinances should be mutually supporting, adopted and enforced to integrate the type, timing and location of public facilities and services in a manner to accommodate increased public demands as urbanizable lands become more urbanized.
6. Additional methods and devices for guiding urban land use should include but not be limited to the following: (1)tax incentives and disincentives; (2) multiple use and joint development practices (3) fee and less-than-fee acquisition techniques; and (4) capital improvement programming.
7. Plans should provide for a detailed management program to assign respective implementation roles and responsibilities to those governmental bodies operating in the planning area and having interests carrying out the goal.

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

JUL 1 2 1991

ORDINANCE NO. 91-9

(AN ORDINANCE AMENDING THE CLATSOP
(COUNTY/ASTORIA URBAN GROWTH
(BOUNDARY MANAGEMENT AGREEMENT,
(RESCINDING INCONSISTENT PROVISIONS
(AND DECLARING AN EMERGENCY

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the Clatsop County/Astoria Urban Growth Boundary Management Agreement Amendment.

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to adopty the Clatsop County/Astoria Urban Growth Boundary Management Agreement. In the interest of the health, safety and welfare of the citizens of Clatsop County and in accordance with the recommendations of the Clatsop County Planning Commission and pursuant to State law, the Board of Commissioners hereby determines the necessity of adopting the said agreement.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Board of Commissioners has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Planning Commission held a hearing on May 23, 1991. The Board received and considered the Planning Commission's

recommendation on this request and held a public hearing on this ordinance pursuant to law on July 10, 1991.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supercede, control and repeal any inconsistent provision of the Astoria UGB Comprehensive Plan, as amended, the Astoria Zoning Ordinance, as amended, or any other ordinance or regulation made by Clatsop County or the City of Astoria.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force immediately upon adoption, as set forth in the emergency clause.

SECTION 7. EMERGENCY CLAUSE.

In order to implement the recommendations of the Planning Commission and findings of the Board with the greatest expedience and in order to realize the benefits to be derived from the

adoption of this ordinance amending the Astoria Urban Growth Boundary Management Agreement Amendment, an emergency as set forth in Exhibit "B" attached hereto and by reference herein made a part of this ordinance, is declared to exist and this ordinance shall become effective immediately upon its passage.

SECTION 8. ADOPTION CLAUSE.

The Board of Commissioners hereby adopts the Clatsop County/Astoria Urban Growth Boundary Management Agreement Amendment set forth in Exhibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ADOPTED this 10th day of July, 1991.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

BY Vickie Miner Barrett
Vickie Miner Barrett, Chair

BY Debra D. Kraske
Debra D. Kraske, Recording Secretary

Effective Date: July 10, 1991

Approved as to Form:

_____
Clatsop County Counsel

URBAN GROWTH BOUNDARY AREA JOINT MANAGEMENT AGREEMENT
CLATSOP COUNTY/CITY OF ASTORIA

SECTION 1. INTRODUCTION.

1. The parties to the Joint Management Agreement shall be the City of Astoria, Oregon, hereinafter referred to as the CITY, and Clatsop County, Oregon, hereinafter referred to as the COUNTY.

2. The terms of Joint Management Agreement shall be applicable to the CITY's Urban Growth Boundary Area. For the purposes of this Agreement, the Urban Growth Boundary Area shall be defined as that area of land extending from the CITY's corporate limits to the CITY's Urban Growth Boundary as referenced and mapped in the applicable Urban Growth Boundary Comprehensive Plan, and hereby incorporated into and made a part of this document.

SECTION 2. DEFINITIONS.

1. Words and phrases used in this joint agreement and not defined herein shall be construed in accordance with ORS Chapters 91, 197, 215, and 227 and applicable Oregon Statewide Planning Goals unless otherwise specified. In the event two or more definitions are provided for a single word or phrase, the most restrictive definition shall be utilized in construing this Agreement.

2. Unincorporated Urban Area: Those lands which lie within the designated Urban Growth Boundary, either within or without the unincorporated limits of the City.

3. Urban Growth Area: That portion of the Urban Area which is outside of the incorporated limits of the City.

4. Urban Growth Boundary: The line drawn around the Urban Area which separates rural from urbanizable land, as identified within the Comprehensive Plan for the City.

5. Urbanizable Land: Urbanizable lands are those lands within the Urban Growth Boundary which are identified and (1) determined to be necessary and suitable for future urban area; (2) can be served by public facilities and services; (3) are needed for the expansion of an urban area.

6. Land Use Actions: Land use actions consist of the discretionary approval of a proposed development of land as defined by ORS 197.015(10). The following are land use actions: conditional use permit, variance, actions affecting a non-conforming use or structure, design review approval, subdivision, major partition, and minor partition.

h. The review of the appeal shall be pursuant to procedures set forth in the Clatsop County Land and Water Development and use Ordinance (Ordinance 80-14, as amended).

i. The CITY shall have standing to participate in the appeal.

j. The COUNTY shall notify the CITY of its final decision on an appeal within five (5) days of the decision.

2. Amendments to the Urban Growth Boundary Comprehensive Plan, including the Urban Growth Boundary and Plan Map, CITY Urban Growth Boundary Zoning Ordinance map and text, and CITY Urban Growth Boundary Subdivision Ordinance shall be adopted by Ordinance by both CITY and Clatsop COUNTY according to the following procedure:

a. Application shall be submitted to the CITY on forms provided by the CITY.

b. Upon receipt of a complete application, the CITY shall notify the COUNTY Department of Planning and Development of the hearing date at which the matter will be considered before the CITY Planning Commission and CITY Council.

c. The COUNTY shall have standing to participate in the public hearing before the CITY Planning Commission and CITY Council.

d. The application shall be reviewed by the CITY Planning Commission at a public hearing according to procedures specified in the Urban Growth Boundary Comprehensive Plan, Urban Growth Boundary Zoning Ordinance, or Urban Growth Boundary Subdivision Ordinance.

e. The CITY shall notify the COUNTY of the recommendation of the CITY Planning Commission within five (5) working days of the recommendation.

f. The CITY Council shall hold a public hearing on the application according to applicable procedures specified in the Urban Growth Boundary Comprehensive Plan, Urban Growth Boundary Zoning Ordinance, or Urban Growth Boundary Subdivision Ordinance.

g. The CITY and COUNTY may mutually agree to hold public hearings on amendments concurrently.

SECTION 3. INTENT OF AGREEMENT.

1. The provisions of this agreement shall establish the procedure for review and action on Comprehensive Plan amendments, implementing Ordinance amendments, land use actions, land use enforcement actions and other related matters.

SECTION 4. APPLICABLE DOCUMENTS.

1. The CITY's Comprehensive Plan shall serve as the Comprehensive Plan for the urban area.

2. The CITY's Zoning Ordinance and Subdivision Ordinance shall provide the criteria for revising and acting on proposed land use actions in the urban area.

SECTION 5. LAND USE REGULATORY PROCEDURES.

The CITY shall serve as the lead agency for all development requests with the urban area. The following procedures shall be followed:

1. Land use actions shall be processed according to the following procedure:

   a. All applications shall be submitted to the CITY and shall be on forms provided by the CITY.

   b. Upon receipt of a complete application, the CITY shall notify the COUNTY Department of Planning and Development of the hearing date at which the matter will be considered.

   c. The application shall be reviewed by the CITY Planning Commission as provided for in the Zoning Ordinance and/or Subdivision Ordinance.

   d. The COUNTY shall have standing to participate in the public hearing.

   e. The CITY shall notify the COUNTY of the decision of the CITY Planning Commission within five (5) working days of the decision.

   f. The decision of the CITY Planning Commission shall be final unless appealed by a party to the public hearing.

   g. An appeal of a decision in the Urban Growth Area of the CITY Planning Commission shall be to the Clatsop County Board of Commissioners.

h. If the CITY Council approves the application, it shall do so by Ordinance. If the CITY Council denies the application, the decision may be appealed to the Land Use Board of Appeals.

i. The CITY shall notify the COUNTY of its final action within five (5) working days of adoption of an Ordinance or denial of the application.

j. Clatsop COUNTY shall hold a public hearing, on applications approved by CITY, according to procedures established in the Clatsop County Comprehensive Plan or Clatsop County Land and Water Development and Use Ordinance.

k. Clatsop COUNTY shall notify CITY of its final decision within five (5) working days of its decision.

3. Permitted uses shall be processed according to the following procedure:

a. The CITY shall be responsible for issuing development permits in the Urban Growth Area.

b. The CITY shall be responsible for issuing and recording septic compatibility statements, electrical compatibility statements, and water rights statements.

c. Notice of all permits and compatibility statements issued under this section shall be submitted Clatsop County Department of Planning and Development within ten (10) working days of issuance.

4. CITY shall be responsible for the enforcement of the provisions of the Zoning Ordinance and Subdivision Ordinance in the Urban Growth Area.

SECTION 6. ANNEXATION.

1. Annexation within the CITY Urban Growth Boundary shall be in accordance with relevant annexation procedures under Oregon Law and the policies of the CITY Comprehensive Plan.

SECTION 7. ADMINISTRATION.

1. The CITY shall be responsible for issuing all land use and development permits and compatibility statements within the Urban Growth Boundary.

2. The CITY shall be responsible for the enforcement of the provisions of the Zoning Ordinance and Subdivision Ordinance in the Urban Growth Area including any costs associated therewith; provided however that no formal proceedings to

abate a zoning violation may be initiated in State court or before any Planning Commission or City Council, without first obtaining the written consent of the COUNTY.

3. The CITY shall issue addresses for all buildings within the Urban Growth Boundary.

4. The CITY shall maintain records of all land use and development permits and compatibility statements within the Urban Growth Boundary.

SECTION 8. TERMS OF AGREEMENT.

This Agreement becomes effective as of July 10, 1991. This Agreement shall be reviewed and may be amended at the time established for CITY's Periodic Review of the Plan, or at any other time by mutual consent of both parties.

IN WITNESS WHEREOF, this Urban Growth Boundary Area Joint Management Agreement is signed and executed this _____ day of _____, 1991.

Mayor, City of Astoria

IN WITNESS WHEREOF, this Urban Growth Boundary Area Joint Management Agreement is signed and executed this 10th day of July, 1991.

Chairman, Board of County Commissioners
for Clatsop County

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

ORDINANCE NO. 90- 15

(AN ORDINANCE AMENDING THE
(CLATSOP COUNTY/CANNON BEACH URBAN
(GROWTH BOUNDARY MANAGEMENT AGREEMENT

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the Clatsop County/Cannon Beach Urban Growth Boundary Management Agreement Amendment.

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to adopt the Clatsop County/Cannon Beach Urban Growth Boundary Management Agreement. In the interest of the health, safety and welfare of the citizens of Clatsop County and in accordance with the recommendations of the Clatsop County Planning Commission and pursuant to State law, the Board of Commissioners hereby determines the necessity of adopting the said agreement.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Board of Commissioners has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Planning Commission held a hearing on November 15, 1990. The Board received and considered the Planning Commission's recommendation on this request and held a public hearing on this ordinance pursuant to law on December 5, 1990.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supercede, control and repeal any inconsistent provision of the Clatsop County Comprehensive Plan, as amended, the Clatsop County Land and Water Development and Use Ordinance, as amended, or any other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force and effective 30 days following the date of recording of this Ordinance.

SECTION 7. ADOPTION CLAUSE.

The Board of Commissioners hereby adopts the Clatsop County/Cannon Beach Urban Growth Boundary Management Agreement Amendment set forth in Exhibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ADOPTED this 19th day of December, 1990.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

BY
R.T. Carruthers, Chair

BY Debra D. Kraske
Debra D. Kraske, Recording Secretary

Effective Date: 1-18-91

APPROVED AS TO FORM:
Clatsop County Counsel

EXHIBIT "A"

CITY OF CANNON BEACH

URBAN GROWTH BOUNDARY AREA JOINT MANAGEMENT AGREEMENT WITH CLATSOP COUNTY

SECTION 1. INTRODUCTION.

1. The parties to the Joint Management Agreement shall be the City of Cannon Beach, Oregon, hereinafter referred to as the City, and Clatsop County, Oregon, hereinafter referred to as the County.

2. The terms of the Joint Management Agreement shall be applicable to the City's Urban Growth Boundary Area. For the purposes of this Agreement, the Urban Growth Boundary Area shall be defined as that area of land extending from the City's corporate limits to the City's Urban Growth Boundary as referenced and mapped in the City's Comprehensive Plan, and hereby incorporated into and made a part of this document.

SECTION 2. DEFINITIONS.

1. Words and phrases used in this joint agreement and not defined herein shall be construed in accordance with ORS Chapters 92, 197, 215 and 227 and applicable Oregon Statewide Planning Goals unless otherwise specified. In the event of two or more definitions are provided for a single word or phrase, the most restrictive definition shall be utilized in construing this Agreement.

2. Urban Area: Those lands which lie within the designated Urban Growth Boundary, either within or without the City.

3. Urban Growth Area: That portion of the Urban Area which is outside of the incorporated limits of the City.

4. Urban Growth Boundary: The line drawn around the Urban Area which separates rural from urbanizable land, as identified within the Comprehensive Plan for the City.

5. Urbanizable Land: Urbanizable lands are those lands within the Urban Growth Boundary which are identified and (1) determined to be necessary and suitable for future urban area; (2) can be served by public facilities and services; (3) are needed for the expansion of an urban area.

6. Land-use Actions: Land use actions consist of the discretionary approval of a proposed development of land as defined by

ORS 197.015(10). The following are land use actions: conditional use permit, variance, actions affecting a nonconforming use or structure, design review plan approval, subdivision, major partition, and minor partition.

7. Development Permit: A permit which is issued administratively for a development which is in compliance with the standards of the zone in which it is located.

SECTION 3. INTENT OF AGREEMENT.

1. The provisions of this agreement shall establish the procedure for review and action on Comprehensive Plan amendments, Zoning Ordinance and Subdivision Ordinance amendments, land use actions, land use enforcement actions and other related matters.

SECTION 4. APPLICABLE DOCUMENTS.

1. The Cannon Beach Comprehensive Plan shall serve as the comprehensive plan for the Urban Area.

2. The Cannon Beach Zoning Ordinance and Subdivision Ordinance shall provide the criteria for acting on proposed land use actions and development permits in the Urban Area.

SECTION 5. LAND USE REGULATORY PROCEDURES.

Cannon Beach shall serve as the lead agency for all development requests within the urban area. The following procedures shall be followed:

1. Land use actions shall be processed according to the following procedure:

   (a) All applications shall be submitted to Cannon Beach and shall be on forms provided by the City.

   (b) Upon receipt of a complete application, the City shall notify the County Department of Planning and Development of the hearing date at which the matter will be considered.

   (c) The application shall be reviewed by the Cannon Beach Planning Commission or Design Review Board as provided for in the Cannon Beach Zoning Ordinance and/or Cannon Beach Subdivision Ordinance.

(d) The County shall have standing to participate in the public hearing.

(e) The City shall notify the County of the decision of the Cannon Beach Planning Commission or Design Review Board within five (5) working days of the decision.

(f) The decision of the Cannon Beach Planning Commission or Design Review Board shall be final unless appealed by a party to the public hearing.

(g) An appeal of a decision of the Cannon Beach Planning Commission or Design Review Board shall be to the Clatsop County Board of Commissioners.

(h) The review of the appeal shall be pursuant to procedures set forth in the Clatsop County Land and Water Development and Use Ordinance (Ordinance 80-14 as amended).

(i) Cannon Beach shall have standing to participate in the appeal.

(j) Clatsop County shall notify Cannon Beach of its final decision on an appeal within five (5) working days of the decision.

2. Amendments to the Cannon Beach Comprehensive Plan, including the Urban Growth Boundary and Plan Map, Cannon Beach Zoning Ordinance map and text and the Cannon Beach Subdivision Ordinance shall be adopted by ordinance by both Cannon Beach and Clatsop County according to the following procedure.

(a) Application shall be submitted to Cannon Beach on forms provided by the City.

(b) Upon receipt of a complete application the City shall notify the County Department of Planning and Development of the hearing date at which the matter will be considered before the Cannon Beach Planning Commission and City Council.

(c) The County shall have standing to participate in the public hearing before the Planning Commission and City Council.

(d) Cannon Beach shall hold public hearing(s) in accordance with the procedures specified in the Cannon Beach Comprehensive Plan, Zoning Ordinance, or Subdivision Ordinance.

(e) The City shall notify the County of the recommendation of the Cannon Beach Planning Commission within five (5) working days of the recommendation.

(f) If the Cannon Beach City Council approves the application, it shall do so by ordinance. If the City Council denies the application, the decision may be appealed to the Land Use Board of Appeals.

(g) The City shall notify the County of its final action within five (5) working days of adoption of an ordinance or the denial of the application.

(h) Clatsop County shall hold a public hearing on applications approved by Cannon Beach, according to procedures established in the Clatsop County Comprehensive Plan or Clatsop County Land and Water Development Use Ordinance (Ordinance 80-14, as amended).

(i) Clatsop County shall notify Cannon Beach of its final decision within five (5) working days of its decision.

3. Permitted uses shall be processed according to the following procedure:

(a) The City shall be responsible for issuing development permits in the Urban Growth Area.

(b) The City shall be responsible for issuing and recording septic compatibility statements, electrical compatibility statements and water rights statements.

(c) Notice of all permits and compatibility statements issued under this section shall be submitted to the Clatsop County Department of Planning and Development within ten (10) working days of issuance.

4. The City shall be responsible for the enforcement of the provisions of the Zoning Ordinance and Subdivision Ordinance in the Urban Growth Area, according to the provision of Section 7(2).

SECTION 6. <u>ANNEXATION.</u>

1. Annexation within the Cannon Beach Urban Growth Boundary shall be in accordance with relevant annexation procedures under Oregon law and the policies of the Cannon Beach Comprehensive Plan and Zoning Ordinance.

2. The City and County agree that the City shall assume responsibility for and jurisdiction over all County roads (or

portions thereof) that abut the property that is being annexed.

SECTION 7. ADMINISTRATION.

1. The City shall be responsible for issuing all land use and development permits and land use determinations on compatibility statements in the Urban Growth Area.

2. The City shall be responsible for the enforcement of the provisions of the Zoning Ordinance and Subdivision Ordinance in the Urban Growth Area including any costs associated therewith; provided however that no formal proceedings to abate a violation may be initiated in state court or before any Planning Commission or City Council, without first obtaining the written consent of the County.

3. The City shall issue addresses for all buildings within the Urban Growth Area.

4. The City shall maintain records of all land use and development permits and compatibility statements within the Urban Growth Area.

SECTION 8. TERMS OF AGREEMENT.

This agreement becomes effective as of _____, 19____. This agreement shall be reviewed and amended at the time established for Cannon Beach's periodic review or at any other time by mutual consent of both parties.

IN WITNESS WHEREOF, This Urban Growth Boundary Area Joint Management Agreement is signed and executed this 4th day of October, 1990.

MAYOR, City of Cannon Beach

IN WITNESS WHEREOF, This Urban Growth Boundary Area Joint Management Agreement is signed and executed this ____ day of _____, 19___.

CHAIR, Board of County Commissioners for Clatsop County

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

ORDINANCE NO. 95-8

(AN ORDINANCE AMENDING THE
(GEARHART URBAN GROWTH BOUNDARY
(MANAGEMENT AGREEMENT
(BY THE BOARD OF COMMISSIONERS
(ADOPTING CERTAIN FINDINGS
(AND RESCINDING INCONSISTENT
(PROVISIONS

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the Gearhart UGB Management Agreement.

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to revise and amend the Gearhart Urban Growth Boundary Management Agreement. In the interest of the health, safety and welfare of the citizens of Clatsop County and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the said Gearhart Urban Growth Boundary Management Agreement. In the interest of the health, safety and welfare of the citizens of Clatsop County and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the said Gearhart Urban Growth Boundary Management Agreement.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Planning Commission has sought review and

comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Planning Commission held a public hearing on March 7, 1995. The Board received and considered the Planning Commission's recommendations on this request and held a public hearing on this ordinance pursuant to law on May 24, 1995.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supersede, control and repeal any inconsistent provision of the Clatsop County Land and Water Development and Use Ordinance, as amended, or any other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force and effective July 1, 1995.

SECTION 7. ADOPTION CLAUSE.

The Board of Commissioners hereby adopts the Gearhart UGB

Management Agreement, set forth in Exhibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ADOPTED this _____ day of _____, 1995.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

By_____
Joe E. Bakkensen, Chairman

By_____
Recording Secretary

Effective Date:_____

APPROVED AS TO FORM:_____
Clatsop County Counsel

URBAN GROWTH BOUNDARY AREA JOINT MANAGEMENT AGREEMENT
CLATSOP COUNTY/CITY OF GEARHART

SECTION 1. INTRODUCTION.

1. The parties to the Joint Management Agreement shall be the City of Gearhart, Oregon, hereinafter referred to as the CITY, and Clatsop County, Oregon, hereinafter referred to as the COUNTY.

2. The terms of Joint Management Agreement shall be applicable to the CITY's Urban Growth Boundary Area. For the purposes of this Agreement, the Urban Growth Boundary Area shall be defined as that area of land extending from the CITY's corporate limits to the CITY's Urban Growth Boundary as referenced and mapped in the applicable Urban Growth Boundary Comprehensive Plan, and hereby incorporated into and made a part of this document.

SECTION 2. DEFINITIONS.

1. Words and phrases used in this joint agreement and not defined herein shall be construed in accordance with ORS Chapters 91, 197, 215, and 227 and applicable Oregon Statewide Planning Goals unless otherwise specified. In the event two or more definitions are provided for a single word or phrase, the most restrictive definition shall be utilized in construing this Agreement.

2. Unincorporated Urban Area: Those lands which lies within the designated Urban Growth Boundary, either within or without the unincorporated limits of the City.

3. Urban Growth Area: That portion of the Urban Area which is outside of the incorporated limits of the City.

4. Urban Growth Boundary: The line drawn the Urban Area which separates rural from urbanizable land, as identified within the Comprehensive Plan for the City.

5. Urbanizable Land: Urbanizable lands are those lands within the Urban Growth Boundary which are identified and (1) determined to be necessary and suitable for future urban area; (2) can be served by public facilities and services; (3) are needed for the expansion of an urban area.

6. Land Use Actions: Land use actions consist of the discretionary approval of a proposed development of land as defined by ORS 197.015(10). The following are land use actions: conditional use permit, variance, actions affecting a non-conforming use or structure, design review approval, subdivision, major partition and minor partition.

SECTION 3. INTENT OF AGREEMENT.

1. The provisions of this agreement shall establish the procedure for review and action on Comprehensive Plan amendments, implementing Ordinance amendments, land use actions, land use enforcement actions and other related matters.

SECTION 4. APPLICABLE DOCUMENTS.

1. The CITY's Comprehensive Plan shall serve as the Comprehensive Plan for the urban area.

2. The CITY's Zoning Ordinance and Subdivision Ordinance shall provide the criteria for revising and acting on proposed land use actions in the urban area.

SECTION 5. LAND USE REGULATORY PROCEDURES.

The CITY shall serve as the lead agency for all development requests within the urban area. The following procedures shall be followed:

1. Land use actions shall be processed according to the following procedure:

   a. All application shall be submitted to the CITY and shall be on forms provided by the CITY.

   b. Upon receipt of a complete application, the CITY shall notify the COUNTY Department of Planning and Development of the hearing date at which the matter will be considered.

   c. The application shall be reviewed by the CITY Planning Commission as provided for in the Zoning Ordinance and/or Subdivision Ordinance.

   d. The COUNTY shall have standing to participate in the public hearing.

   e. The CITY shall notify the COUNTY of the decision of the CITY Planning Commission within five (5) working days of the decision.

   f. The decision of the CITY Planning Commission shall be final unless appealed by a party to the public hearing.

   g. An appeal of a decision int he Urban Growth Area of the CITY Planning Commission shall be to the Clatsop County Board of Commissioners.

   h. The review of the appeal shall be pursuant to procedures set forth in the Clatsop County Land and Water Development and Use Ordinance (Ordinance 80-14, as amended).

i. The CITY shall have standing to participate in the appeal.

j. The COUNTY shall notify the CITY of its final decision on an appeal within five (5) days of the decision.

2. Amendments to the Urban Growth Boundary Comprehensive Plan, including the Urban Growth Boundary and Plan Map, CITY Urban Growth Boundary Zoning Ordinance map and text, and CITY Urban Growth Boundary Subdivision Ordinance shall be adopted by Ordinance by both CITY and CLATSOP COUNTY according to the following procedure:

a. Application shall be submitted to the CITY on forms provided by the CITY.

b. Upon receipt of a complete application, the CITY shall notify the COUNTY Department of Planning and Development of the hearing date at which the matter will be considered before the CITY Planning Commission and CITY Council.

c. The COUNTY Shall have standing to participate in the public hearing before the CITY Planning Commission and CITY Council.

d. The application shall be reviewed by the CITY Planning Commission at a public hearing according to procedures specified in the Urban Growth Boundary Comprehensive Plan, Urban Growth Boundary Zoning Ordinance, or Urban Growth Boundary Subdivision Ordinance.

e. The CITY shall notify the COUNTY of the recommendation of the CITY Planning Commission within five (5) working days of the recommendation.

f. The CITY Council shall hold a public hearing on the application according to applicable procedures specified in the Urban Growth Boundary Comprehensive Plan, Urban Growth Boundary Zoning Ordinance, or Urban Growth Boundary Subdivision Ordinance.

g. The CITY and COUNTY may mutually agree to hold public hearings on amendments concurrently.

h. If the CITY Council approves the application, it shall do so by Ordinance. If the CITY Council denies the application, the decision may be appealed to the Land Use Board of Appeals.

i. The CITY shall notify the COUNTY of its final action within five (5) working days of adoption of an Ordinance or denial of the application.

j. Clatsop COUNTY shall hold a public hearing, on applications approved by CITY, according to procedures established in the Clatsop County Comprehensive Plan or Clatsop County Land and Water Development and Use Ordinance.

k. Clatsop COUNTY shall notify CITY of its final decision within five (5) working days of its decision.

3. Permitted uses shall be processed according to the following procedure:

a. The CITY shall be responsible for issuing development permits in the Urban Growth Area.

b. The CITY shall be responsible for issuing and recording septic compatibility statements, electrical compatibility statements, and water rights statements.

c. Notice of all permits and compatibility statements issued under this section shall be submitted to Clatsop County Department of Planning and Development within ten (10) working days of issuance.

4. CITY shall be responsible for the enforcement of the provisions of the Zoning Ordinance and Subdivision Ordinance in the Urban Growth Area.

SECTION 6. ANNEXATION.

1. Annexation within the CITY Urban Growth Boundary shall be in accordance with relevant annexation procedures under Oregon Law and the policies of the CITY Comprehensive Plan.

SECTION 7. ADMINISTRATION.

1. The CITY shall be responsible for issuing all building and land use permits and compatibility statements within the Urban Growth Boundary.

2. The CITY shall be responsible for the enforcement of the provisions of the Zoning Ordinance and Subdivision Ordinance in the Urban Growth Area including any costs associated therewith; provided however that no formal proceedings to abate a zoning violation may be initiated in State court or before any Planning Commission or City Council, without first obtaining the written consent of the COUNTY.

3. The CITY shall issue addresses for all buildings within the Urban Growth Boundary.

4. The CITY shall maintain records of all building and land use permits and compatibility statements within the Urban Growth Boundary.

SECTION 8. TERMS OF AGREEMENT.

This Agreement becomes effective as of 1 July, 1995. This Agreement shall be reviewed and may be amended at the time established for CITY's Periodic Review of the Plan, or at any other time by mutual consent of both parties.

IN WITNESS WHEREOF, this Urban Growth Boundary Area Joint Management Agreement is signed and executed this 12TH day of DECEMBER, 1994.

Kent Smith
Mayor, City of Gearhart

IN WITNESS WHEREOF, this Urban Growth Boundary Area Joint Management Agreement is signed and executed this _____ day of _____, 199____.

R. Bothemalm
Chair, Board of County Commissioners
for Clatsop County

2/28/95

ADDENDUM TO
URBAN GROWTH BOUNDARY AREA JOINT MANAGEMENT
AGREEMENT WITH CLATSOP COUNTY/CITY OF GEARHART

On ~~February~~ April 5, 1995, the City of Gearhart, Oregon (hereinafter referred to as the "City"), and Clatsop County, Oregon (hereinafter referred to as the "County"), entered into this addendum to that certain Urban Growth Boundary Area Joint Management Agreement - Clatsop County/City of Gearhart.

R E C I T A L S :

WHEREAS, On or about December 12, 1994, the parties entered into an Urban Growth Boundary Area Joint Management Agreement; and,

WHEREAS, the parties wish to amend that agreement to include a new section regarding obligations over roads.

NOW, THEREFORE, the parties agree as follows:

SECTION 9. ROADS.

1. Jurisdiction over and maintenance obligations over roads and county roads in the City of Gearhart and the City of Gearhart's Urban Growth Boundary shall be as follows:

(a) Hillila Road between old RR R.O.W. and Hwy 101, 20 ft width of hard surface is sufficient to meet City standards.

(b) Cottage St. outside of current city limits. County Public Works to improve with overlay consistent with paving (including width) inside the City. To be completed 1998-2000. When annexed, City agrees to take over R.O.W. from County. Maintenance, etc.

(c) Golf Course Road from Hwy 101 to City limits on Marion. 22 ft of width of hard surface is acceptable. County Public Works to replace Neacoxie Creek Culvert and resurface road. Gearhart Greens corner width to be determined upon resurfacing.

Public works and City to review City assumption of County roads where road is both inside and outside of City due to annexation (jagged city limits line).

(d) Avenue G - County Public Works to replace drainage culvert east of Neacoxie Creek and overlay to 24 feet.

City to take over when above is completed as it is all within the City limits.

(e) Oster - from Hwy 101 east to Railroad Avenue is acceptable now.

East of above is to be widened to 16 feet with hard surface in 1995 or 1996 by County Public Works (Oil Mat).

City to take over when above is completed as it is all within the City Limits.

(f) Railroad Avenue (proposed by City) - County Public Works and City jointly to realign and hard surface the Southerly 250 feet of Street to 18' in width.

Except as expressly provided above, the terms of the Urban growth Boundary Area Joint Management Agreement - Clatsop County/City of Gearhart executed by the parties on December 12, 1994, shall remain in full force and effect.

IN WITNESS WHEREOF, This Addendum to Urban Growth Boundary Area Joint Management Agreement is signed and executed this 5th day of April, 1995.

Kent Smith
Mayor, City of Gearhart

IN WITNESS WHEREOF, This Addendum to Urban Growth Boundary Area Joint Management Agreement is signed and executed this _____ day of _____, 1995.

CHAIR, Board of County Commissioners for Clatsop County

BEFORE THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

(AN ORDINANCE AMENDING THE
(SEASIDE URBAN GROWTH BOUNDARY
(MANAGEMENT AGREEMENT BY THE
(BOARD OF COMMISSIONERS, ADOPTING
(CERTAIN FINDINGS AND RESCINDING
(INCONSISTENT PROVISIONS

ORDINANCE NO. 95-24

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE.

This ordinance shall be known as the Seaside UGB Management Agreement.

SECTION 2.

The Board of County Commissioners of Clatsop County, Oregon recognizes the need to revise and amend the Seaside Urban Growth Boundary Management Agreement. In the interest of the health, safety and welfare of the citizens of Clatsop County and pursuant to State law, the Board of Commissioners hereby determines the necessity of amending the said Seaside Urban Growth Boundary Management Agreement.

The Board of County Commissioners determines and takes notice that the adoption procedure for this ordinance complies with the Post Acknowledgement rules of the Land Conservation and Development Commission. The County Planning Commission has sought review and comment and has conducted the public hearing process pursuant to the requirements of ORS 215.050 and 215.060. The Planning Commission held a public hearing on March 7, 1995. The Board received and considered the Planning Commission's

recommendation on this request and held a public hearing on this ordinance pursuant to law on May 24, 1995.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the necessity for conformity with any and all laws or rules of the State of Oregon, or its agencies, or any ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supersede, control and repeal any inconsistent provision of the Clatsop County Land and Water Development and Use Ordinance, as amended, or other ordinance or regulation made by Clatsop County.

SECTION 5. SEPARABILITY.

If any section, subsection, sentence, clause, phrase or any other portion of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force and effective 30 days following adoption of this ordinance.

SECTION 7. ADOPTION CLAUSE.

The Board of Commissioners hereby adopts the Seaside UGB Management Agreement, set forth in Exhibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ADOPTED this 25th day of October, 1995.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

By Geoff Stone
Geoff Stone, Vice Chairman

By Kathleen A. Sullivan
Recording Secretary

Effective Date: November 24, 1995

Approved as to Form:

Clatsop County Counsel

SSUGBMGA.ORD A:boc.tg

October 9, 1995

DEC 1995
RECEIVED
Dept. of Planning
& Development

URBAN GROWTH BOUNDARY AREA JOINT MANAGEMENT AGREEMENT

CITY OF SEASIDE AND CLATSOP COUNTY

SECTION 1. INTRODUCTION

1. The parties to the Joint Management Agreement shall be the City of Seaside, Oregon, hereinafter referred to as "the City," and Clatsop County, Oregon, hereinafter referred to as "the County."

2. The terms of the Joint Management Agreement shall be applicable to the City's Urban Growth Boundary Area. For the purposes of this Agreement, the Urban Growth Boundary Area shall be defined as that area of land extending from the City's corporate limits to the City's Urban Growth Boundary as referenced and mapped in the City Comprehensive Plan, and hereby incorporated into and made a part of this document.

SECTION 2. DEFINITIONS

Words and phrases used in this joint agreement and not defined herein shall be construed in accordance with ORS Chapter 92, 197, 215 and 227, and applicable Oregon Statewide Planning Goals unless otherwise specified. In the event two or more definitions are provided for a single word or phrase, the most restrictive definition shall be utilized in construing this Agreement.

1. Development Permit: A permit issued for a type of use which is permitted in a particular zone if it is able to meet specified standards and criteria.

2. Land Use Actions: Land use actions consist of the discretionary approval of a proposed development of land as defined by ORS 197.015 (10).

3. Review Use: A use, and accessory uses, permitted when reviewed and approved by the Planning Commission.

4. Urban Area: Those lands which lie within the designated Urban Growth Boundary, either within or without the City.

5. Urban Growth Area: That portion of the Urban Area which is outside of the incorporated limits of the City.

6. Urban Growth Boundary: The line drawn around the Urban Area which separates rural from urbanizable land, as identified within the Comprehensive Plan for the City.

7. Urbanizable Land: Urbanizable lands are those lands within the Urban Growth Boundary which are identified and (1) determined to be necessary and suitable for future urban area; (2) can be served by public facilities and services; (3) are needed for the expansion of an urban area.

SECTION 3. INTENT OF AGREEMENT

1. The provisions of this agreement shall establish the procedure for review and action on Comprehensive Plan amendments, implementing Ordinance amendments, land use actions, land use enforcement actions and other related matters.

2. The City of Seaside Comprehensive Plan, Zoning Ordinance, Subdivision Ordinance and Sign Ordinance shall provide the criteria for revising and acting on proposed land use actions in the urban growth area.

SECTION 4. APPLICABLE DOCUMENTS

1. *The City of Seaside Comprehensive Plan shall serve as the Comprehensive Plan for the urban growth area*

2. *The City of Seaside Comprehensive Plan, Zoning Ordinance, Subdivision Ordinance and Sign Ordinance shall provide the criteria for revising and acting on proposed land use actions in the urban growth area.*

SECTION 5. LAND USE REGULATORY PROCEDURES

The City shall serve as the lead agency for all development requests within the urban growth area. The following procedures shall be followed:

1. *Land use actions shall be processed according to the following procedures:*

   (a) *All applications shall be submitted to the City and shall be on forms provided by the City.*

   (b) *Upon receipt of a complete application, the City shall notify the County Department of Planning and Development of the hearing date at which the matter will be considered.*

   (c) *The application shall be reviewed by the City Planning Commission as provided for in the City Zoning Ordinance, City Subdivision Ordinance, and/or City Sign Ordinance.*

   (d) *The City shall notify the County Department of Planning and Development of the decision of the City Planning Commission within five (5) working days of the decision.*

   (e) *When notice is required to property owners, all property owners within the required distance will be notified without consideration as to whether or not they are in the City limits.*

   (f) *The decision of the City Planning Commission, regarding land use actions, shall be final unless appealed by a party to the public hearing.*

   (g) *An appeal of a decision in the Urban Growth Area of the City Planning Commission shall be to the County Board of Commissioners according to applicable procedures specified in the Comprehensive Plan, Zoning Ordinance, Subdivision Ordinances or Sign Ordinance.*

2. *Amendments to the City of Seaside Comprehensive Plan, including the Urban Growth Boundary and Plan Map, City Zoning Ordinance map and text, and City Subdivision Ordinance and Sign Ordinance that concern the urban growth area shall be adopted by Ordinance by the City according to the following procedure:*

   (a) *Application for amendment shall be submitted to the City on forms provided by the City.*

   (b) *Upon receipt of a complete application, the City shall notify the County Department of Planning and Development of the hearing date at which time the matter will be considered before the City Planning Commission and City Council.*

(c) *The application shall be reviewed by the City Planning Commission at a public hearing according to procedures specified in the Comprehensive Plan, Zoning Ordinance, Subdivision Ordinance, or Sign Ordinance.*

(d) *The City shall notify the County of the recommendation of the City Planning Commission within five (5) working days of the recommendation.*

(e) *When notice is required to property owners, all property owners within the required distance will be notified without consideration as to whether or not they are in the City limit*

(f) *The City Council shall hold a public hearing on the application according to applicable procedures specified in the Comprehensive Plan, Zoning Ordinance, Subdivision Ordinance, or Sign Ordinance*

(g) *The city shall notify the County of its final action within five (5) working days of adoption of an Ordinance or denial of the application.*

3. *Amendments to the City of Seaside Comprehensive Plan, including the Urban Growth Boundary and Plan Map, City Zoning Ordinance map and text, and City Subdivision Ordinance and Sign Ordinance that concern the urban growth area shall be adopted by Clatsop County subject to applicable review procedure. The review shall follow the public hearing procedures as listed in the Clatsop County Land and Water Development and Use Ordinance.*

4. *The City and County shall notify all Urban Service providers of proposed amendments to the City of Seaside Comprehensive Plan, including the Urban Growth Boundary and Plan Map, City Zoning Ordinance map and text, City Subdivision Ordinance and Sign Ordinance that concern the urban growth area.*

5. *Permitted and Review Uses shall be processed according to the following procedure:*

   (a) *The City shall be responsible for issuing development permits in the Urban Growth Area except septic compatibility statements, electrical compatibility statements and water rights statements.*

6. *The City shall be responsible for the enforcement of the provisions of the Comprehensive Plan, Zoning, Sign Code, Road Systems Development Fee, subdivision Ordinances, and Building Code Enforcement in the Urban Growth Area.*

7. *Wetland delineations will be made on a project-by-project basis or as required by City Ordinance and will be the responsibility of the developers.*

SECTION 6. <u>ANNEXATION</u>

1. *Annexation within the City Urban Growth Boundary shall be in accordance with relevant annexation procedures under Oregon law, City Comprehensive Plan and other implementing ordinances.*

SECTION 7. <u>ADMINISTRATION</u>

1. *The City shall be responsible for issuing all land use permits including, but not limited to, development permits in the Urban Growth Area, except septic compatibility statements, electrical compatibility statements and water rights statements.*

2. *The City shall be responsible for the enforcement of the provisions of the Comprehensive Plan, Zoning Ordinance, Subdivision Ordinance, and Sign Ordinance in the Urban Growth Area including any costs associated therewith; provided however, that no formal proceedings to correct a violation may be initiated by the City in a court of law or before any Planning Commission or City Council, without first notifying the County.*

3. *The City shall issue addresses for all building within the Urban Growth Boundary.*

4. *The City shall maintain records of all land use permits it issues and actions it takes within the Urban Growth Boundary. This includes public notices, where appropriate, building permits, manufactured home placement permits, site design plans for parking, signs, addresses, etc.*

SECTION 8. AMENDMENTS TO THE JOINT MANAGEMENT AGREEMENT

Amendments to this Agreement shall be adopted by a majority of both full City Council and the County Board of Commissioners, after recommendations have been received from the Planning Commissions of the City and County.

SECTION 9. SEVERABILITY

The provisions of this Joint Management Agreement are severable. If an article, sentence, clause, or phrase shall be adjudged by a court of competent jurisdiction to be invalid, the decision shall not affect the validity of the remaining portions of this agreement.

SECTION 10. TERMS OF AGREEMENT

This agreement becomes effective as of DECEMBER 28, *19* 95. *This agreement shall be reviewed and may be amended at the time established for City's Periodic Review of the plan, or at any other time by mutual consent of both parties.*

IN WITNESS WHEREOF, this Urban Growth Boundary Area Joint Management Agreement is signed and executed this 29TH *day of* NOVEMBER, *19* 95

Olivia Vernot

Mayor, City of Seaside

IN WITNESS WHEREOF, this Urban Growth Boundary Area Joint Management Agreement is signed and executed this 8 *day of* December, *19* 95.

J E Bakkensen

Chairman, Board of County Commissions for Clatsop County

URBAN GROWTH BOUNDARY AREA JOINT MANAGEMENT AGREEMENT

The parties to the Joint Management Agreement shall be the City of Warrenton, Oregon, hereinafter referred to as the City, and Clatsop County, Oregon hereinafter referred to as the County.

The terms of the Joint Management Agreement shall be applicable to the City's urban growth boundary area. For the purposes of this Agreement, the urban growth boundary area shall be defined as that area of land extending from the City's corporate limits to the City's urban growth boundary as referenced and mapped in the City's Comprehensive Plan (adopted June 4, 1980 with amendments through April 19, 1982) Ordinance and hereby incorporated into and made a part of this document.

This Joint Management Agreement is entered into pursuant to ORS Chapter 190 and 197 and the Oregon Statewide Planning Goals for the purpose of facilitating an orderly transition from rural to urban land uses within the City's urban growth boundary area.

Words and phrases used in this joint agreement shall be construed in accordance with ORS Chapters 92, 197, 215, and 227 and applicable Oregon Statewide Planning Goals unless otherwise specified. In the event two or more definitions are provided for a single word or phrase, the most restrictive definition shall be utilized in construing this Agreement.

I. Introductory Information

A. This Joint Management Agreement is the culmination of a series of actions intended, in part, to facilitate the orderly and efficient transition from rural to urbanizable to urban land uses within the urban growth boundary area. Such actions include the preparation of the City Comprehensive Plan, the cooperative establishment of an urban growth boundary, coordination with affected governmental units, and County review of the City comprehensive plan and implementing ordinances.

B. The City Council has adopted, by ordinance, a comprehensive plan which included an urban growth boundary and planning goals, objectives and policies. The City has also adopted a zoning ordinance to implement the provisions of the comprehensive plan.

II. General Comprehensive Plan Provisions

A. The County shall retain responsibility for land use decisions and actions affecting the City's urban growth boundary area, such responsibility to be relinquished over any land within this area upon its annexation to the City subject to provisions of ORS 215.130 (2)(a).

B. The City's urban growth boundary area has been identified as urbanizable and is considered to be available over time for urban expansion. In order to promote consistency between the City's planning effort and County land use decisions and actions affecting the urban growth area, the County shall incorporate those portions of the City's Comprehensive Plan which are applicable to the urban growth boundary area into the County Comprehensive Plan.

C. All public sector actions which fall within the scope of the City's Comprehensive Plan shall be consistent with the Plan.

D. It is the policy of the City and County to maintain a rapid exchange of information relating to their respective land use decisions which affect the City's urban growth boundary areas.

III. Zoning and Subdivision Ordinances

A. The substantive, as opposed to procedural, portions of the City's Zoning Ordinance shall be incorporated into and be made a part of the County Zoning Ordinances.

B. For the purposes of this Joint Management Agreement, substantive provisions of a zoning ordinance shall be those sections of the ordinance which establish outright uses, conditional uses, and zone requirements (e.g., minimum lot sizes, setback requirements, etc.) and zoning map.

C. The County's Land Division section of its Land and Water Development and Use Ordinance shall apply to minor partitions, major partitions and subdivisions.

D. The above mentioned incorporated Ordinances shall be applied to a zone change, review use, conditional use, variance, subdivision, major partition, minor partition requests affecting the City's urban growth boundary area.

IV. Referred Application/Situations

A. The County Planning Department shall refer each request affecting the City urban growth boundary area to the City for its review and comment within five days of the date the request was filed with the County Planning Department.

B. The City shall review the request and submit its recommendation to the County Planning Department within fifteen days of the date the request was received by the City, unless the City Zoning Administrator determines that the proposed action should be reviewed by the City Planning Commission, in which case the City shall submit its recommendation within five days after the first Planning Commission meeting after receipt of the request from the County. The City Zoning Administrator shall notify the County of his determination that a proposed action will be forwarded to the City Planning Commission.

C. The County shall retain final decision-making responsibility for all land use actions affecting the City urban growth boundary area, but such decisions shall only be made after receipt of timely recommendations from the City.

D. Should no recommendations be forthcoming within established response time, absent a request for an extension, the City shall be presumed to have no negative comment regarding the application.

E. After the County makes a decision on the application, the City shall be promptly informed of the action taken by the County.

V. City Services

This section should include City policies regarding the extension of services to sites within the urban growth boundary area, e.g.:

A. The City may extend city services to any site located within the City urban growth boundary area at the affected property owner's request and expense, consistent with City Comprehensive Plan policies.

B. For the purposes of this Joint Management Agreement, city services are sanitary sewer and water service.

VI. Annexation

Annexation of sites within the City urban growth boundary area shall be in accordance with relevant annexation procedures contained in the Oregon Revised Statutes, Oregon case law, and the City Comprehensive Plan.

VII. Roads

The County and City shall cooperatively develop an implementation policy regarding streets and roads within the City urban growth boundary area and corporate limits which is consistent with the City Comprehensive Plan. Such policy shall include, but not be limited to, the following:

A. The circumstances under which the City will assume ownership of and maintenance responsibility for County roads within the corporate limits.

B. The conditions under which new public streets and roads, other than subdivisions, will be developed within the City urban growth boundary area.

VIII. Appeals

A. Appeals from land use decisions and actions within the urban growth boundary area shall be in accordance with the appeals procedure specified in the County Land and Water Development Ordinance.

B. In the event that either the County Planning Commission or the County Board of Commissioners disagrees with the City comment and recommendation provided for in Section IV of this Joint Management Agreement, the City shall have standing to appeal as provided in Section VIII. A., above.

IX. Amendments to the Joint Management Agreement

Amendments to this Agreement shall be adopted by a majority of both full City Council and the County, after recommendations have been received from the Planning Commissions of the City and County.

X. Severability

The provisions of this Joint Management Agreement are severable. If an article, sentence, clause, or phrase shall be adjudged by a court of competent jurisdiction to be invalid, the decision shall not affect the validity of the remaining portions of this Agreement.

IN WITNESS WHEREOF, this Urban Growth Boundary Joint Management Agreement is signed and executed this 7TH day of July, 1982

COUNTY	CITY
Chairman, Board of County Commissioners	Mayor, City of Warrenton

AMENDMENT

That certain Urban Growth Boundary Area Joint Management Agreement between the City of Warrenton and Clatsop County is amended to provide:

XI. Termination

This Agreement may be terminated upon thirty (30) days written notice from one party to the other.

All references to the City Council shall refer to the City Commission of Warrenton rather than a council.

DATED this 7th day of July, 1982.

Goals 16 & 17

COMPREHENSIVE PLAN

Goal 16 and 17 Element: Columbia River Estuary

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* On File in Clatsop County Department of Planning and Development

COLUMBIA RIVER ESTUARY LAND AND WATER USE PLAN *

P10. INTRODUCTION AND BACKGROUND

THE ESTUARY PLANNING AREA

The Columbia River Estuary planning area includes aquatic areas and shorelands from the 3-mile limit offshore to the eastern boundary of Wahkiakum County in Washington (RM 53) and the eastern boundary of Clatsop County in Oregon (RM 45). All tributary streams to the head of tide and their adjacent shorelands are included within the estuary planning area. In Oregon, the coastal zone, as defined by the Land Conservation and Development Commission, extends only to the downstream end of Puget Island (RM 38). Although shorelands generally extend to the landward limit of the floodplain for planning purposes, jurisdictional boundaries of the shorelands zones define a much smaller area. This Plan's informational sections, such as descriptions of shoreland features and human uses, apply to the entire floodplain area. Regulatory sections, such as aquatic and shoreland designations and policies, apply to the narrower jurisdictional shoreland area.

The estuary is divided into 46 planning subareas. These subareas were drawn to represent distinct planning units with common features and needs. Land use patterns, physical and biological characteristics, and jurisdictional boundaries were used to determine subarea boundaries. The subarea plans which are under, or in part under Clatsop County jurisdiction are described in P 30.

THE PLANNING PROCESS

The shorelands and estuary elements of the County's Comprehensive Plan that pertain to the Columbia River Estuary were prepared by the Columbia River Estuary Study Taskforce (CREST) and are the basis for managing these resources within a regional content. CREST, a bi-state organization of cities, counties, and port districts, was organized in 1974 to develop a coordinated, regional estuary management program. Clatsop County has been a participant in CREST since its inception.

CREST member jurisdictions and staff formulated a land and water use planning process in 1976, establishing a regional framework for local citizens, interest groups, governments, and state and federal agencies to integrate their efforts in creating an estuary-wide management plan. The impetus for developing the Plan came from growing conflicts between conservation, uses and developments of estuarine areas. The Regional Management Plan was also in response to state coastal zone management programs and federal funding under the 1972 Coastal Zone Management Act. The need for better management data, for long term protection of critical natural resource areas, and for estuarine development all contributed to the planning program. In 1977, CREST published an Inventory synthesizing existing scientific and management information on the physical, biological, and cultural characteristics of the Columbia River Estuary. Using this technical background information along with collaboration of specially created citizen planning committees, local jurisdictions and state and federal agencies, CREST staff produced the initial draft of a regional management plan.

Amended 90-13, dated December 21, 1990

The final draft of the Columbia River Estuary Regional Management Plan was published in June of 1979. The 1979 Regional Management Plan was adopted into local shoreline master programs in Washington and comprehensive plans in Oregon and was implemented through the local zoning and permitting process. The plans have been fine-tuned through local plan amendments to meet changing development and conservation needs.

Revisions to the Regional Plan began in 1987 as a result of changes in local development needs as well as state and federal regulations and programs. In addition, the Oregon Department of Land Conservation and Development required that the Plan be updated through their Periodic Review process. The 1989 revisions to the regional plan reflect changes in development trends, local planning needs, new or updated state and federal programs and regulations, new information, and language changes to approve and streamline the Plan. The revised Regional Plan has no legal authority except as implemented by local governments in local comprehensive plans (Oregon) and local shoreline management master programs (Washington).

COMPREHENSIVE PLAN CONTENT AND STRUCTURE

The Goal 16 and 17 element of the County's Comprehensive Plan pertaining to the Columbia River Estuary is intended to satisfy the requirements of the Estuarine Resources and Coastal Shorelands goals established by the Oregon Land Conservation and Development Commission and to function as part of the Oregon Coastal Zone Management Program as certified by the Department of Commerce under the Federal Coastal Zone Management Act. Under these programs, the Columbia River Estuary has been designated "development".

This Comprehensive Plan section (Goal 16 and 17 element) consists of the following parts:

- Definitions.
- Use and area designations.
- Use and Activity Tables.
- P 15 Cumulative Impacts.
- P 20 Columbia River Estuary Aquatic and Shoreland Regional Policies.
- P 21 Intergovernmental Coordination Policies.
- P 30 Columbia River Estuary Subarea Plans.
- P 40 Columbia River Estuary Dredged material Management Plan.
- P 50 Mitigation and Restoration Plan for the Columbia River Estuary
- P 60 Appendices

Land and Water Development and Use standards are in the County's Zoning Ordinance.

DEFINITIONS

1. Aquatic Areas

Aquatic areas include the tidal waters, including subtidal areas and wetlands of the estuaries, and non-tidal sloughs, streams, and wetlands within the shorelands area boundary. The lands underlying these waters are also included. The upper limit of aquatic areas is the upper limit of aquatic vegetation or, where such a line cannot be accurately determined, Mean Higher High Water (MHHW) in tidal areas or Ordinary High Water (OHW) in non-tidal areas.

2. Coastal Shorelands

Those areas immediately adjacent to the ocean, estuaries, associated wetlands and coastal lakes. The extent of shorelands shall include at least:

1. Areas subject to ocean flooding and lands within 100 feet of the ocean shore or within 50 feet of an estuary or a coastal lake;

2. Adjacent areas of geologic instability where the geologic instability is related to or will impact a coastal water body;

3. Natural or man-made riparian resources, especially vegetation necessary to stabilize the shoreline and to maintain water quality and temperature necessary for the maintenance of fish habitat and spawning areas;

4. Areas of significant shoreland and wetland biological habitats whose habitat quality is primarily derived from or related to the association with coastal water areas;

5. Areas necessary for water-dependent and water-related uses including areas of recreational importance which utilize coastal water or riparian resources; areas appropriate for navigation and port facilities, dredged material disposal and mitigation sites, and areas having characteristics suitable for aquaculture;

6. Areas of exceptional aesthetic or scenic quality, where the quality is primarily derived from or related to the association with coastal water areas;

7. Coastal headlands;

8. Locations of archaeological or historical importance associated with the estuary; and

9. Dikes and their associated inland toe drains.

3. Columbia River Estuary

The estuary is defined for planning purposes, as all aquatic areas subject to tidal influence downstream of the Wahkiakum County line (RM 53) in Washington and to the eastern boundary of Clatsop County in Oregon(RM 45). In Oregon, the Coastal Zone, as defined by the Land Conservation and Development Commission, extends only to the downstream end of Puget Island (RM 38).

Tidal influence extends to Bonneville Dam (RM 145). Daily tidal range is 8.3 feet near the river mouth and decreases to about 5.5 feet near the upstream limit of the CREST planning area (Eagle Cliff - RM 53.3). See Section 203 of the "Columbia River Estuary Inventory of Physical, Biological and Cultural Characteristics" for a complete discussion of tides and tidal effect in the river.

4. Water-dependent

A use or activity which can be carried out only on, in, or adjacent to water areas because the use requires access to the waterbody for water-borne transportation, recreation, energy production, or source of water.

5. Water-related

Uses which are not directly dependent upon access to a water body, but which provide goods or services that are directly associated with water-dependent land or waterway use, and which, if not located adjacent to water, would result in a public loss of quality in the goods or services offered. Except as necessary for water-dependent or water-related uses or facilities, residences, parking lots, spoil and dump sites, roads and highways, restaurants, businesses, factories, and trailer parks are not generally considered dependent on or related to water location needs.

6. Development or Use

USE: Use is the end to which a land or water area is ultimately employed. A use often involves the placement of structures or facilities for industry, commerce, habitation, or recreation. An accessory use is the use incidental and subordinate to the main use of the property and located on the same lot or parcel as the main use.

ACTIVITY: Activity is any action taken either in conjunction with a use or to make a use possible. Activities do not in and of themselves result in a specific use. Several activities -- dredging, piling, fill -- may be undertaken for a single use - a port facility. Most activities may take place in conjunction with a variety of uses.

USE AND AREA DESIGNATIONS

The land and water use classification system separates aquatic from shoreland areas and defines management designations for each area. These designations provide for uses and activities ranging from preservation to intensive development.

1. Natural Aquatic areas are intended for resource protection, preservation and restoration, with severe restrictions on the intensity and types of uses. They are managed to preserve natural resources in recognition of dynamic, natural, geological and evolutionary processes. Natural Aquatic areas may include significant fish and wildlife habitats, tidal marshes and intertidal flats, sea grass, and algae beds, that, because of a combination of factors such as size, biological productivity and habitat value, play a vital role in the functioning of the estuarine ecosystem. Natural Aquatic areas may also include ecologically important subtidal areas.

2. Natural Shoreland areas are managed for resource protection, preservation, restoration and recreation, with severe restrictions on the intensity and types of uses. Natural Shoreland areas may include unique vegetative or wildlife habitat and critical habitat for endangered or threatened species. This area is intended to preserve those natural resource systems existing relatively free of human influence.

3. Conservation Aquatic areas are managed for the protection and conservation of the natural resources and benefits found in these areas. The designation is for long term uses of renewable resources that do not require major alterations of the estuary, except for the purpose of restoration. Areas that are partially altered or adjacent to existing development of low to moderate intensity and not possessing characteristics of other designated aquatic areas are also included. Minor alterations may be permitted in conjunction with approved uses. Conservation Aquatic areas may include open water portions of the estuary and areas needed for maintenance and enhancement of biological productivity, recreational resources, aesthetic values and aquaculture.

4. Conservation Shorelands are managed for the protection and maintenance of water quality, fish and wildlife habitat, water-dependent uses, economic resources, aesthetic values and recreation. Conservation Shoreland may include commercial forest lands, areas subject to severe flooding or other hazards, scenic recreation areas, and certain public shoreline areas. Conservation Shorelands are for the purpose of conserving shorelands which provide important ecosystem support functions and to designate certain areas for long term uses of renewable resources that do not require major alterations.

5. Development Aquatic areas are managed for navigation and other identified needs for public, commercial, and industrial water-dependent uses consistent with the level of development or alteration allowed in the aquatic area and the need to minimize damage to the estuarine ecosystem. The objective of Development Aquatic areas is to ensure optimum utilization of appropriate aquatic areas by providing for intensive development. Some water-related and other uses may be permitted. Development Aquatic areas may include: deep water areas adjacent to or near the shoreline, navigation channels, turning basins, subtidal areas for in-water disposal of dredged materials, mining or mineral extraction areas, and areas adjacent to developed or developable shorelines which may need to be altered to provide navigational access or create new land areas for water-dependent uses.

6. Development Shorelands are managed for a wide range of water-dependent, water-related, water oriented non-dependent, or other uses. Development Shorelands may include existing developed areas or areas suitable for future residential, commercial, industrial, or recreational development. Most such areas are within urban growth boundaries of existing towns or cities, but may include other development centers. Plans for development of such areas should provide public access to the shorelines.

7. Especially Suited for Water-dependent (ESWD) Development Shorelands are managed for water-dependent uses, with water-related uses allowed based on demonstration of need and analysis of alternative sites. ESWD Development Shorelands include areas of high potential for water-dependent commercial and industrial development and high intensity recreational use.

In formulating the Comprehensive Plan, the following general policies guided application of the land and water use classification system.

1. All major tracts of tidal marshes, tide flats, seagrass and algae beds were designated 'Natural Aquatic' because of their proximity and value as fish and wildlife habitat.

2. Tracts of significant habitat smaller or of less biological importance than those assigned as Natural Aquatic were designated Conservation Aquatic. These include most of the smaller fringing marshes along bays and streams.

3. Deep-water areas adjacent to or in proximity to the shoreline, navigation channels, subtidal areas for in-water disposal of dredge material and areas of minimal biological significance needed for uses requiring alteration of the estuary were designated Development Aquatic.

4. Dikes were designated the same classification as the adjacent shorelands.

5. Commercial forest lands within Coastal Shorelands are designated Conservation Shorelands.

6. Areas designated as especially suited for water-dependent uses were based on a consideration of the following factors:

- deep-water close to shore suitable for ship and barge facilities, with supporting land transportation systems;

- potential for aquaculture;

- protected areas subject to scour which would require little dredging for use as marinas;

- potential for high intensity recreational utilization;

- amount of vacant land available to support the anticipated water-dependent development;

- availability of public services, such as sewer and water;

- possibility for land use conflicts with existing or anticipated land uses in the area;

- projected demand for various water-dependent developments.

7. General priorities, from highest to lowest, for uses within all estuary zones shall be:

a. Uses which maintain the integrity of the estuarine ecosystem;
b. Water-dependent uses requiring an estuarine location, as consistent with the overall Oregon Estuarine Classification;
c. Water-related uses which do not degrade or reduce the natural estuarine resources and values; and
d. Non-water dependent, non-water related uses, which do not alter, reduce or degrade the estuarine resources and values.

USE AND ACTIVITY TABLES

1. Permitted Developments: Uses and activities allowed in this category of review may be undertaken subject to:

- The general requirement that the use or activity be designed and conducted in a manner that will minimize, so far as practical, any resultant damage to the natural resource values of affected aquatic and shoreland areas and the public's use of the water;

- The standards set forth in the zoning ordinance; and

- Applicable state and federal regulations.

2. Review Developments: Uses and activities allowed under this category of review may be undertaken subject to:

- written findings by the Planning Director that the proposed use or activity is consistent with the policies of the Comprehensive Plan, appropriate zoning standards and, where required, findings of a Resource Capability Determination and Impact Assessment.

3. Conditional Developments: Uses and activities allowed under this category of review may be undertaken subject to:

- written findings, adopted after a public hearing (if required), that the proposed use or activity is consistent with the policies of the Comprehensive Plan, appropriate zoning standards and, where required, findings of a Resource Capability Determination and Impact Assessment.

The following tables are a summary of how the various uses and activities of each zone are treated: as a permitted use, a review use or conditional use. These tables are included as a guide only. The zone of interest should always be referred to for accuracy, and for a more thorough description of the use or activity allowed.

USE AND ACTIVITY TABLE - AQUATIC AREAS

Uses	AN	AC1	AC2	AD
Aquaculture				
• water-dependent portions not requiring estuarine alteration	R	R	R	
• water-dependent portions requiring estuarine alteration		C	C	
• facilities				C
Boat ramps				
• not requiring dredging or fill	R	R	R	
• requiring estuarine alteration			C	R
Commercial, Industrial and Port Uses				
• water-dependent				R
• water-related				C
• non-water-dependent				C
• water storage areas		C	C	R
Docks and Moorages				
• not requiring dredge or fill		R	R	R
• requiring estuarine alteration			C	R
Land Transportation Systems				
• bridge crossings	R	R	R	R
• bridge crossing support structures	R	C	R	C
Log dump/sort/storage areas		C	C	R
Marinas			C	C
Mining and Mineral Extraction		C	C	C
Navigation				
• navigational aids	P	P	P	P
• minor navigational improvements		C	C	R
• navigational structures				C
• new navigational projects or water transport channel improvements				C
Recreation				
• high intensity (excluding marinas in AD)			C	R
• low intensity	P	P	P	P
Resource Enhancement				
• passive restoration	P	P	P	P
• active restoration of fish and wildlife or water quality	C	C	R	R
• active restoration for other purposes		C	C	R
• estuarine enhancement	R	R	R	R
• projects for protection of habitat, nutrient, fish, wildlife and aesthetic resources	P	P	P	P
Temporary Uses requiring minimal capital investment		R	R	C
Utilities				
• communication facilities	C	R	R	R
• storm water and treated wastewater outfall		C	C	C
• pipelines, cables and utility crossings	C	R	R	R

Activities	AN	AC1	AC2	AD
Dikes				
• maintenance and repair	R	R	R	P
• emergency repair	P	P	P	P
• installation of tidegates	R	R	R	R
• temporary dike for emergency		P	P	P
• dredging as a source of fill for dike maintenance	R	R	R	R
Dredged Material Disposal				
• beach nourishment at designated sites		R	R	R
• in-water disposal at designated sites				R
Research and educational observations	P	P	P	P
Shoreline stabilization				
• vegetative	P	P	P	P
• structural (limited to riprap)	R			
• structural (riprap, bulkhead)		R	R	R
Temporary Alterations	R	R	R	R

AN - Aquatic Natural Zone
AC1 - Aquatic Conservation One Zone
AC2 - Aquatic Conservation Two Zone
AD - Aquatic Development Zone

P - Permitted Development Uses and Activities
R - Development Uses and Activities Permitted with Review
C - Conditional Development Uses and Activities

USE AND ACTIVITY TABLE - SHORELANDS

Uses	NS	CS	MI
Agriculture			
• uses involving no structures			P
• agriculture activities		P	
Aquaculture Facilities		C	C
Boat Ramps			
• recreational		R	C
• commercial		C	C
Commercial, Industrial, and Port Uses			
• water-dependent			R
• water-related			C
• non-water-dependent			C
Docks and Moorages			
• individual		R	
• recreational		C	C
• commercial		C	C
Forestry Activities and Manufacturing			
• forest activities		P	P
• forest manufacturing			C
Land Transportation Systems		C	C
Log Sorting/Storage Areas		C	C
Marinas		C	C
Marine research and education facilities	C	C	C
Mining and mineral extraction			C
Navigational aids	P	P	P
Recreation			
• low intensity	P	P	P
• high intensity		C	C
Resource enhancement			
• passive restoration	C	P	P
• active restoration	C	R	C
• mitigation	C	R	C
Temporary Uses requiring minimal capital investment			C
Utilities			
• communication facilities		R	R
• stormwater and treated wastewater fallouts		C	C
• cables sewer lines, pipeline landfalls	C	C	R
• public utility structures		C	R

Shorelands (cont'd)

Activities	NS	CS	MI
Dikes			
• new dike construction		C	C
• maintenance/repair	R	R	P
• emergency repair	P	P	P
• new tidegates		C	C
• temporary dikes		P	P
Dredged Material Disposal			
• designated sites		P	P
• non-designated sites		R	R
Excavation to create new water surface area		R	R
Research and educational observation	P		
Shoreline stabilization			
• vegetative	P	P	P
• structural (limited to riprap)	R		R
• structural (riprap and bulkhead)		R	R

NS - Natural Shoreland Zone
CS - Conservation Shoreland Zone
MI - Marine Industrial Shoreland Zone

P - Permitted Development Uses and Activities
R - Development Uses and Activities Permitted with Review
C - Conditional Development Uses and Activities

P15 CUMULATIVE IMPACTS

INTRODUCTION

This Section addresses the potential combined effects of certain activities on the estuary. The primary reason for addressing cumulative impacts is that they cannot be adequately considered during most permit reviews, yet under certain conditions can become significant planning issues. The Columbia River Estuary Regional Management Plan recognizes that development activities generate cumulative impacts that cannot be readily addressed on a permit-by-permit basis. The plan identifies cumulative impacts and sets provisions, primarily in the Analysis section below, discouraging or limiting activities posing a cumulative impact problem. In addition, the Plan's management system, discussed in the Scope section below, limits most high impact activities to small geographic areas within the estuary.

A second reason for considering cumulative impacts in this plan is that Oregon and Washington local jurisdictions are required by state statutes to address them. Comprehensive Plan Requirement 5 of Oregon Statewide Planning Goal 16 states that local jurisdictions must "Consider and describe in the plan the potential cumulative impacts of the alterations and development activities envisioned."

SCOPE

Discussion of cumulative impacts in this Plan is limited to seven major topic areas. Cumulative impacts on Public Access, Water Quality, Fisheries, Maritime Commerce, Recreation/Tourism, Circulation and Aquatic Habitat are identified and discussed. In many cases cumulative impacts are both positive and negative. Navigation channel maintenance dredging, for example, generates beneficial impacts with respect to maritime commerce, and some harmful impacts with respect to fisheries habitat. Public Access, as another example, is affected in a positive way by boat ramp construction, and negatively by riprap shoreline protection. Cumulative impacts that are significant in certain estuary subareas are described in the subarea plans in Policy P 30 of the County's Comprehensive Plan.

Cumulative impacts on the seven categories of estuarine resources identified above are generated by a number of activities. The following activities are considered in this section:

- Dredging, New and Maintenance;
- Dredged Material Disposal, Aquatic and Shoreland;
- Filling;
- Structural Shoreline Stabilization;
- Boat Ramps, New and Expanded;
- Marinas, New and Expanded;
- Moorages, Individual;
- Aquaculture and Fish Hatcheries;

- Port Development; and
- River Training.

Some activities with cumulative impacts on the estuary are not regulated by this plan, and are not considered in this section. Chief among these are:

- Forestry;
- Upstream Activities;
- Activities in the Ocean Outside of the Estuary Planning Area;
- Fisheries Harvest Allocations;
- Local Point Source and Nonpoint Source Discharge;
- River Flow Management; and
- Navigation.

CUMULATIVE IMPACT ANALYSIS

1. Public Access

Activities generating cumulative impacts on public access can both enhance and reduce opportunities for public access to the waters and shorelines of the Columbia River Estuary. Public access is treated broadly here to include both physical and visual access.

The cumulative impact of maintenance dredging projects on public access is limited and to some extent beneficial. Main navigation channel maintenance dredging generates no identifiable cumulative impacts on public access opportunities. Boat ramp and marina access channel dredging has the cumulative effect of maintaining or improving small boat access. The cumulative impacts of new dredging on public access are similar to those of maintenance dredging.

Use of designated shoreland and aquatic dredged material disposal sites will have little measurable cumulative impact on public access in the Columbia River Estuary. Beach nourishment will have positive cumulative effects on public access, but only to the extent that enhanced beaches are used by the public.

Filling Columbia River Estuary aquatic areas along the shoreline will have a generally negative impact on public access. Only limited areas along the shoreline are designated for fills, so cumulative impacts on public access should not be great.

Riprap bank protection can, under certain circumstances, have significant negative cumulative impact on public access, especially physical shoreline access. Riprap can also have beneficial impacts on public access by protecting marinas and boat ramps. The County's estuarine construction policies and standards encourage nonstructural shoreline stabilization and require riprap proposals to be reviewed for their impacts on public shoreline access.

Boat ramps and marinas have a strongly beneficial cumulative impact on public access for the boating public. Private individual moorages on the other hand can have negative cumulative impacts with respect to public access if allowed to overcrowd particular waterways. Continuous development of individual moorages along a reach of the Columbia River Estuary or a tributary can block public shoreline access and inhibit small boat navigation, having a strongly negative cumulative impact. The County's estuarine construction policies and standards encourage community docks and piers and discourage individual moorages.

Aquaculture and hatchery development may, under certain circumstances, generate adverse cumulative impacts on public access. If large nearshore water areas are leased and used for net pens, for example, public access could be substantially reduced. Pond aquaculture facilities on shorelands, on the other hand, would be expected to have little or no adverse cumulative impact. The County's fisheries and aquaculture policies and standards require that aquaculture developments minimize impacts on public access and views from upland property.

Port development is often not fully compatible with public access; however, the cumulative impact of port development on public access is expected to be minor. Port development is limited to only a few sites in the estuary. Full development of all existing designated Development and Water Dependent Development shorelands would not significantly reduce public access opportunities in the Columbia River Estuary, but may have locally significant effects.

River training activities, including pile dikes and dredged material disposal islands, have had little or no cumulative impact on public access.

2. Water Quality

A number of parameters are considered here: turbidity, dissolved oxygen, biochemical oxygen demand, organic contaminants, metals, and other undesirable compounds. Both long-term and short-term water quality impacts are considered.

New and maintenance dredging projects can have cumulative short-term impacts, especially with respect to turbidity. Rarely, however, are more than a small number of dredging projects occurring at one time. Longer-term cumulative impacts tend to be less significant. Aquatic and shoreland dredged material disposal can generate significant cumulative impacts on Columbia River Estuary water quality. Pollutants associated with fine sediments can be re-suspended as a result of aquatic dredged material disposal. Land disposal can also generate water quality impacts by way of contaminated runoff. Rarely, however, are more than a small number of disposal projects occurring at one time. Because impacts associated with dredging and dredged material disposal tend to be short-lived, the potential for generating significant cumulative impacts on water quality is limited. The County's dredging and dredged material disposal policies and standards require that projects be timed so as to minimize impacts. These policies and standards also contain sediment testing provisions to ensure that disposed sediments meet state and federal water quality standards.

Filling of aquatic areas is expected to generate only minor, short-lived water quality impacts if conducted with clean material behind protective berms. Fills constructed without these protective measures do have the potential for generating water quality problems associated with leachates from contaminated fill material. Large waterfront areas in some parts of the estuary consist entirely of fill material: in these areas the potential for cumulative water quality impacts may be high.

Riprap constructed from clean non-erodible stone generates few potential water quality impacts. Inasmuch as it may displace riparian vegetation, riprap may result in more turbid runoff entering the river. The cumulative impact of riprap on water quality may be considerable to the extent that riparian vegetation is lost. The plan identifies shorelines with significant riparian vegetation and requires that they be protected. The County's estuary construction policies and standards encourage vegetative shoreline stabilization over riprap.

Boat ramps and individual moorages are expected to have no significant cumulative impact on water quality. Enclosed marinas, however, can generate local water quality impacts. To the extent that marinas are located near each other, or are concentrated in poorly flushed tributaries, cumulative impacts may be considerable. The County's water quality maintenance policies and standards alleviate some of these concerns by requiring that new or expanded marinas have facilities for emptying boat holding tanks and disposing of other waste materials and that new or expanded full docks have spill containment equipment.

Aquaculture and fish hatcheries are potentially detrimental for water quality if uneaten fish food and fish wastes accumulate and decompose on the site rather than dispersing. Significant cumulative impacts would be expected only to the extent that several operations are clustered together, or they occur in a small or poorly flushed waterway, or if a single operation is very large relative to the waterway's flushing volume. The County's fisheries and aquaculture policies and standards require that aquaculture facilities be located so as to minimize water quality problems and that facilities meet state and federal discharge standards.

Port development has occurred in the estuary without any significant cumulative water quality impacts. Increased port activity increases the likelihood of water quality degrading actions such as oil or chemical spills.

River training activities may affect water quality by changing flushing patterns. The cumulative impact of river training on flushing has been to decrease flushing away from the main navigation channel, and increase flushing near the channel. Because little is known about the relationship between flushing and water quality at specific locations on the Columbia River Estuary, the cumulative impact of river training on water quality is difficult to evaluate.

3. Fisheries

Discussion of cumulative impacts on fisheries includes impacts on commercial, recreational, and uneconomic nongame species. Impacts on their habitats are discussed in subsection 7 Aquatic Habitat.

Dredging can have measurable impacts on fish by disrupting feeding and shelter areas as well as migration routes. Also, dredging equipment can physically interfere with commercial fishing operations. Project scheduling can reduce some of these impacts. Long-term impacts which might generate significant cumulative impacts are not well understood. Crab entrainment resulting from bar

maintenance dredging may have significant impacts on the population of juvenile crabs at the bar, but its impacts on the overall estuary and offshore crab populations are unknown. The County's dredging policies and standards require that dredging operations be timed to minimize impacts on fish and commercial fishing operations.

Dredged material disposal can affect fish by affecting water quality. This is discussed in Subsection 2 Water Quality.

Filling can affect fish and their habitats by disrupting migration routes, and by eliminating benthic communities that are a component of their habitat. Lost habitat will presumably be replaced by way of compensatory mitigation measures. Potential fill sites in the Columbia River Estuary are not so numerous as to generate significant cumulative impacts if appropriate mitigation measures are applied.

Riprap may affect fish habitat by disrupting shallow water benthic communities and by eliminating nearshore shallow water areas. The benthic communities are a component of fish habitat. Nearshore shallow areas may be important as resting, shelter and migration routes for juvenile anadromous fish. Large reaches of shoreline are riprapped, so existing cumulative impacts may be high. However, to the extent that riprap projects tend to be placed on eroded or erodible shorelines, these impacts may be reduced somewhat. The County's estuarine construction standards require that structural shoreline stabilization projects maintain adequate shallow areas for juvenile fish shelter.

Boat ramps, marinas, and moorages are all essential components of the commercial and recreational fisheries support system in the Columbia River Estuary. To the extent that commercial and game harvests are subject to regulation, these facilities will not generate significant negative impacts on fish populations. Water quality impacts associated with small boat moorage may generate relatively minor, localized cumulative impacts on fish. The County's standards for marinas require that new or expanded marinas be designed to assure adequate water circulation and flushing.

Aquaculture and fish hatchery facilities have the potential for generating both positive and negative cumulative impacts on fisheries. Positive impacts can result from fisheries enhancement programs associated with hatcheries and with aquaculture release programs. Negative impacts can be generated from confinement aquaculture and hatchery operations that develop fish diseases which in turn infect wild stocks, or when introduced species out-compete desirable native stocks. Significant harmful cumulative impacts would be expected when operations are concentrated in small or poorly flushed waterways. Regulations and license procedures administered by state fish agencies address these concerns.

Port development's expected impacts on fisheries are more associated with dredging and filling than with port activity by itself. Some potential impacts are described in subsection 2. Fish populations, distribution, and diversity may be related to port activity, but significant cumulative impacts have not been identified. Impacts associated with dredging and filling are minimized on a project-by-project basis under the county's regional policies and standards on dredging and filling.

River training affects fisheries by altering migration routes. Upstream migrant anadromous fish follow strong currents in the main navigation channel. Significant cumulative impacts on fisheries may be associated with river training. New navigation structures must be reviewed against plan policies that address impacts on fisheries and their habitat.

4. Maritime Commerce

Cumulative impacts on maritime commerce are considered in this subsection. Included are deep draft moorage, navigation and associated activities.

Dredging has had beneficial cumulative impacts on maritime commerce. A large share of all dredging in the estuary is carried out to accommodate maritime commerce. The cumulative impacts of channel maintenance dredging on navigation are significant. Reduced dredging at any of the numerous shoals or at the bar would significantly impede deep draft commerce in the Columbia River Estuary.

Land disposal of dredged material has had no measurable cumulative impact on maritime commerce. Aquatic disposal can affect navigation to the extent that some of this material may settle in the channel and contribute to shoaling. This impact is cumulatively small if frequent and thorough maintenance dredging of the channels is considered. However, dispersion of material disposed in the aquatic environment may not be fully known, increasing the need for the dredging due to reshoaling of the channel.

Filling of the Columbia River Estuary has few significant impacts on navigation and maritime commerce. Shoreline fills are evaluated for impacts on navigation. The bulkhead and pierhead lines established on the river are intended to avoid fill and pier-related impacts on navigation. The cumulative impacts of fill on maritime commerce are negligible.

Riprap has few significant impacts on navigation, except those beneficial ones associated with protecting shorelines from ship wakes. The cumulative effect of protected shorelines is that they allow deep draft navigation close to shore without causing shoreline erosion.

Boat ramps and marinas have no significant cumulative impact on maritime commerce. Deep draft moorage opportunities in the Columbia River Estuary have a direct beneficial impact on maritime commerce.

Aquaculture and fish hatcheries are expected to have no measurable impacts on maritime commerce.

Port development has direct, positive impact on maritime commerce in the Columbia River Estuary. The cumulative impact of port development in the Columbia River Estuary is related to the stimulation of maritime commerce.

River training efforts generate direct positive cumulative impacts on navigation by keeping navigation channels relatively free of obstructions, and by lowering maintenance costs.

5. Recreation/Tourism

Discussion of cumulative impacts on recreation and tourism includes estuary-oriented recreation undertaken by both local residents and by visitors from outside the region. Many impacts may be largely aesthetic in nature.

Dredging results in changes that are for the most part invisible, unless intertidal areas are dredged. Dredging for small boat access and maintenance dredging of small boat facilities is beneficial with respect to some segments of the recreation and tourism sector.

Dredged material disposal at upland sites generates both positive and negative impacts. Beach nourishment may have beneficial impacts on recreation and tourism, but only to the extent that nourished beaches are accessible. Other types of upland disposal may yield negative aesthetic impacts, depending on location. Aquatic dredged material disposal could have impacts on recreation and tourism with respect to water quality and recreational fisheries, discussed in subsections 2 Water Quality and 3 Fisheries. Dredged material disposal's cumulative impacts are not expected to be significant with respect to recreation and tourism.

Filling Columbia River Estuary aquatic areas may negatively impact recreation and tourism if the fill is used for facilities that do not support these activities. Because filling in the Columbia River Estuary is limited by this plan to a few sites, cumulative impacts are expected to be minor.

Riprap may have cumulative impacts on recreation or tourism. Extensive riprap protection of otherwise undeveloped shorelines will yield undesirable aesthetic impacts, and impede public access. On the other hand, riprap may be needed to protect important recreational and visitor-oriented facilities (such as marinas). Large stretches of shoreline in the estuary are riprapped, and cumulative impacts may be significant. Regional policies and standards for estuarine construction and public access address these concerns.

Boat ramps, marinas, and moorages have a generally positive impact on recreation and tourism, though there may also be a negative aesthetic component. The net cumulative impact is probably positive, however, because the estuary is large relative to the extent of existing recreational boat facilities.

Aquaculture and fisheries generate both beneficial and harmful impacts on recreation and tourism. Benefits are realized to the extent that hatcheries produce game fish, and inasmuch as the hatcheries and aquaculture facilities have a visitor-oriented component. Negative impacts are mainly aesthetic, and related to water quality. Cumulative negative impacts are expected only when facilities become concentrated in small waterways, or when very large facilities are developed. Regulations and license procedures administered by state fish agencies address these concerns.

Port development may generate both positive and negative impacts with respect to tourism and recreation. The passage of deep draft vessels up and down the Columbia River Estuary, together with associated tug, barge and wharf activities, are significant elements of the Columbia River Estuary's attractiveness for visitors. Port development may also, however, generate negative impacts on recreational fishing and public access (see subsections 3 and 1). Net cumulative impacts are believed to be positive.

River training probably has little cumulative impact on recreation and tourism outside of minor aesthetic detractions such as pile dikes.

6. Circulation

Discussion of cumulative impacts on circulation includes erosion, accretion, flooding, salinity intrusion, and related phenomena.

Dredging projects have had significant cumulative impacts on circulation, particularly larger projects like the main navigation channel. New projects will generate larger impacts than maintenance projects, other parameters being comparable. The cumulative impact of smaller dredging projects is probably minor unless several small projects are concentrated in an area. The Impact Assessment requires consideration of a dredging project's impact on circulation.

Dredged material disposal in the water should have relatively minor cumulative impacts on circulation. Land disposal practices should have no measurable cumulative impact on circulation.

Filling has had a substantial impact on circulation. Shoreline fills alter nearshore currents and can create eddies and other current aberrations. Diking on tributaries can reduce the tidal prism, substantially lowering flushing and thus increasing shoaling rates. Small shoreline fills are not expected to have significant cumulative impacts on circulation unless concentrated along a single reach of shoreline. The Impact Assessment requires consideration of a fill's impact on circulation.

Riprap is intended to reduce shoreline erosion, so its net cumulative impact on this component of circulation is probably significant and positive. Depending on slope and rubble size, riprap projects can, in some instances, generate unintended impacts on adjacent unprotected shorelines. There is no evidence, however, of a significantly negative cumulative effect of riprap along shorelines with respect to this aspect of circulation.

Boat ramps and marinas are so small and widely spaced that cumulative circulation impacts are not anticipated. Individual moorages can, when concentrated along a shoreline, have undesirable negative impacts on currents. Their cumulative impact is potentially significant, but there are no data verifying this. Plan policies require that alternative moorage alternatives be investigated before individual moorages are approved.

Aquaculture and fish hatcheries have little impact on circulation. They are generally designed to take advantage of flushing waters, rather than interfere with them. Cumulative impacts, if there are any, are not expected to be significant.

Port development's impact on circulation is probably restricted to associated dredging and filling. Where the main navigation channel is close to shore, erosion may result from ship wakes. Navigation and maritime commerce are not expected to generate, by themselves, cumulative circulation impacts.

River training efforts are directly related to circulatory changes in the Columbia River Estuary. They have produced intentionally significant cumulative impacts.

7. Aquatic Habitat

Discussion of cumulative impacts on aquatic habitat includes impacts on the benthic environment, the surface and the water column that affect aquatic plants and animals.

Dredging has resulted in cumulative impacts on aquatic habitat. Large dredging projects, like maintenance of the main navigation channel, can generate substantial negative impacts on benthic habitat in the dredging area. New dredging projects will yield more significant negative impacts on an aquatic habitat that will maintenance dredging, other factors being comparable. The Impact Assessment addresses the impact of dredging on aquatic habitat.

Dredged material disposal in the water can have cumulative impacts on aquatic habitat. Flowlane disposal and sump disposal, two kinds of in-water disposal allowed in the estuary, are comparable with respect to their impacts on the water column. Sump disposal probably has a larger impact than individual flowlane disposal projects on benthic habitats. In-water dredged material disposal must meet policy requirements regarding impact minimization.

Filling has affected aquatic habitats, especially shallow water benthic habitats since most fills are in intertidal or shallow subtidal areas. Fills are subject to impact minimization requirements and Impact Assessment review for effects on aquatic habitat.

Riprap has had some impact on aquatic habitats, particularly nearshore shallow water habitat. Riprap bank protection may interrupt shallow water shelter areas needed by juvenile fish, thus subjecting them to increased predation. The cumulative impact of riprap on juvenile fish habitat in some areas may be significant. The County's estuarine construction standards require that structural shoreline stabilization projects maintain adequate shallow areas for juvenile fish shelter.

Boat ramps and marinas are not so large or so numerous in the estuary as to have a significant cumulative impact on aquatic habitat. Individual moorages, where concentrated along a small waterway, may have a cumulative impact on aquatic habitats.

Aquaculture and fish hatcheries potentially have three types of negative impacts on aquatic habitats. Water quality and benthic communities can be affected by the accumulation of feces and surplus fish food. This generally will not result in cumulative water quality or benthic impacts if facilities are not placed closely together. The second possible negative impact associated with fish hatcheries and aquaculture is disease. The concern is that fish raised in confinement are more susceptible to disease than naturally occurring populations. Diseases may not be confined to the hatchery or aquaculture facility, and may spread to naturally occurring stocks. The potential for this type of occurrence may increase as hatchery and aquaculture facilities are concentrated in a single waterway. The third potential negative impact on aquatic habitat associated with hatchery and aquaculture facilities is that species introduced to the estuary could out-compete native stocks. The County's fisheries and aquaculture standards and the license procedures administered by state fisheries agencies address these concerns.

Port development and marine terminal activity has had a substantial cumulative impact on aquatic habitat, primarily as a result of dredging and filling.

River training projects have probably affected aquatic habitat by changing the distribution of shallow water, shoal and deep water habitats in the Columbia River Estuary. The overall cumulative impact of river training on aquatic habitats is not well understood.

P20.1. AGRICULTURE AND FORESTRY

Policies in this subsection are applicable to agricultural and forestry activities on Columbia River Estuary shorelands. Activities outside of the coastal shorelands boundary are not covered by this subsection. Certain activities associated with agriculture and forestry, such as log storage, dike maintenance, and shipping facilities for agricultural and forestry products, are covered under different subsections.

1. Continued use of productive agricultural land is encouraged. Conversion to non-agricultural uses, except in urban areas, is discouraged.

2. Existing dikes and tide gates and drainage systems protecting productive agricultural land shall be maintained consistent with dike maintenance policies and standards, unless part of an approved restoration or mitigation project.

3. Potential water quality degradation of estuarine aquatic areas and associated tributaries resulting from agricultural or forest management practices shall be controlled by Oregon Forest Practices Act and Administrative Rules, Soil Conservation Service programs, and state water quality programs.

4. Conversion of productive agricultural or forestry shoreland to tidal or non-tidal wetland for a restoration project requires an exception to the applicable statewide planning goal if the restoration project is not proposed as mitigation for a development project.

5. In undiked areas bordering estuarine aquatic areas, a buffer strip of riparian vegetation shall be maintained to preserve water quality, trap sediment and nutrient runoff, for fish and wildlife habitat and aesthetic resources.

P20.2. AQUACULTURE AND FISHERIES

The policies in this subsection apply to all projects that could conceivably affect fisheries (either commercial or recreational) or aquaculture in the Columbia River Estuary. This subsection is also applicable to the development of aquaculture facilities and to fisheries enhancement projects.

1. Traditional fishing areas shall be protected when dredging, filling, pile driving or when other potentially disruptive in-water activities occur.

2. Sufficient space for present and anticipated needs shall be reserved for the following uses:

- Fishing vessel moorage;
- Seafood receiving and processing;
- Boat repair;
- Net storage and repair;
- Ice making;
- Cold storage;
- Other seafood industry support facilities.

3. Increased hatchery production and other fish enhancement efforts shall be supported where feasible, and when consistent with other applicable plan provisions.

4. Aquaculture and hatchery facility location, design and operation shall minimize adverse impacts on estuarine and shoreland habitat, navigation channels and public access points, and not interfere with commercial or recreational navigation.

5. Existing aquaculture and hatchery facilities and areas identified as having significant aquaculture potential shall be protected from conflicting uses.

P20.3. DEEP-WATER NAVIGATION, PORT AND INDUSTRIAL DEVELOPMENT

The policies in this subsection apply to port and industrial development occurring in and over Columbia River Estuary waters, and on adjacent shorelands. This section also applies to navigation projects related to deep-draft maritime activities, such as channel, anchorage and turning basin development or expansion.

1. Shorelands with adjacent deep-water access, adequate rail or road access, and sufficient backup land shall be reserved for water-dependent recreational, commercial, industrial, or port development.

2. Federally designated channels, anchorages and turning basins, including necessary side slopes, shall be in Aquatic Development designations.

3. Development, improvement and expansion of existing port sites is preferred prior to designation of new port sites.

4. Aides to navigation, including range markers, buoys, channel markers and beacons, shall be protected from development impacts that would render them ineffective. This policy does not preclude development subject to U.S. Coast Guard approved reorientation or relocation of navigation aides.

5. Permit review for proposals involving treated or untreated waste-water discharge into the estuary will rely on the point source water pollution control program administered by the Oregon Department of Environmental Quality.

P20.4. DIKING

The policies in this subsection apply to the construction, maintenance and repair of flood control dikes in Columbia River Estuary shoreland and aquatic areas. These policies do not apply to dredged material containment dikes.

1. Deliberate dike breaching or removal may be permitted as part of a restoration or mitigation project. Productive agricultural land, significant wildlife habitat, and major marshes shall not be lost as a result of dike breaching activities unless an exception is approved.

2. New dike alignment or configuration shall not cause an increase in erosion or shoaling in adjacent areas, or an appreciable increase in seasonal water levels behind dikes. Waterway channelization shall be avoided.

3. New dikes shall be placed on shorelands rather than in aquatic areas unless part of an approved fill project, as a temporary flood protection measure, or subject to an exception.

4. Maintenance of existing dikes using uncontaminated dredged material from maintained channels or suitable material from other sources (i.e., excess roadworks excavation material, material from ditch cleaning) shall be encouraged.

5. Maintenance of dikes by means other than dredging of aquatic areas is encouraged, however, dredging of the adjacent subtidal aquatic areas to obtain fill material for dike maintenance may be permitted when necessary, subject to the Dredging and Dredged Material Disposal Standards, Section S4.232, and when coordinated with state and federal resource agencies, and private interests.

P20.5. DREDGING AND DREDGED MATERIAL DISPOSAL

Policies in this subsection are applicable to all estuarine dredging operations and to both estuarine shoreland and aquatic dredged material disposal in the Columbia River Estuary.

1. Dredging shall be allowed only:

   (a) If required for navigation or other water-dependent uses that require an estuarine location or if specifically allowed by the applicable management unit requirements and,

   (b) If a need (i.e., a substantial public benefit) is demonstrated and the use or alteration does not unreasonably interfere with public trust rights; and,

   (c) If no feasible alternative upland locations exist; and,

   (d) If adverse impacts are minimized.

2. Dredging and dredged material disposal shall not disturb more than the minimum area necessary for the project and shall be conducted so as to minimize impacts on wetlands and other estuarine resources. Loss or disruption of fish and wildlife habitat and damage to essential properties of the estuarine resource shall be minimized by careful location, design, and construction of:

(a) Facilities requiring dredging,

(b) Sites designated to receive dredged material, and

(c) Dredging operation staging areas and equipment marshalling yards.

Dredged materials shall not be placed in intertidal or tidal marsh habitats or in other areas that local, state, or federal regulatory agencies determine to be unsuitable for dredged material disposal. Exceptions to the requirement concerning disposal in an intertidal or tidal marsh area include use of dredged material as a fill associated with an approved fill project or placement of dredged materials in the sandy intertidal area of a designated beach nourishment site. Land disposal shall enhance or be compatible with the final use of the site area.

3. The timing of dredging and dredged material disposal operations shall be coordinated with state and federal resource agencies, local governments, and private interests to protect estuarine aquatic and shoreland resources, minimize interference with recreational and commercial fishing operations, including snag removal from gillnet drifts, and insure proper flushing of sediment and other materials introduced into the water by the project.

4. The effects of both initial and subsequent maintenance dredging, as well as dredging equipment marshalling and staging, shall be considered prior to approval of new projects or expansion of existing projects. Projects will not be approved unless disposal sites with adequate capacity to meet initial excavation dredging and at least five (5) years of expected maintenance dredging requirements are available.

5. Dredging subtidal areas to obtain fill material for dike maintenance may be allowed subject to Columbia River Estuary Dredging Standard S4.232(10).

6. Dredging for mining and mineral extraction, including sand extraction, shall only be allowed in areas deeper that 10 feet below MLLW where the project sponsor demonstrates that mining and mineral extraction in aquatic areas is necessary because no feasible upland sites exist and that the project will not significantly impact estuarine resources. The estuary bottom at the project site shall be sloped so that sediments from areas shallower than 10 feet below MLLW and other areas not included in the project do not slough into the dredged area. Dredging as part of an approved dredging project which also provides fill for an approved fill project shall not be subject to the mining and mineral extraction policies and standards.

7. Where a dredged material disposal site is vegetated, disposal should occur on the smallest land area consistent with sound disposal methods (e.g., providing for adequate dewatering of dredged sediments, avoiding degradation of receiving waters). Clearing of land should occur in stages and only as needed. It may, however, be desirable to clear and fill an entire site at one time, if the site will be used for development immediately after dredged material disposal. Reuse of existing disposal sites is preferred to the creation of new sites provided that the dikes surrounding the site are adequate or can be made adequate to contain the dredged materials.

8. Disposal of dredged materials in intertidal areas shall only be allowed at designated beach nourishment sites or to provide fill material for an approved intertidal fill project.

9. When identifying land dredged material disposal sites, emphasis shall be placed on sites where (not in priority order):

(a) The local comprehensive plan land use designation is development provided that the disposal does not preclude future development at the site;

(b) The potential for the site's final use will benefit from deposition of dredged materials;

(c) Material may be stockpiled for future use;

(d) Dredged spoils containing organic, chemical, and/or other potentially toxic or polluted materials will be properly contained, presenting minimal health and environmental hazards due to leaching or other redistribution of contaminated materials;

(e) Placement of dredged material will help restore degraded habitat; or where

(f) Wetlands would not be impacted.

Important fish and wildlife habitat, or areas with scenic, recreational, archaeological, or historical values that would not benefit from dredged material disposal and sites where the present intensity or type of use is inconsistent with dredged material disposal shall be avoided. The use of agricultural or forest lands for dredged material disposal shall occur only when the project sponsor can demonstrate that the soils can be restored to agricultural or forest productivity after disposal use in completed. In cases where this demonstration cannot be made, an exception to the Agricultural Lands Goal or Forest Lands Goal must be taken and included as an amendment to the Comprehensive Plan prior to the use of the site for dredged material disposal. The use of shoreland water dependent development sites for dredged material disposal shall occur only when the project sponsor can demonstrate that the dredged material placed on the site will be compatible with current or future water dependent development. Dredged material disposal shall not occur in significant Goal 17 shorelands or wetlands habitats.

Engineering factors to be considered in site selection shall include: size and capacity of the site; dredging method; composition of the dredged materials; distance from dredging operation; control of drainage from the site; elevation; and the costs of site acquisition, preparation and revegetation.

10. Estuarine in-water disposal sites shall be in areas identified as low in benthic productivity, unless the disposal is to provide fill material for an approved fill project, and where disposal at the site will not have adverse hydraulic effects. Estuarine in-water disposal sites shall only be designated and used when it is demonstrated that no feasible land or ocean disposal sites can be identified and biological and physical impacts are minimal. An in-water disposal site shall not be used if sufficient sediment type and benthic data are not available to characterize the site.

11. Flow lane disposal sites shall only be allowed in development designated areas within or adjacent to a channel where:

(a) Sediments can reasonably be expected to be transported down-stream without excessive shoaling,

(b) Interference with recreational and commercial fishing operations, including snag removal from gillnet drifts, will be minimal or can be minimized by applying specific timing restrictions,

(c) Adverse hydraulic effects will be minimal,

(d) Adverse effects on estuarine resources will be minimal, and

(e) The disposal site depth is between 20 and 65 feet below MLLW.

12. Beach nourishment sites shall only be designated on sandy beaches currently experiencing active erosion. Dredged material disposal at beach nourishment sites shall only be used to offset the erosion and not to create new beach or land areas. Beach nourishment sites shall not be designated in areas where placement or subsequent erosion of the dredged materials would adversely impact tidal marshes or productive intertidal or shallow subtidal areas. Designation of new beach nourishment sites shall require an exception to Statewide Planning Goal 16.

13. Dredged material disposal sites with adequate capacity to accommodate anticipated dredging needs for at least a five year period shall be identified and designated. Additional sites may also be designated. All dredged material disposal sites shall receive a Priority I or II designation with respect to its suitability and importance for meeting five-year dredging needs.

14. Priority I Dredged Material Disposal Sites

Sites which are essential for meeting anticipated five-year disposal needs shall receive a Priority 1 designation. Priority 1 shoreland sites shall be protected from incompatible and preemptive uses to ensure adequate sites will remain available to accommodate five-year disposal needs. Incompatible and preemptive uses include:

(a) Uses requiring substantial structural or capital improvements (e.g., construction of permanent buildings, water and sewer service connections);

(b) Uses that require alteration of the topography of the site, hereby affecting the drainage of the area or reducing the potential useable volume of the dredged material disposal site e.g., extensive site grading or excavation, elevation by placement of fill materials other than dredged spoils);

(c) Uses that include changes made to the site that would prevent expeditious use of the site for dredged material disposal. Such uses would delay deposition of dredged material on the site beyond the period of time commonly required to obtain the necessary federal, state and local dredging and dredged material disposal permits (approximately 90 days);

(Note: Examples of non-preemptive or compatible uses of shoreland dredged material disposal sites are: unimproved parking lots, equipment storage yards, materials marshalling yards, log storage and sorting yards, and undeveloped recreation areas, campgrounds or recreational vehicle parking areas.)

Incompatible or preemptive uses shall not be allowed at shoreland Priority I dredged material disposal sites unless the site is removed from the dredged material disposal plan by ordinance amendment upon demonstration that either:

(d) The site has been filled to capacity and is available for other uses, or

(e) The site is, in fact, not required to accommodate anticipated five-year disposal needs, or

(f) A new Priority I site has been designated to replace the site being removed.

15. Priority II Dredged Material Disposal Sites

(a) Dredged material disposal sites which are not required for anticipated five-year disposal needs but which may be required to meet longer range needs shall be given a Priority II designation. The importance of these sites, as compared with Priority I sites, does not justify efforts to reserve all or portions of each site from possible preemptive uses.

(b) A 30-day freeze shall be placed on preemptive development requests (as defined in 15(a), above), for the purpose of allowing affected government agencies or private interests to negotiate for the use of the property as a disposal site. The County may choose to run this freeze concurrently or in addition to the normal permit process. If there is no expressed interest in use of the site for dredged material disposal during the freeze period, the development request shall be reviewed under normal procedures. If the request is approved, the entire site or affected portions of the site shall be removed from the dredged material disposal plan by ordinance amendment.

16. In order to ensure the adequacy of identified dredged material disposal site capacities for anticipated five-year disposal requirements, an analysis of the dredge material disposal site inventory shall be completed every five years. The analysis shall include:

(a) A determination of the Priority I sites utilized for dredged material disposal and the volume received by each site during the preceding period, noting also the project source of the dredged material and the interval separating the most recent from the next anticipated dredging event.

(b) A determination of the number and usable volume of Priority I sites remaining in the inventory, and the relationship between these sites and present or expected navigation-related dredging or water-dependent development projects in the following five year period, and the number and useable volume of Priority II sites identified in the inventory.

(c) An identification of the Priority II or other additional sites to be added to the Priority I inventory.

(d) An analysis of the adequacy of the dredged material site inventory shall include notification of, and communication of up-dated inventory information to affected property owners and local, state and federal governmental agencies. Of particular importance is the addition, deletion, or change in priority of dredged material disposal sites.

(e) The County shall cooperate with other jurisdictions on the Columbia River Estuary in monitoring of dredged material site availability and in dredged material disposal plan update.

17. New dredging in Aquatic Conservation management units may be permitted for the following if the dredging is consistent with the resource capabilities of the affected management unit:

(a) Aquaculture;

(b) High intensity water-dependent recreation, including boat ramps and marinas;

(c) Minor navigational improvements;

(d) Mineral extraction;

(e) Obtaining fill material for dike maintenance where a Goal 16 exception has been approved;

(f) Active restoration;

(g) Bridge crossing support structures;

(h) Pipelines, cables, and utility crossings;

(i) Maintenance and installation of tidegates and associated drainage channels;

(j) Projects for the protection of habitat, nutrient, fish, wildlife and aesthetic resources;

(k) Structural shoreline stabilization;

(l) Navigational aids;

(m) Communication facilities;

(n) Stormwater and treated wastewater outfalls;

(o) Research and educational observations.

18. New dredging in Aquatic Natural management units may be permitted for the following if the dredging is consistent with the resource capabilities of the affected management unit:

(a) Maintenance or installation of bridge crossing support structures;

(b) Obtaining fill material for dike maintenance where a Goal 16 exception has been approved;

(c) Maintenance and installation of tidegates and associated drainage channels;

(d) Pipelines, cables, and utility crossings;

(e) Projects for the protection of habitat, nutrient, fish, wildlife and aesthetic resources; and

(f) Active restoration;

(g) Navigational aids;

(h) Communication facilities.

P20.6. ESTUARINE CONSTRUCTION: PILING AND DOLPHIN INSTALLATION, SHORELINE STABILIZATION AND NAVIGATIONAL STRUCTURES

The policies in this subsection apply to over-the-water and in-water structures such as docks, bulkheads, moorages, boat ramps, boat houses, jetties, pile dikes, breakwaters and other structures involving installation of piling or placement of riprap in Columbia River Estuary aquatic areas. Also covered under these policies are shoreline stabilization and aquatic area fills. This section does not apply to structures located entirely on shorelands or uplands, but does apply to structures, such as boat ramps, that are in both aquatic and shoreland designations.

1. Proper streamside vegetation management is the preferred method of shoreline stabilization, followed by planting of new vegetation, installation of riprap and installation of a bulkhead.

2. Navigational structures, such as breakwaters, jetties, groins, and pile dikes are major estuarine alterations with long term biological and physical effects. Proposals for new or enlarged navigational structures, or for removal of existing structures, must demonstrate that expected benefits outweigh potential adverse impacts on estuarine productivity.

3. New uses in aquatic areas and in shoreland areas especially suited for water-dependent development that are not water-dependent, if permitted, shall not preclude or pose any significant conflicts with existing, proposed or probable future water-dependent uses on the site or in the vicinity.

4. Where structural shoreline stabilization is shown to be necessary, an impact assessment is required and will include consideration of effects on shoreland and aquatic habitats, effects on fishing areas, uses of the adjacent shoreland and aquatic areas, and potential for adverse impacts in adjacent areas due to the project.

5. Proliferation of single-purpose docks and moorages is discouraged. Public or commercial multi-vessel moorage is preferred.

(PREVIOUS POLICY P20.7 - ENERGY FACILITIES WAS DELETED)

P20.7 FILLING OF AQUATIC AREAS AND WETLANDS

This subsection applies to the placement of fill material in the tidal wetlands and waters of the Columbia River Estuary. These policies also apply to fill in nontidal wetlands in subarea descriptions.

1. New uses in aquatic areas and in shoreland areas especially suited for water-dependent development that are not water-dependent, if permitted, shall not preclude or pose any significant conflicts with existing, proposed or probable future water-dependent uses on the site or in the vicinity.

2. Reduction of surface area and volume of aquatic areas and significant non-tidal wetlands in shoreland areas shall be minimized in the location and design of uses or activities requiring fill.

3. Construction on piling is preferred over construction on fill.

P20.8 FISH AND WILDLIFE HABITAT

This subsection applies to uses and activities with potential adverse impacts on fish or wildlife habitat, both in Columbia River estuarine aquatic areas and in estuarine shorelands.

1. Endangered or threatened species habitat shall be protected from incompatible development.

2. Measures shall be taken to protect nesting, roosting, feeding and resting areas used by resident and migratory bird populations.

3. Major marshes, significant wildlife habitat, coastal headlands, and exceptional aesthetic resources in the Coastal Shorelands Boundary shall be protected.

P20.9. LAND TRANSPORTATION SYSTEMS

Policies in this subsection are applicable to the maintenance and construction of railroads, roads and bridges in Columbia River Estuary shoreland and aquatic areas. Public, as well as private facilities are covered under this subsection. Forest roads, however, are excluded.

1. New non-water-dependent uses in aquatic or shoreland areas especially suited for water-dependent development shall not preclude or pose any significant conflicts with existing, proposed or probable future water-dependent uses on the site or in the vicinity.

2. Land transportation systems shall be maintained and improved to support existing urban areas, allow industrial site development and support rural and recreational uses.

3. New land transportation routes shall not be located in aquatic areas or in significant nontidal wetlands in shoreland areas except where bridges are needed, and where no feasible alternative route exists.

4. New land transportation routes shall be located so as not to reduce or downgrade the potential for development of Development Shorelands or Development Aquatic areas.

5. When feasible, new public roads in scenic areas shall provide rest areas, view-points and facilities for safe bicycle and pedestrian travel.

6. Construction of new land transportation systems and maintenance of existing land transportation systems shall be undertaken in a manner that minimizes expected impacts on aquatic and shoreland estuarine resources.

P20.10. LOG STORAGE

This subsection establishes policies for the establishment of new, and the expansion of existing, log storage and sorting areas in Columbia River Estuary aquatic and shoreland areas.

1. New aquatic area log storage facilities shall be designed and located so as to minimize potential adverse impacts on aquatic habitat, water quality and in areas that will not conflict with other estuarine uses.

P20.11. MINING AND MINERAL EXTRACTION

Policies in this subsection are applicable to the extraction of sand, gravel, petroleum products and other minerals from both submerged lands under aquatic areas and from shoreland areas in the Columbia River Estuary.

1. Proposals for aquatic and shoreland area mining may be approved subject to protection of adjacent property and fishery resources from potential adverse impacts, including sedimentation and siltation.

2. Mining operations in aquatic and shoreland areas shall use technology and practices which minimize potential damage to estuarine resources, in conformance with the Oregon State Reclamation of Mined Lands Act..

3. Mineral extraction or gravel or sand dredging from the estuary may be permitted only when these resources are not otherwise available at upland locations and in conformance with the County's Dredging and Dredged Material Disposal policies and standards concerning mining and mineral extraction.

4. Aquatic area mining or mineral extraction projects may be approved only for the least biologically sensitive areas, and may occur only in aquatic areas deeper than ten feet below MLLW.

5. Mining and mineral extraction activities shall not be approved in areas of major marshes, significant fish and wildlife habitat, or exceptional aesthetic resources. Mining and mineral extraction activities occurring in areas of known or reported historical or archaeological sites should have an archaeological survey conducted of the proposed site.

6. Wastewater associated with mining shall be handled in a manner that preserves water quality and in conformance with state and federal water quality requirements.

(PREVIOUS POLICY P20.12 FORESTRY AND FOREST PRODUCTS INDUSTRY WAS DELETED)

P20.12. MITIGATION AND RESTORATION

Policies in this section are applicable to estuarine restoration and mitigation projects on Columbia River Estuary aquatic areas and shorelands. Non-tidal wetlands are briefly addressed.

Mitigation

1. Any fill activities that are permitted in the Columbia River Estuary aquatic areas or dredging activities in intertidal and shallow to medium depth subtidal areas shall be mitigated through project design and/or compensatory mitigation (creation, restoration or enhancement) to ensure that the integrity of the estuary ecosystem is maintained. Local Comprehensive Plans shall designate and protect specific sites for mitigation which generally correspond to the types and quantity of aquatic area proposed for dredging or filling.

2. Mitigation for fill in estuarine aquatic areas or dredging in intertidal and shallow to medium depth subtidal areas of the Columbia River Estuary planning area shall be implemented through the following mitigation actions:

Project Design Mitigation Actions

a) Avoiding the impact altogether by not taking a certain action or parts of an action;

b) Minimizing impacts by limiting the degree or magnitude of action and its implementation;

c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment (e.g., removing wetland fills, rehabilitation of a resource use and/or extraction site when its economic life is terminated);

d) Reducing or eliminating the impact over time by preservation and maintenance operations;

Compensatory Mitigation Actions

e) Creation, restoration, or enhancement of an estuarine area to maintain the functional characteristics and processes of the estuary, such as its natural biological productivity, habitats, and species diversity, unique features and water quality.

Any combination of the above actions may be required to implement mitigation requirements. The compensatory mitigation actions listed in section (e) shall only be implemented after impact avoidance, reduction and rectification techniques have been considered, and there are still unavoidable adverse impacts.

3. Pre-permit application meetings and visits to the proposed development and mitigation sites shall be encouraged. The initial site visit coordinated between the local government and federal and state agencies shall be structured such that key issues will be addressed and consensus, to the degree possible, is established on each issue. This will require a structured site review format listing goals, objectives, and specific activities associated with the proposed development and mitigation actions.

4. The full array of wetland and aquatic area values shall be addressed when making mitigation site decisions and when designing mitigation action requirements. The list includes but is not limited to: fish and wildlife habitat, flood storage and desynchronization, food chain support, passive recreation, shoreline anchoring and water purification functions.

5. All mitigation actions shall be required to begin prior to or concurrent with the associated development action.

6. Developments in low-value diked freshwater nontidal wetlands can be mitigated by treating estuarine restorations or creations as in-kind mitigation actions. The final decision on the relative value of diked freshwater nontidal wetland shall be made through a cooperative effort between local governments and state and federal regulatory agencies. Values considered shall include but are not restricted to fish and wildlife habitat, flood storage and desynchronization, food chain support, passive recreation, shoreline anchoring and water purification functions.

7. If any of the compensatory mitigation actions are required, the local government shall require that the U.S. Fish and Wildlife Service make a Resource Category determination for the site proposed for development. The classification shall be listed on the permit application and review notice. If the area subject to impact is in a Resource Category 2 or lower (4 = lowest), the following sequence of mitigation options shall be considered:

- In-Kind/On-Site
- In-Kind/Off-Site
- Out-of-Kind/On-Site
- Out-of-Kind/Off-Site

8. If out-of-kind mitigation is found to be the only option, the applicant shall first seek restoration of historically and/or present day scarce habitat types.

9. All completed mitigation sites shall be adequately buffered from development and other activities to minimize the potential adverse impacts on the mitigation site. Buffer requirements shall be determined through a cooperative effort between local governments and state and federal regulatory agencies.

10. No mitigation action shall endanger or obstruct adjacent properties. The potential for present or future endangerment or obstruction shall be determined in advance of the mitigation action. Responsibility for rectifying potential damage to adjacent property shall be determined prior to permit approval.

11. Clatsop County will cooperate with CREST and state and federal resource agencies in the periodic review of the region's mitigation plan. Reviews should occur every 4-7 years. The review shall include reexamination of site availability, degree of plan implementation, changed policies and legal requirements and possible new projects that may require mitigation.

12. Additional mitigation sites shall be designated by Clatsop County as the need arises. New designations shall be coordinated with CREST, local governments, state and federal resource agencies. New sites shall be subject to the same policies and standards as sites presently designated.

13. All designated mitigation sites shall be protected and shall facilitate mitigation actions through appropriate zoning ordinance measures. For any new site not designated in the plan, mitigation shall be implemented through the policies and standards of this plan.

14. Estuarine alterations in Washington can be mitigated by actions in Oregon and vice versa if local and state authorities from both states and federal authorities with statutory responsibility for administering mitigation requirements approve the mitigation site selected and the mitigation action proposed.

15. Shorelands that are in a Water-Dependent Development Shorelands designation can only be used for mitigation subject to a finding that the use of the site for mitigation will not preclude or conflict with water-dependent uses.

16. Full consideration shall be given to existing significant Goal 17 resources when designing a mitigation project that may potentially alter, impair or destroy all or any portion of these resources. The minimum consideration will be to discount value from the credit potential of the mitigation action proportional to the existing value of the Goal 17 resource. Significant Goal 17 resource areas (major marshes, significant wildlife habitat and exceptional aesthetic resources) can only be used for mitigation subject to a finding that the use of the site for mitigation will be consistent with the protection of natural values.

17. Any acquisition strategy for bringing designated mitigation sites (pre- or post-mitigation action) into public ownership or into ownership of a private nonprofit land trust organization is encouraged.

18. All mitigation sites designated on public lands shall remain in public ownership.

19. An area in forest production, and considered for mitigation purposes, shall be evaluated for its present use value and compared with its potential value as a wetland before conversion of the site is acceptable.

20. A developer may create, restore or enhance more wetland area than required for immediate development impacts. Subject to federal, state and local agency approval, this "surplus mitigation" may be credited against future development. The reserve wetland area shall not be considered a mitigation bank unless it is acquired and managed by a federal or state land and resource management agency. In Oregon, this shall be the Division of State Lands.

Mitigation Bank Policies

21. Any area where a mitigation action has taken place and mitigation credits are available for future development and the site is owned and managed by a federal or state land management agency, shall be designated as a mitigation bank. The federal or state agency (Division of State Lands) shall be responsible for administration of a mitigation bank area throughout the period it serves as a bank.

22. An agreement among local, state and federal authorities shall serve as the implementing instrument establishing a mitigation bank and for continuing management of a bank. Such an agreement is necessary to document the initial conditions of a bank's formation, including the means by which a mitigation bank shall be administered. The agreement shall also detail ownership of the site and include an itemized presentation of project costs, a technical plan outlining the habitat mitigation action, and include the number of mitigation credits available in the bank. A plan for monitoring the mitigation site shall be provided, including the goals, costs, and responsibility of the monitoring program. The agreement shall specify the mechanisms by which mitigation "credits" will be transferred from the bank and applied to the activity qualifying for use of the bank. The agreement shall also specify the means by which proportional mitigation bank creation costs will be assessed.

23. Mitigation credits in mitigation banks shall be reserved for use by small scale development projects (5 acres or less of impacted wetland and/or aquatic area). This does not apply to the Airport Mitigation Bank.

24. A variety of habitats shall be created in a mitigation bank whenever possible, such that the opportunity of replacement for wetland resources lost to a variety of development activities is possible. The mitigation bank shall be of sufficient capacity to meet the requirements of a number of expected development projects.

25. Mitigation banks shall be created by written agreement with the Director of Oregon Division of State Lands (DSL) and shall be administered by DSL. Such agreements shall provide the basis for creation and operation of the bank and shall specifically provide for the following:

a) The exact location of the real property.

b) Proof of ownership or control, i.e., deed or title report.

c) The nature and extent of the mitigation action. This analysis shall require information about the site salinity, elevation, wave and current actions, substrate, and other physical and biological characteristics.

d) How and when the mitigation action shall be performed.

e) A statement of informed opinion as to what habitat shall result from the action and a statement as to the relative value of each anticipated habitat type.

f) How the resulting changes shall be monitored and evaluated [OAR 141-85-254 (12, 14)] and what contingencies are planned if goals are not satisfied within a reasonable time period.

g) How the mitigation bank shall be protected (e.g., dedication, conservation easement, deed transfer).

h) How funding for necessary construction or alteration work and potential remedial action shall be guaranteed (e.g., bonding).

i) The price that may be charged for credits from the bank.

26. Applicants for removal and fill permits requiring mitigation are not obligated, or automatically entitled, to use an existing mitigation bank to meet the mitigation needs of any project. Permit applicants shall negotiate directly with the administrator of the bank, resource agencies, and regulatory agencies to secure the right to use the bank. Agreements between the administrator of the bank and the permit applicant are subject to the Planning Director's approval of the number of mitigation credits charged against the bank.

Restoration

27. Restoration of tidal and nontidal wetlands in the Columbia River Estuary area may be done either as a mitigation action or as an action outside of the context of mitigation.

28. Restoration outside of the context of mitigation shall be allowed at designated mitigation sites if the site is a middle or low priority site and findings are made that it is no longer needed for mitigation.

29. All restoration projects shall serve to revitalize, return, replace or otherwise improve the wetland and aquatic ecosystems in the Columbia River Estuary area. Examples include restoration of natural biological productivity, fish and wildlife habitat, aesthetic or historic resources that have been diminished or lost due to past alterations, activities, or catastrophic events. In selecting projects, priority shall be given to those projects which provide substantial public benefits and which restore those wetland and aquatic habitat types, resources, or amenities which are in shortest supply compared to past abundance.

30. After a restoration takes place the local jurisdiction shall amend its plan and implement a zone change, for the restored area, to reflect the aquatic character of the site.

31. Restoration of economically marginal and unused low-lying diked areas to estuarine wetland shall be encouraged; active restorations to provide potential for diverse habitat (e.g., mudflat and marsh) as well as passive restorations are encouraged. Except through public condemnation procedures, removal of dikes or excavation on private lands shall not occur without consent of the landowner.

33. Shorelands that are in a Water-Dependent Development Shorelands designation can only be used for restoration subject to a finding that the use of the site for restoration will not preclude or conflict with water-dependent uses.

34. Significant Goal 17 resource areas (major marshes, significant wildlife habitat, and exceptional aesthetic resources) can only be used for restoration subject to a finding that the use of the site for restoration will be consistent with protection of its natural values.

35. Old piling, navigational structures, and buildings that are a hazard to navigation and contribute to excessive shoaling, or pose a threat to life or property shall be removed. Prior to removal, the costs and benefits associated with removal shall be evaluated. Factors requiring consideration include:

- Potential erosion or sedimentation problems that may result from removal;
- The structure's habitat value and probable longevity; and
- The structure's historic and scenic values.

36. Restoration of riparian vegetation around wetlands and waterways in the Columbia River Estuary planning area is a high priority. Protection of these areas shall be implemented using various strategies (e.g., zoning, acquisitions, easements, and transfer of development rights).

Long Term Aquatic Area and Nontidal Wetlands Mitigation and Restoration Policies

37. Federal and state resource agencies should be requested to intensify existing programs to identify Resource Categories of wetlands and Section 404 wetlands in the Columbia River Estuary area to give developers greater certainty regarding available development sites and potential mitigation requirements. The net result shall be greater certainty for developers and a more streamlined permit process.

38. CREST shall make an effort to develop a program to identify and assess the relative vales of nontidal wetlands. This inventory effort shall provide baseline data that can be used to give greater certainty regarding site potential for development and mitigation requirements.

39. A method of quantifying enhancement credits for estuarine and nonestuarine wetland mitigation should be developed. Also, a method for quantifying nonestuarine wetland values should be developed and incorporated into local statutes. Ideally, this system should be compatible with the system used in Oregon's Estuarine Mitigation Law. The system would have to be reviewed and accepted by state and federal resource and regulatory agencies.

40. A system should be devised whereby wetland impacts that are allowed under a regional or nationwide permit, and that do not require any permit procedure, may be reported to the local government so that an accurate record of cumulative wetland impacts can be maintained.

41. The following framework for restoration implementation is recommended for the Columbia River Estuary:

a) Develop and provide educational materials for landowners explaining the benefits of natural area protection and various options for restoring land to natural conditions and protecting the restored land.

b) Establish an incentive system in the Columbia River Estuary area whereby landowners can effectively utilize a variety of options for restoration and protection of their land.

c) Identify landowners with economically marginal production land (e.g., forest or agricultural production), that was historically wetland, and inform them of any incentive-oriented restoration systems for restoration and encourage their participation.

42. The following techniques are suggested as potential methods to establish a wetland restoration and protection incentive system:

a) Development of effective acquisition power through private nonprofit organizations and federal and state grants (acquisition may be through sale, trade or land donations). Public ownership is encouraged.

b) Protection through restrictions while landowners retain title to the land, (e,g., conservation easements, mutual covenants, deed restrictions and leases).

c) Provide tax incentives for landowners that allow restoration to take place on their land.

d) Deed restrictions, wildlife easements or fee acquisition on Farmers Home Administration farm foreclosure inventory lands.

P20.13. PUBLIC ACCESS TO THE ESTUARY AND ITS SHORELINE

Policies in this subsection apply to all uses and activities in Columbia River Estuary shoreland and aquatic areas which directly or indirectly affect public access. "Public access" is used broadly here to include direct physical access to estuary aquatic areas (i.e. boat ramps), aesthetic access (i.e. viewing opportunities), and other facilities, designations, or opportunities that provide some degree of public access to Columbia River Estuary shorelands and aquatic areas.

1. Federal, state and local activities in the estuary shall, when feasible, provide for maintenance and improvement of estuarine public access.

2. Public access in urban areas shall be preserved and enhanced through waterfront restoration and construction of public facilities, and other actions consistent with local public access plans.

3. Public access in rural areas shall be preserved and enhanced through development of trails, scenic viewing areas, boat ramps and other actions consistent with local public access plans.

4. Proposed major shoreline developments shall not, individually or cumulatively, exclude the public from shoreline access to areas traditionally used for fishing, hunting or other shoreline activities.

5. Publicly owned shorelands with water access should remain in public hands.

6. Special consideration shall be given toward making the estuary accessible for the physically handicapped or disabled.

7. Public access to publicly owned shorelands and aquatic areas shall be maintained and improved where feasible.

8. Clatsop County will develop and implement programs for increasing public access.

P20.14. RECREATION AND TOURISM

Policies in this subsection are applicable to recreational and tourist-oriented facilities in Columbia River Estuary shoreland and aquatic areas.

1. New non-water-dependent uses in aquatic areas or in shoreland areas especially suited for water-dependent development, if permitted, shall not preclude or pose any significant conflicts with existing, proposed or probable future water-dependent uses on the site or in the vicinity.

2. Recreation uses in waterfront areas shall take maximum advantage of their proximity to the water by providing water access points, water-front viewing areas, and structures visually compatible with the waterfront.

P20.15. RESIDENTIAL, COMMERCIAL AND INDUSTRIAL DEVELOPMENT

The policies in this subsection are applicable to construction or expansion of residential, commercial or industrial facilities in Columbia River Estuary shoreland and aquatic areas. Within the context of this subsection, residential uses include single and multi-family structures, mobile homes, and floating residences (subject to an exception). Duck shacks, recreational vehicles, hotels, motels and bed-and-breakfast facilities are not considered residential structures for purposes of this subsection. Commercial structures and uses include all retail or wholesale storage, service or sales facilities and uses, whether water-dependent, water-related, or non-dependent, non-related. Industrial uses and activities include facilities for fabrication, assembly, and processing, whether water-dependent, water-related or non-dependent non-related.

1. New non-water-dependent uses in aquatic areas or in shoreland areas especially suited for water-dependent development if permitted, shall not preclude or pose any significant conflicts with existing, proposed or probable future water-dependent uses on the site or in the vicinity.

2. Shoreland developments shall be designed and constructed to minimize adverse environmental and aesthetic impacts. Where appropriate and feasible, development shall be clustered to provide open space.

3. Where non-water-dependent, non-water-related residential, commercial or industrial development exists on shorelands designated for water-dependent development, transition of shorelands to water-dependent or water-related uses is encouraged.

P20.16. SHALLOW-DRAFT PORTS AND MARINAS

The policies in this subsection apply to development of new marinas and improvement of existing marinas in aquatic areas of the Columbia River Estuary. Also covered are adjacent shoreland support facilities that are in conjunction with or incidental to the marina. Included under this subsection's coverage are both public and private marinas for either recreational, charter or commercial shallow draft vessels.

1. Proliferation of individual single-purpose docks and moorages is discouraged. Public or commercial multi-vessel moorage is preferred.

2. Navigational access to the estuary and its tributaries shall be maintained. Peripheral channels, streams and sloughs shall not be closed to navigation. Necessary maintenance dredging for traditional moorage areas shall be allowed, subject to the requirements of the aquatic designation, state and federal permits, and local plan and ordinance provisions.

3. Provisions should be made for adequate flushing and water circulation and waste disposal receptacles to ensure the maintenance of water quality in marina and moorage facilities.

P20.17. SIGNIFICANT AREAS

The policies in this subsection are intended to protect certain Columbia River shoreland and aquatic resources with estuary-wide significance. Significant shoreland resources are identified as such in subarea plans. Significant aquatic resources are found in Natural Aquatic areas. This subsection applies only to activities and uses that potentially affect significant shoreland or aquatic resources. Other resources without estuary-wide significance are not covered by this subsection.

1. Significant estuarine aquatic and shoreland resources shall be protected from degradation or destruction by conflicting uses and activities.

2. Major marshes, significant wildlife habitat, and aesthetic resources shall be protected.

3. Known or newly discovered archaeological sites shall be protected in compliance with existing state and federal laws.

P20.18. SHORELAND HAZARD AREAS

The policies in this subsection apply to development in Columbia River Estuary shoreland areas with identified hazards to development. These hazards are identified in subarea plans, and include areas susceptible to erosion, soil movement, and flooding.

1. Development proposed in identified shoreland hazard areas is generally discouraged. All new and replacement development in shoreland hazard areas shall be protected from the hazard.

P20.19. WATER QUALITY MAINTENANCE

The policies in this subsection are intended to help protect and enhance the quality of water in the Columbia River Estuary. Impacts on water quality in aquatic areas and in tidegated sloughs in shoreland areas are covered.

1. Non-point source water pollutants from forest lands, roads, agricultural lands, streambank erosion and urban runoff shall be controlled by state water quality programs, Oregon Forest Practices Act and administrative rules, and Soil Conservation Service programs.

2. New untreated waste discharges into tributary streams, enclosed bays and sloughs shall not be permitted.

3. Petroleum spill containment and clean-up equipment should be located in the estuary area. This equipment should be capable of controlling a large spill in all areas of the estuary.

4. Ports, marinas and commercial moorage facilities shall provide waste disposal receptacles in compliance with Marpol Annex V.

P20.20. WATER-DEPENDENT DEVELOPMENT AREAS

Policies in this subsection are applicable only to those Columbia River Estuary Shorelands designated as Especially Suited for Water-Dependent Development. The purpose of these policies is to assure that adequate sites are available for water-dependent uses.

1. Shorelands especially suited for water-dependent uses shall be protected for water-dependent uses.

2. Temporary uses involving minimal capital investment or uses incidental to a water-dependent use may be allowed in shorelands especially suited to water-dependent development if the temporary or incidental use does not foreclose future opportunities for a water-dependent use.

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P21 INTERGOVERNMENTAL COORDINATION POLICIES

P21.1 LOCAL INTERGOVERNMENTAL COORDINATION

The Columbia River Estuary Study Taskforce (CREST) provides local governments with a forum for communication and cooperation in planning and development activities of regional scope and importance. Local governments recognize the mutual benefits of such coordination during the decision-making and implementation process.

On behalf of member governments, CREST will:

1. Provide continued planning assistance to member jurisdictions upon request to and approval by the CREST Council, review local comprehensive plans and make recommendations which will result in coordination and conformance with the Columbia River Estuary Regional Management Plan;

2. Provide technical information and assistance to member jurisdictions, other agencies and private interests concerning implementation of the Columbia River Estuary Regional Management Plan;

3. Evaluate state and federal estuary activities, programs, developments and project impact assessments that may affect local governments and report results to concerned jurisdictions;

4. Coordinate with local, state and federal agencies on estuary development, research, regulation, project impact assessment and plan review and update;

5. Establish and maintain a library of information and data pertaining to and affecting the Columbia River Estuary for use by the public, local government and state and federal managers and researchers.

P21.2 SCIENTIFIC RESEARCH AND PLANNING IN ESTUARINE AREAS

Research is conducted by state and federal agencies, universities, private consultants, and individuals in the estuary area. State and federal agencies periodically develop special-purpose plans for particular resource areas, within the estuary, which affect local planning and decision-making.

To ensure local coordination and to provide useful information for local estuary management decisions, it is recommended that all agencies, consultants, university personnel and individual researchers conducting research or developing special management plans should:

1. Contact CREST and affected local jurisdictions during the project-planning stage to outline the research or planning objectives and schedule, and the means of reporting project results; and

2. Make provision for timely reporting of research results and management plan findings to local jurisdictions.

P21.3 PUBLIC INFORMATION

Public knowledge of the value of estuarine resources and the importance of estuarine resources to the local economy could be dramatically improved through a program of education and public information. CREST and local governments, in cooperation with state and federal agencies, educational institutions and private groups should:

1. Encourage development of practical educational courses, extension education programs, science fairs, library and museum displays relating to the Columbia River Estuary and the marine sciences in general;

2. Encourage the establishment of major oceanographic research and educational facilities in the area;

3. Maintain and expand the CREST library and information services.

P21.4 DEVELOPMENT EVALUATION, PERMIT INFORMATION AND PERMIT REVIEW

Development occurring in estuarine aquatic or shorelands areas produces impacts of varying type and degree. State and federal permits are required for in-water construction, dredging, filling, waste discharge and numerous other activities. These permits are mandated by law and allow each local jurisdiction to carry out its responsibility to control or limit negative economic and environmental effects. The number of permits and necessary requirements, and the lack of knowledge about such requirements, may add substantial cost and time delays to development projects.

CREST will provide permit information and assistance for potential developers concerning requirements at the local, state and federal level. Information to be provided may include: environmental and legal constraints, methods to minimize or mitigate the impacts of proposed projects, and general policies of agencies that will review the project. The intent of this policy is to facilitate understanding and use of existing permit processes. Review by CREST is not mandatory.

P21.5 STATE AND FEDERAL CONSISTENCY

The Columbia River Estuary plan is consistent with Oregon's Coastal Zone Management Program. The State's program is implemented through local comprehensive plans. Federal activities and federally funded or permitted activities in the estuary area shall be consistent to the maximum extent practicable with the regional policies, development standards, and land and water use designations in local comprehensive plans.

P 30. COLUMBIA RIVER ESTUARY SUBAREA PLANS

The Columbia River Estuary Study Taskforce (CREST) has prepared a regional management plan for the Columbia River Estuary covering three counties, including Clatsop County, and four cities. The relevant parts of the *Columbia River Estuary Regional Management Plan* are adopted and summarized in the County's Comprehensive Plan and Land and Water Development and Use Ordinance. This section describes the aquatic areas and adjacent shorelands in Clatsop County.

The estuary is divided into 46 planning subareas. These subareas were drawn to represent distinct planning units with common features and needs: land use patterns, physical and biological characteristics, and jurisdictional boundaries were used to determine subarea boundaries. The subarea plans which are under, or in-part under Clatsop County jurisdiction are described in P30.1 through P30.22. There are 16 subareas wholly within Clatsop County and 6 subareas partially within Clatsop County and one or more other jurisdiction.

The subarea plans are divided into several elements, each of which addresses a different set of factors affecting land use. The elements are designed to provide local government officials, planners, and other plan users with the background information needed to evaluate development proposals. Those elements and their contents are described below.

General Description

This section contains a description of subarea boundaries and general characteristics. The boundaries are described using, where possible, commonly known features.

Aquatic Features

This section describes predominant aquatic area characteristics. The aquatic area is defined as all areas lying waterward of the landward limit of aquatic vegetation or, where there is no vegetation, Mean Higher High Water. The following physical and biological characteristics are discussed:

a. Changes to the aquatic habitats over the past century.

b. Currents, bathymetry, salinity, tidal influences, flushing, sedimentation, and flow;

c. Estuarine wetlands;

d. Benthic and water-column invertebrates;

e. Fish; and

f. Wildlife.

Shoreland Features

This section contains information on shoreland physical and biological features. Features discussed include:

a. Soils;

b. Topography;

c. Vegetation;

d. Nontidal wetland habitat; and

e. Wildlife.

For informational and planning purposes, the Shoreland Features section describes all of the land area within the floodplain. Much of this area does not fall under the regulatory boundaries of shorelands, as defined by Oregon.

The regulatory estuary shorelands area in Oregon includes all lands within fifty feet landward of the estuarine shoreline. Land with the following characteristics is also included:

a. Areas subject to ocean flooding and lands within 100 feet of the ocean shore or within 50 feet of an estuary or a coastal lake.

b. Areas of geological instability in or adjacent to the shoreland boundary when the geologic instability is related to or will impact a coastal water body.

c. Natural or man-made riparian resources, especially vegetation which function to stabilize the shoreline or maintain water quality and temperature necessary for the maintenance of fish habitat and spawning areas.

d. Areas of significant shoreland and wetland biological habitats whose habitat quality is primarily derived from or related to the association with coastal and estuarine areas.

e. Areas necessary and appropriate for water-dependent and water-related uses, including areas appropriate for port facilities and navigational structures, dredged material disposal and mitigation sites, and areas suitable for aquaculture, and existing land uses and public facilities.

f. Areas of exceptional aesthetic or scenic quality, where the quality is primarily derived from or associated with the coastal or estuarine areas.

g. Areas of recreational importance or public access which utilize coastal waters or riparian resources.

h. Locations of archaeological or historical importance associated with the estuary.

i. Coastal headlands.

j. Dikes and their associated inland toe drains.

Human Use

This section describes human land and water uses in each subarea. The following factors, where applicable, are discussed:

a. Predominant economic activities and developed land uses;

b. Locational advantages to economic activities resulting from the presence of natural resources or from physical site characteristics;

c. Recreational uses, both active and passive;

d. Major point and non-point pollution sources;

e. Navigational structures and channels;

f. Transportation facilities; and

g. Cumulative impacts on the subarea from particular activities.

Issues

This section focuses on the relationship between resources and uses identified in the previous three subsection descriptions and existing and projected land use patterns. Areas are identified where conflicts exist between pressures for development and resource conservation. Limitations on development potential resulting from physical site characteristics are discussed with particular emphasis on changes that have taken place since adoption of the *1979 Columbia River Estuary Regional Management Plan*.

Aquatic and Shoreland Designations

Based on an evaluation of the aquatic and shoreland features described in the previous sections, portions of the various subareas are designated according to their development potential, resource sensitivity, and conservation needs. Aquatic and shoreland designations are used with the policies and development standards to determine the types and intensities of uses which would be permitted within the subarea. Aquatic and shoreland designations are defined in Policy P10. Shoreland designations apply to the regulatory shoreland area only. This subsection defines the regulatory shoreland boundary of each subarea.

Subarea Policies

This subsection includes policies that contain specific provisions concerning a unique physical, land use, or economic characteristic of the subarea. Policies applicable to the entire estuary are included in Policy P20.

P 30.1 MOUTH OF THE COLUMBIA RIVER

General Description

This subarea includes the South Jetty, the offshore waters west of the Columbia River Entrance Buoy and the estuary between the South Jetty and a line connecting Jetty A and the North Jetty. It extends upstream to about RM 3. It does not, however, include Clatsop Spit, Jetty A, the ocean beaches or any land areas except the South Jetty. The subarea extends seaward of the Columbia Entrance Buoy to the three mile limit (state and county line), encompassing productive areas outside the mouth of the estuary and ocean dredged material disposal sites. The subarea includes parts of both Clatsop County, Oregon and Pacific County, Washington.

Aquatic Features

The Mouth of the Columbia River Subarea includes waters both inside the estuary and in the ocean. The river mouth has undergone large physical changes resulting from construction of the entrance jetties. Prior to jetty construction, the mouth of the river was at Cape Disappointment in Washington and Point Adams in Oregon. Large, shifting sand bars and shallow channels characterized the area. With the construction of the jetties, the mouth was moved about 3-1/2 miles seaward and constricted from 6 to 2 miles wide. The constriction of the mouth has resulted in a deeper entrance channel.

The mouth of the Columbia River is the most physically dynamic area of the estuary. Tidal currents, freshwater flow, wind-driven currents, waves, and coastal currents all affect the waters of the subarea. Currents and wave action combine to make navigation difficult.

Sediments in the subarea consist almost entirely of fine sand inside the mouth and in the adjacent offshore area. Some silt is found farther offshore and south of the entrance. Outside the mouth, sediment is transported by wind-driven currents and waves. The dominant direction of sediment transport is north. From the bar inward, tidal, estuarine and river flow effects become much more important. Upstream bottom currents bring sand into the estuary from the ocean during low flow periods. The overall yearly balance and the effect of storms are not known.

Salinity levels in the estuary portion of the subarea vary from zero to near ocean salinities depending on tidal cycle and river discharge. During high river discharge the water column becomes stratified with bottom salinity levels greatly exceeding those on the surface. The area becomes entirely freshwater during very high river discharges and strong ebb tides. During low river discharge, the water column becomes highly stratified during neap tides and nearly unstratified during spring tides.

Plant types in the subarea include phytoplankton and marine algae. Phytoplankton productivity is high in offshore areas but is generally low within the estuary portion of the subarea. Marine algae grow on the jetties.

Zooplankton productivity is very high in this area and seaward for several miles. Benthic invertebrate production is high in offshore marine waters but decreases toward the mouth. There is an extensive commercial crab and shrimp fishery outside the mouth, while recreational crab fishing is important inside the jetties. The main channel area is an important nursery area for juvenile Dungeness crab.

Fish in the subarea include a mix of coastal marine, estuarine and anadromous species. Common marine species include English sole, sand sole, butter sole, starry flounder, northern anchovy, surf smelt, whitebait smelt, and Pacific tomcod. Anadromous fish including longfin smelt, American shad, Pacific herring, eulachon, and the salmonids migrate through the subarea.

Birds commonly occurring within the subarea include cormorants, gulls, surf scoters, western grebes, and sanderlings. Western and glaucus-winged gulls feed in the subarea year round and nest on the South Jetty in spring and summer.

The subarea is an important feeding area for California and northern sea lions. Although the sea lion species can be found in the subarea year round, they are most common in winter and spring. Harbor seals also feed in the subarea.

Shoreland Features

The only shorelands in the subarea are on the South Jetty, which is constructed of rock and rubble. The tip of the South Jetty is the largest California and northern sea lion haulout site in the estuary.

Human Use

This subarea contains the downstream end of the authorized navigation channel (55 feet deep by 1/2 mile wide to RM 3). The channel is stabilized by the entrance jetties and maintained primarily by hopper dredge. The average amount dredged from this subarea is about 8 million cubic yards per year. The offshore disposal sites (Areas A, B, E, and F) are in the outer portions of this area. An in-water estuary site (Area D in the Estuary Channels Subarea) was used for disposal of material from the inner bar when, during rough bar conditions, disposal at sites outside the mouth (disposal sites A, B, E, and F) was too hazardous. The Corps of Engineers has adopted a change in practices to discontinue disposal of entrance material in Area D. Recreational use of the waters by small boats is high. The Buoy 10 sports fishery draws large numbers of recreational anglers to this area each summer. Commercial fishing is intensive throughout the year.

The cumulative impact of jetty construction and dredging on circulation and scouring in this subarea has been substantial, particularly with respect to deep-draft navigation. The cumulative impact of the jetties on sand transport along the ocean beaches is not well-documented, but probably significant. The cumulative impact of bar dredging on fish habitat, particularly Dungeness crabs, may be significant, but recent studies on this are inconclusive.

Issues

The Corps of Engineers has studied the effects of dredging the bar on the juvenile Dungeness crab population. Study results demonstrate that the hopper dredge removes large numbers of juvenile crab from the bar. The long-term effect of this removal on the regional crab population has not been determined.

Peacock Spit has accreted north of the North Jetty (in the Cape Disappointment, Washington Subarea) and is part of Fort Canby State Park. In recent years the spit has experienced erosion and the Washington State Parks Department desires maximum disposal of dredged material at Area E, since this may feed the beach at Peacock Spit and retard erosion. The desirability of extensive disposal at Area E needs to be evaluated, particularly as it may affect the productive crab fishery in the area.

Aquatic and Shoreland Designations

All aquatic areas are Conservation, except:

1. Dredged material disposal sites A, B, E, and F, which are designated Development.

2. The navigation channel, plus a flowlane disposal area on each side (either 600 feet wide or to the 20-foot bathymetric contour, whichever is narrowest), is designated Development.

3. Shorelands on the South Jetty are designated Development. The South Jetty is entirely within the regulatory shorelands boundary.

Subarea Policies

1. Adverse impacts on Dungeness crab habitat and on commercial or recreational crabbing in the Mouth of the Columbia River subarea caused by dredging or by in-water dredged material disposal shall be minimized.

P 30.2 BAKER BAY

General Description

This subarea includes the aquatic areas of Baker Bay and the Sand Islands. It is bounded on the west side by the Ilwaco navigation channel and by the shoreline to the north. On the east it is bounded by Chinook Point, and by the 30 foot depth contour to the south. The Sand Islands are the only shorelands in this subarea. The Town of Ilwaco and the Port of Ilwaco are not included in this subarea. The subarea is under the jurisdiction of Clatsop County, Oregon and Pacific County, Washington.

Aquatic Features

The aquatic portion of this subarea includes the waters and wetlands of Baker Bay out to the North Channel. Prior to construction of the South Jetty in the 1890's, Baker Bay was an open water environment, very exposed to winds and waves. Sheltered anchorage and deep water were provided at and behind Cape Disappointment; most of the bay was navigable. The mouth of the Columbia River, including Baker Bay, was an extremely dynamic environment. Channels and sand bars continually changed in size, shape, and position. Between 1839 and 1848, Sand Island was located mid-river approximately 4.3 miles south of Cape Disappointment. By 1870, the island had naturally shifted 1.55 miles to the north to a position 2.75 miles south of Cape Disappointment.

The natural northerly movement of Sand Island continued until 1885 when South Jetty construction began. While the jetty was being built, Sand Island moved into Baker Bay and enlarged. By 1910, the island stabilized in approximately its present location due to changes in current flow patterns resulting from the new jetty. The movement and stabilization of Sand Island in Baker Bay has been the largest recorded shoaling event in the bay.

Shoaling continued to occur rapidly in the bay through the 1930's. Factors contributing to this shoaling included shelter from strong currents and waves brought on by Sand Island's presence in the bay, the effects of numerous pilings in the bay, and, possibly, the effects of diking the Chinook and Wallacut River tidelands and the increased sediment load in the Columbia River due to upriver logging and agricultural activities.

Sand Island breached and formed two islands in 1940. A great deal of sediment eroded from the gap between the islands during the occurrence of the breach. In addition, the newly opened gap resulted in scouring and deepening of the shallow flats immediately north of the islands.

The complex water exchange patterns of Baker Bay's three entrances determine the bay's circulation. A mathematical model of the bay provides the only information available on circulation. Much of the water exchange between the bay and the main channel of the estuary occurs through the entrance between East and West Sand Islands. The Ilwaco and Chinook Channel entrances exhibit maximum ebb flows about two hours before high water and maximum flood flows about two hours after high water. The situation is reversed in the entrance between East and West Sand Islands, with maximum ebb flows about two hours after high water and maximum flood flows two hours before high water. The currents in the interior of the bay are much weaker than the currents in the bay's entrances.

Winds have a significant impact on the bay's water levels, currents, and waves. During the prevailing north and northwest winds of summer, water levels drop and the circulation patterns in the bay change. For example, an average north-flowing current in the east portion of the bay reverses and flows south. During the prevailing south winds of winter, water levels rise in the bay and the average north-flowing current of the east portion of the bay continues to flow to the north and increases in strength. The windward shores in the bay receive strong wave action.

Two tributaries flow into the bay but have little affect on the bay's circulation. The discharge of the Chinook River averages 55 cubic feet per second while the discharge of the Wallacut River averages 25 cubic feet per second.

The salinity of Baker Bay ranges from less than 0.5 to greater than 30 parts per thousand (ppt) depending on the tidal stage and the discharge of the Columbia River. During low river discharge the salinity levels in the east half of the bay range over the tidal cycle from 0.5 to 30 ppt while the salinity levels in the western half of the bay range from 5 to 30 ppt. Salinity levels during high river discharge range over the tidal cycle from less than 0.5 to 30 ppt.

The sediments of the Baker Bay Subarea are primarily poorly-sorted with mean grain sizes ranging from fine sand to coarse silt. Very fine sand, silt, and clay comprise the tidal flats of the inner bay. These tidal flats tend to have coarser sediments near the shoreline than offshore. Many of the outer bay's protected tidal flats contain sediments with mean grain sizes in the very fine sand, silt, and clay classes during high river discharge periods and in the medium to fine sand classes during low river discharge periods. Exposed tidal flats of the outer bay, such as the flat near Chinook Point, consist of sediments with mean grain sizes ranging from medium to fine sand year round. Sediments with mean grain sizes in the coarse sand class exist in the subarea on the northeast shore of West Sand Island, the southern shores of East and West Sand Islands, and in the channel between the islands.

The plant types of the Baker Bay aquatic area include phytoplankton, benthic algae, eelgrass, and brackish tidal marsh and swamp vegetation. Phytoplankton productivity has not been measured in the bay. Benthic algal productivity levels on the tidal flats and low marshes of the subarea rank among the highest in the estuary. Productivity rates are highest on the more protected tidal flats on the west side of the bay and lowest on the exposed tidal flats adjacent to the islands. The tidal flats of the inner bay and north shoreline exhibit intermediate production levels. Sparse patches of eelgrass grow on many of the tidal flats of the bay, with highest densities on the flats adjacent to Ilwaco Channel. The tidal marshes and swamps of the subarea form a narrow band around much of the shoreline. Bulrush dominates the colonizing (lowest elevation) low marshes while Lyngby's sedge dominates higher elevation low marshes. The high marshes contain primarily creeping bent grass, aster, and marsh potentilla. The swamps contain mainly willow, Sitka spruce, and alder.

Invertebrate types studied in the Baker Bay subarea include benthic infauna and epibenthic organisms. The benthic infauna consist of a very productive community dominated by clams, polychaetes, and oligochaetes. The epibenthic zooplankton community exhibits high densities on the tidal flats and slopes during spring, summer, and fall. The channels are important nursery areas for Dungeness crab.

Fish community sampling in Baker Bay has been concentrated on the tidal flats north of East and West Sand Islands and in Ilwaco Channel. Little is known about the fish utilization of the inner bay. The dominant fish species found in the bay include English sole, starry flounder, Pacific

staghorn sculpin, Pacific herring, shiner perch, longfin smelt, and juvenile salmonids. Other abundant species include prickly sculpin, Pacific tomcod, snake prickleback, peamouth, and threespine stickleback.

Pacific herring, shiner perch, and longfin smelt spawn in the estuary and possibly within the Baker Bay subarea. Pacific herring spawn in the estuary from April through July. Although yearling and older herring have not been found to be abundant in the bay, herring spawning habitat (eelgrass beds) does exist in the inner bay. Larval Pacific herring appear in the estuary in spring and summer and subyearlings utilize Baker Bay as a nursery area during the same seasons. Shiner perch bear their young in the estuary in June and July and perch ranging in age from yearlings through adults are very abundant in the bay in spring, summer, and fall. Subyearling shiner perch utilize the bay as a nursery area in summer and fall. Longfin smelt spawn in the estuary from November through March and smelt ranging in age from yearlings through adults occur in the subarea year round. They are particularly abundant in summer. Larval longfin smelt appear in the estuary in winter and spring and subyearlings utilize the bay as a nursery area in summer and fall.

Several salmonid species migrate through the bay and use it as a nursery area. Subyearling chinook salmon, originating from upriver populations and from a hatchery on the Chinook River migrate through the bay from March through August. They utilize the bay as a nursery area primarily in spring and summer but are also present in fall and winter. Yearling chinook salmon migrate along the mouth of the bay primarily in spring. Yearling coho salmon, originating from upriver populations and from a hatchery on the Chinook River, migrate through the bay primarily in spring. The hatchery on the Chinook River also produces chum salmon.

Several bird species utilize the Baker Bay Subarea. Surf scoter, a migratory waterfowl species, winters in the bay. Other migratory waterfowl, particularly pintail, widgeon, rudy duck, and merganser, also winter in the bay. Mallard, a resident waterfowl species, feed in the bay and nest in marshes on West Sand Island. Shorebirds and great blue heron feed in the tidal flat and low marsh habitats. Shorebirds utilize the tidal flats and marshes of the entire bay while great blue heron concentrate in the western portion of the bay. Western and glaucous-winged gulls nest in a large colony on East Sand Island in spring, summer, and fall. There is also a large Caspian tern nesting colony on East Sand Island. The bay is an important bald eagle feeding area. Two nesting pairs of eagles use the bay. Their nests are located above Cape Disappointment and Scarboro Hill. The bay is also used by numerous wintering and transient eagles.

The harbor seal is the most abundant marine mammal species in Baker Bay. Seals occupy a haulout site on a sand flat west of Chinook Point and feed throughout the bay. The numbers of seals utilizing the bay is relatively low, with fewer than 25 animals found on the haulout at any one time.

Aquatic and terrestrial mammal use of the Baker Bay Subarea is relatively low. The narrow, fringing low marshes do not provide suitable habitat for supporting large populations of mammals. A few muskrat utilize the low marshes for feeding and some denning activity occurs near the Chinook River. Most mammal activity is concentrated in the high marsh and swamp near the Chinook River. These habitats receive use by raccoon, river otter, and deer.

Shoreland Features

East and West Sand Islands comprise the subarea's shorelands. The islands have sandy sediments and are vegetated primarily by dune grasses and Scotch broom. There are several open sand areas, primarily at actively used dredged material disposal sites. The southern part of West Sand Island has some of the last remaining examples of a native dune grass communities on the Oregon and Washington coast.

Wildlife values on the islands are high. East Sand Island contains gull and Caspian tern nesting colonies.

Human Use

The Corps of Engineers uses both East and West Sand Islands for dredged material disposal. The U.S. Fish and Wildlife Service and the Corps have an agreement that specifies procedures for revegetation of the islands. The Corps of Engineers revegetates the dredged material with a mixture of clover and perennial grasses and disposes dredged material on a rotating basis to allow maximum habitat establishment.

Alterations are extensive in Baker Bay. Several thousand pilings from old fish traps remain. The Chinook Jetty and pile dikes along the southern shore of the islands were built to direct river flow toward the main navigation channel and prevent erosion of the islands. The southern shore of East Sand Island is riprapped. The remains of the pier and the railroad bed used to unload the material remain on East Sand Island.

Tidelands are owned by the States of Oregon and Washington. East and West Sand Islands are owned by the federal government. Many of the Washington tidelands have had mineral, oil, and gas rights leased. There are also leases pending for black sands mining.

There are three authorized navigation channels in Baker Bay. The Chinook Channel extends 1.3 miles between the Columbia River and the Chinook Basin. It is authorized at 10 feet deep and 150 feet wide. Shoaling problems in the Chinook Channel are severe; the worst shoal encroaches from Chinook Point to the east, opposite East Sand Island. The Ilwaco navigation channel follows a circuitous course between Jetty A and the Port of Ilwaco. The southernmost half mile of the authorized channel is 16 feet deep and 200 feet wide; the remaining 2.7 miles are 16 feet deep and 150 feet wide. The channel has a moderate shoaling problem, with the worst shoals at the outer end and at the final turn into Ilwaco. The Baker Bay East Channel, from East Sand Island to Ilwaco, is not presently maintained.

Issues

Use conflicts in this subarea include the impacts on aquatic and terrestrial habitat from dredging, dredged material disposal, and possible future black sands mining. The eastern portion of East Sand Island is a nesting area for Caspian terns. This area has also been used as a disposal site

for maintenance dredging of the Chinook Channel. The northwest corner of West Sand Island has been used for disposal and other parts of the island are designated for disposal. The southern portion of West Sand Island has the last remnant of native fescue-bluegrass unstabilized sand dune community in Oregon or Washington.

Dredged material disposal by the U. S. Army Corps of Engineers at Area D has been a subject of continuing controversy. A report by the Columbia River Estuary Study Taskforce (Fox and Benoit: Dredged Material Disposal at Area D, 1986) found that although a portion of the material disposed at Area D may enter Baker Bay, that sediment is probably responsible for only a minor amount of total shoaling in the bay. A more recent study of sediment erosion and accretion in Baker Bay by the U. S. Army Corps of Engineers (U. S. Army Corps of Engineers, Portland District: Bathymetric Differencing in Baker Bay) found that sediments in Baker Bay had generally accreted until about 1957, when erosion began to exceed accretion. It should be noted, however, that maintenance dredging is included in the total erosion calculations. Use of Area D, which is located approximately three-quarters of a mile south of the Chinook pile dike, has been decreasing. A maximum limit of 3,250,000 cyds of material over a 5 year time period was recommended in a study by CREST in 1986. Average annual disposal has decreased from 1,320,000 cubic yards in the 1971 through 1977 period to 742,000 cubic yards in the 1978 through 1984 period. In 1986, approximately 491,994 cubic yards were disposed. Disposal amounts in the last three years have averaged less than 650,00 cubic yards per year.

In 1991, an interim Area D site was located immediately downstream of the existing disposal site, in order to resolve operational and safety problems encountered by the hopper dredges and to determine its feasibility as a long-term dredged material disposal site. The new site is for an interim period of three years, during which time predisposal benthic surveys will be conducted and sediment movement and hydrology will be monitored to determine its potential as a long-term in-water disposal site. The majority of sediments disposed at Area D are coarse and settle quickly. They are transported primarily as bedload. There is evidence that this sediment moves primarily upstream along the north channel. Principal sources for the material currently disposed at Area D are the Ilwaco and Chinook navigation channel, Flavel Shoals, Desdemona Shoals, and the Skipanon Waterway. (See Estuary Channels Subarea Plan).

The mineral rights to most of Baker Bay have been leased for black sands mining. This mining would have unknown impacts on the bay's hydrology and biological productivity.

Aquatic and Shoreland Designations

The intertidal areas of Baker Bay are designated Natural. The subtidal aquatic areas are designated Conservation, except for the two maintained navigation channels which are designated Development.

The shorelands of the Sand Islands are designated Conservation.

Three dredged material disposal sites are listed in the *1986 Columbia River Estuary Dredged Material Management Plan*: CC-S-3.1 (on West Sand Island), CC-B-5.8, CC-S-6.8 (on East Sand Island).

A mitigation site on West Sand Island (Site 12, Priority 2) is described in the *1987 Mitigation and Restoration Plan for the Columbia River Estuary*.

Both East and West Sand Islands are within the regulatory shoreland boundary of Clatsop County.

Subarea Policies

1. The local governmental bodies, relevant agencies and interested parties shall continue to pursue the resolution of the navigational access problems in Baker Bay.

2. Channel realignments or other improvements must be justified in terms of hydraulics, sand transport and impacts on maintenance dredging.

3. Areas of future channel realignment shall be designated Development for the purpose of establishing a new navigation channel.

4. The marshes north of the Sand Islands should be protected as should the native dune grass communities on the southern part of West Sand Island.

5. The use of heavy equipment for activities associated with dredged material disposal on the Sand Islands is appropriate.

P 30.3 ESTUARY CHANNELS

General Description

This subarea includes the deep water portions of the estuary from Jetty A (RM 3) to the upper end of Rice Island (RM 22.5). The subarea contains the authorized navigation channel. The boundary of the subarea generally follows the 20-foot bathymetric contour; however, it varies from this contour in the vicinity of cities and other subareas containing deep channels. There are no intertidal wetland or shoreland areas. Portions of Clatsop County, Astoria, Hammond and Warrenton, Oregon and Pacific and Wahkiakum Counties, Washington are within this subarea.

Aquatic Features

Human activities have caused some changes in the channels. Historically, the north channel carried a larger portion of the river flow than the south. Navigation structures, including pile dikes and created islands, now direct a larger portion of the flow to the south channel.

Tidal and river flow are the primary factors influencing currents in the subarea. Most of the tidal exchange between the estuary and ocean occurs through the north channel. In comparison, the south channel receives less tidal flow but greater river flow. As a result, flood currents are relatively stronger in the north channel while ebb currents are relatively stronger in the south channel.

Salinity levels vary widely both over time and among different parts of the subarea. The eastern extent of the subarea represents the normal upstream limit of salinity intrusion. Salinity levels increase in the downstream direction. In most of the subarea, salinity levels vary from freshwater conditions to 33 ppt. Generally, salinity levels in bottom waters are greater than those on the surface. Saline water intrudes farther upstream in the north channel than in the south.

Sediments in the subarea range primarily from coarse to medium sand. Patches of very fine sand, silt, and clay appear periodically in the portion of the channel between RM 8 and 18. In addition, the south channel contains fine sand during low river discharge months in the area between RM 8 and 12. The area of finer sediments results from the turbidity maximum zone. This zone is the area where upstream suspended sediment transport converges with downstream sediment transport. Waters in the zone are very turbid because they are laden with sediments. Fine sediments are periodically deposited on the bottom in this area.

Bedload sediment transport on the channel bottoms also converges at the turbidity maximum zone. Coarse sediments originating seaward of the zone are transported upriver while those originating landward of the zone are transported downriver.

The only plant type present is phytoplankton because the subarea consists entirely of deep water habitat. Phytoplankton productivity is relatively high at the upstream end of the subarea and decreases to relatively low levels toward the downstream end.

The estuary's major invertebrate groups, zooplankton, benthic infauna, and epibenthic organisms, have been studied in the subarea. The accumulation of particulate organic matter in the turbidity maximum zone allows for very high zooplankton and epibenthic organism population densities in the area between RM 8 and 18. The most abundant zooplanktonic organism in this region, Eurytemora affinis, has been considered by researchers to be the most important food species for fish in the estuary. Benthic infauna populations are relatively sparse in the channels. This is most likely a result of frequent sediment movement on the channel bottom. Dungeness crab use the western part of the subarea as a nursery area.

Fish populations in the estuary tend to concentrate in the area between RM 6 and 19, due to the abundant supply of invertebrate food species. The subarea is an important nursery area for marine bottom species such as English sole, starry flounder, and Pacific staghorn sculpin. Pacific tomcod, snake prickleback, and northern anchovy are seasonally abundant in the channels. White and green sturgeon populations concentrate in the deeper portions of the subarea, primarily in the north channel near the Astoria-Megler Bridge and in the south channel off Tongue Point. Pacific herring, shiner perch, and longfin smelt possibly spawn in the subarea.

In addition to longfin smelt, other anadromous species including American shad, eulachon, and the salmonids utilize the subarea as a migration route and nursery area. Adult American shad migrate upriver primarily in June and July while juveniles migrate downriver mainly in November and December. Juvenile shad use the channels year round as a nursery area. Eulachon migrate upriver from December through April with a peak run in February. All of the salmonid species abundant in the estuary use the channels as a migration route. Subyearling chinook migrate downriver primarily from March through August. Yearling chinook and coho salmon and juvenile steelhead and cutthroat trout migrate through the subarea primarily in spring.

Several bird species, particularly the fish eaters, utilize the subarea. Bird concentrations tend to be greater in the north channel than the south channel. Cormorants use primarily the western portion of the subarea while common mergansers and western grebes use the eastern portion. Surf scoters are also abundant in the subarea. Bald eagles associated with nesting sites near Tongue Point and along the northern shore of the estuary feed in the subarea.

The channels are important feeding areas for harbor seals and California sea lions. Harbor seals use the subarea year round while California sea lions use the channels primarily in winter.

Human Use

Navigation, maintenance dredging, and dredged material disposal are the predominant human activities in the ship channel. Waste disposal, principally from fish processing, is a lesser use. There are also gillnet drifts in and around the north and south channels. Recreational fishing for salmon and sturgeon is important. Recreational and commercial crabbing occurs off Hammond and the Sand Islands. The cumulative impacts of navigation channel maintenance on the southern arm of this subarea have been significant with respect to both navigation and circulation. The northern arm of the subarea has been affected by decreased river flow and some shoaling as a result of river flow training structures.

Issues

In-water disposal of dredged material is an issue of concern. Approximately 630,000 cubic yards of dredged material are placed in the Harrington Point Sump by hopper dredge each year, and eventually moved by pipeline dredge to Rice Island (See the Estuary Sands Subarea Plan). Approximately 650,000 cubic yards are deposited in Area D annually.

Area D is located in the north channel of the Columbia River Estuary approximately 4,200 feet south of the Chinook pile dike. Disposal of dredged material at Area D is a major concern. The Corps of Engineers places dredged material at Area D for several channel maintenance projects in the lower estuary. A study by CREST in 1986 made several recommendations for regulating disposal at Area D, including a maximum limit for Corps projects of 3,250,000 cubic yards of dredged material over a 5-year time period (see Baker Bay subarea). Non-federal projects in the lower estuary are limited to a total of no more than 100,000 cubic yards of material during any one year period.

In 1991, an interim Area D site was located immediately downstream of the existing disposal site, in order to resolve operational and safety problems encountered by the hopper dredges and to determine its feasibility as a long-term dredged material disposal site. The shifting of the north channel along with the settling of the disposed material has rendered portions of the site too shallow or created a navigational hazard for the larger hopper dredges to maneuver safely. The new site is for an interim period of three years, during which time predisposal benthic surveys will be conducted and sediment movement and hydrology will be monitored to determine its potential as a long-term in-water disposal site.

Aquatic Designations

All aquatic areas are designated Conservation except:

1. The main navigational channel and a flowlane disposal area on each side of the channel (either 600 feet wide or extending to the 20 foot bathymetric contour, whichever is narrower) is designated Development.

2. Dredged material disposal sites CC-E-8.5 (Area D) and CC-E-21.0 (Harrington Sump) listed in the *Columbia River Estuary Dredged Material Management Plan* are designated Development.

Subarea Policies

1. The use of the Area D in-water dredged material disposal site shall be kept to an absolute minimum. In all cases, ocean disposal shall be substituted for the use of this site whenever feasible. The use of Area D shall be regulated by implementing cubic yardage limitations for dredged material disposal. The Corps of Engineers should continue to examine alternative disposal sites and methods that would result in fewer adverse shoaling impacts. The use of Area D should be discontinued when feasible alternatives are found.

2. The U.S. Army Corps of Engineers shall continue to review navigation improvements and the impacts of disposal of dredged material at Area D with the objective of minimizing undesirable sedimentation.

3. Dredged disposal at Area D shall be allowed for the following Corps dredging projects and sites: Flavel Shoal, Desdemona Shoal, Upper Sands Shoal, Tongue Point Crossing Shoal, Chinook Channel, Baker Bay West Channel, Skipanon Channel, and the Columbia River Bar.

4. Non-federal projects proposed in estuarine locations between the mouth of the Columbia River and Tongue Point (i.e. local ports and marinas) may also be eligible for disposal at the existing Area D, provided they meet the policies and standards for estuarine in-water disposal.

5. Total disposal for Corps of Engineers projects at Area D shall not exceed 3,250,000 cubic yards over a 5 year period.

6. The Corps of Engineers has provided the following estimates of their Area D disposal needs for the projects and shoals listed in Condition #3.

Flavel Shoal 500,000 cubic yards per year

Desdemona, Upper Sands, and Tongue Point Crossing Shoals 30,000 cubic yards per year

Columbia River Bar 50,000 cubic yards per year

Skipanon, Chinook and Baker Bay West Channels 65,000 cubic yards per year

Total Disposal Approximately 650,000 cubic yards per year

7. All dredged material disposal at Area D shall be reported to CREST and local jurisdictions. If annual disposal amounts significantly exceed those given in No. 6 above, the Corps of Engineers shall limit subsequent disposal operations at Area D to ensure that the 5-year disposal limit (3,250,000 cubic yards) is not exceeded.

8. Total annual disposal for non-federal projects at Area D shall not exceed 100,000 cubic yards.

9. Disposal at Area D shall be controlled so as to minimize impacts to commercial gillnet and crab fishermen.

10. Uncontaminated dredged material from navigation channel projects in this subarea should be used for dike maintenance.

P 30.4 ESTUARY SANDS

General Description

This subarea includes the extensive mid-estuary sand flats between approximately RM 6 and RM 24 and the adjacent slopes to as deep as 20 feet below MLLW. These include Desdemona and Taylor Sands, the Tongue Point bar and other unnamed sands, the largest of which extends west and north from Rice Island into Grays Bay. Rice Island, a dredged material disposal island, is also included. Rice Island and adjacent water areas are part of the Lewis and Clark National Wildlife Refuge. This subarea includes portions of Clatsop County, Oregon and Pacific and Wahkiakum Counties, Washington.

Aquatic Features

The western part of this subarea has accreted significantly since the construction of the jetties at the mouth. The increase in tidal currents resulting from constriction of the mouth by the jetties has caused sediments forming the natural tidal delta to be transported both into the estuary and out to sea. A portion of the sediment transported into the estuary has accumulated in the estuary sands subarea.

Strong river and tidal currents and wind waves create the high energy environments of the Estuary Sands Subarea. The broad, shallow channels between Desdemona and Taylor Sands form the main corridor of water transport between the north and south channels. Water flows southeasterly from the north to the south channel during flood tides and northwesterly from the south to the north channels during ebb tides.

Salinity levels are similar to surface salinities found in the adjacent north and south channels (see Estuary Channels Subarea Plan).

The subarea has a wide range of sediment types. The tidal flat sediments range from medium to fine sand while the surrounding slopes contain coarse to medium sand. Scattered deposits of silt and clay appear intermittently throughout the subarea.

Plant types in the subarea include phytoplankton and benthic algae. Phytoplankton productivity is similar to that found in the adjacent north and south channel (see Estuary Channels Subarea Plan). Benthic algae productivity on the sands is low due to the instability of the sediments.

Invertebrate, fish and bird species present in the subarea are similar to those found in the surrounding north and south channels (see Estuary Channels Subarea Plan). Rice Island is used as a nesting site for Caspian Terns and small colonies of western and glaucus-winged gulls. Canada Geese are also establishing nesting sites on the island. The subarea is an important fish and bird feeding area.

Taylor Sands and the surrounding waters are important feeding areas for the Mill Creek bald eagle pair (see Tongue Point Subarea Plan). Feeding in this area is particularly intense during the nesting season. A pile dolphin on Taylor Sands provides an important hunting perch site for the eagles.

The subarea contains the largest harbor seal haulout sites in the estuary. Desdemona and Taylor Sands each contain two haulout sites. The largest site, on Desdemona Sands, is used by about 50% of the estuary's harbor seal population in winter and early spring, nearly 100% of the population in late spring and summer, and 80 to 90% of the population in fall.

Shoreland Features

The only shorelands in the subarea are on Rice Island. Rice Island is a large dredged material disposal island created to receive material from the main navigation channel, and to direct river flow. It is now nearly filled to capacity. The island has some planted vegetation, primarily grasses, to stabilize the sand. Canada geese nest on the island.

Human Use

Major uses and activities in this subarea include gillnet drifts along the margins of the sands and in the minor channels between the sand bars, recreational boating, and small boat and tug navigation across the river. Dredging and dredged material disposal have occurred on and around various sands. The sands were used for horse seining and fish traps when such activities were practiced. The only area currently being used for dredged material disposal is Rice Island, an entirely man-made island created for the dual purposes of flow control and dredged material disposal. The cumulative impact of channel maintenance (dredging and river training) on circulation and sediment transport has been significant in this subarea. Shoaling has increased substantially in this subarea as a result of jetty construction and other channel maintenance activities.

The Corps of Engineers and the U.S. Fish and Wildlife Service cooperate with regard to management of dredged material disposal islands. The cooperative agreement provides for continued dredged material disposal on Rice Island, and establishes timing of disposal as well as revegetation and habitat maintenance techniques.

Issues

Potential uses of the sand flats include dredged material disposal, recreation, aquaculture, and restoration. The Corps of Engineers has discussed the possibility of creating additional islands for dredged material disposal. State and federal resource agencies have raised concerns regarding the proposal and it may not be actively pursued. Island creation or expansion for dredged material disposal would require amendment of local shoreline master programs and comprehensive plans.

Aquatic and Shoreland Designations

Subtidal aquatic areas and the narrow tidal flat along the south shore of Rice Island are Conservation. All other tidal flats are Natural.

All shoreland areas are Conservation.

Rice Island is entirely within the regulatory shorelands area. The western portion of the island is within the regulatory shoreland boundary of Clatsop County and the eastern tip is in the regulatory shoreland boundary of Wahkiakum County.

Rice Island is a dredged material disposal site listed in the *1986 Columbia River Estuary Dredged Material Management Plan*: CC-S-22.2/WK-S-21.2.

Subarea Policies

1. Proposals to enlarge existing dredged material disposal islands or to create new ones will require an exception to Oregon Statewide Planning Goal 16.

2. The use of heavy equipment on Rice Island in association with dredged material disposal activities is appropriate.

P 30.5 RIVER CHANNELS

General Description

This subarea includes the deep water portions (deeper than 20 feet below MLLW) of the authorized navigation channel and adjacent slopes between Harrington Point (RM 22.5) and the western end of Puget Island. The authorized navigation channel is in this subarea, but side channels are not included. There are no intertidal wetlands or shorelands. Some water areas are part of the Lewis and Clark National Wildlife Refuge. Parts of Wahkiakum County, Washington and Clatsop County, Oregon are included.

Aquatic Features

While tides and tidal currents are important in this reach, fresh water flow increasingly dominates circulation patterns toward the upriver end. Salinity intrusion varies, depending on freshwater flow and the tides, but will normally not extend past Pillar Rock. Flood tide currents may not be observable under high flow conditions, and the 100-year flood level rises sharply toward the upstream limit of the subarea.

Sediments in the channel and slopes are largely medium to coarse sand, with some gravel. Compacted sediments are found in some scour holes. The transport of sand and gravel as bedload is almost entirely downstream. Some sand moves in suspension under freshet conditions.

Phytoplankton comprise the only plant type found in the subarea. The phytoplankton consist primarily of freshwater species carried into the estuary from upriver. They exhibit relatively high productivity levels in the subarea. As these freshwater species encounter saline water downriver from the subarea many are killed. This accounts for the lower phytoplankton productivity in downriver subareas (see Estuary Channels Subarea Plan).

Zooplankton, benthic infauna, and epibenthic organisms occurring in the subarea consist primarily of freshwater species. Population densities are relatively low.

Fish species present in the subarea include freshwater fishes, marine fishes tolerant of low salinities, and anadromous fishes. The most abundant freshwater species include threespine stickleback, peamouth, and prickly sculpin. Principal marine species in the subarea include starry flounder, Pacific staghorn sculpin, Pacific tomcod, and snake prickleback. White sturgeon concentrate in deep channel areas. The primary anadromous species include American shad, eulachon, and the salmonids (see Estuary Channels Subarea Plan).

Several species of water birds utilize the subarea. Double-crested cormorants associated with nesting sites on range markers off of Miller Sands are abundant. Waterfowl species, including mallard, surf scoter, and common merganser, feed in the subarea.

Two marine mammal species, harbor seals and California sea lions use the subarea. They are most common in winter when the seals and sea lions feed on the eulachon run as it moves upriver.

Human Use

The main navigation channel passes through this area. Dredging is required at five separate bars, with an average 900,000 cubic yards removed annually by pipeline and 625,000 cubic yards by hopper dredge. In-water disposal occurs at the Harrington Point Sump (for rehandling) and at several flowlane disposal sites along the main navigation channel. Numerous pile dikes exist. Gillnet drifts exist along the edge of and in the main navigation channel. Commercial sturgeon, gillnetting, sports fishing and pleasure boating also occur. The cumulative impact of channel maintenance activities on water quality and circulation may be substantial.

Issues

Major issues in this subarea are related to dredging, disposal and navigational structures and their impact on fish habitat and commercial fisheries. Replacement of pile dikes in this area is being studied by the Corps of Engineers. Depending on the results of monitoring the prototype rock groin at Cottonwood Island, the Corps may consider replacing aging pile dikes in this subarea with rock groins.

Gillnet fishermen have expressed concern over in-water activities which interfere with commercial fishing. Major areas of conflict include:

- Sinker logs from log rafts;
- Debris uncovered by dredging; and
- Dredged material disposal activities

Potential conflicts may be alleviated through continued coordination between gillnetters, log transport companies and the Corps of Engineers. Some gillnetters have suggested that they be reimbursed for costs they incur while clearing drift areas. Such a requirement is outside of this Plan's scope. Planning measures that can be implemented to reduce the snag problem include:

- Requirements that conflicting activities avoid gillnet drifts whenever possible; and
- Requirements that gillnet drift captains be consulted concerning timing and location of in-water activity.

Aquatic Designations

The main navigation channel and a flowlane disposal area on each side of the channel (extending either 600 feet or to the 20-foot bathymetric contour, whichever is narrowest) are designated Development. All other areas are Conservation.

Harrington Point Sump is an in-water dredged material disposal site listed in the *1986 Columbia River Estuary Dredged Material Management Plan*: CC-E-21.0.

Subarea Policies

1. Prior to approval of in-water activities with the potential for affecting fisheries, the project sponsor shall notify local drift captains, the Columbia River Fisherman's Protective Union and the Northwest Gillnetters Association. The Washington Department of Fisheries shall also be consulted to determine project timing and methods that will minimize impacts on the fishery.

2. In-water activities that may leave snags in gillnet drifts shall be avoided whenever possible. The project sponsor shall notify the drift captain if a drift cannot be avoided.

3. Uncontaminated dredged material from navigation channel projects in this subarea should be used for dike maintenance.

P 30.6 SNAG ISLANDS

General Description

This subarea includes dredged material disposal islands (Miller Sands and Jim Crow Sands), tidal marsh (around the Snag Island Jetty and Miller Sands), the Woody Island Channel, exposed sand bars south and west of Woody Island Channel, and various subsidiary channels. The entire subarea is within the Lewis and Clark National Wildlife Refuge, and within Clatsop County, Oregon.

Aquatic Features

The aquatic portion of this subarea consists of several small marsh islands and sandflats separated by a network of shallow channels. Historically the subarea has tended to shoal due to navigation structures and created islands which have channeled most of the river flow through the main navigation channel. There are more tidal marshes and flats in the subarea than occurred a century ago. Woody Island channel which runs along the southern boundary of the subarea was once an important navigation channel. Parts of the channel are now too shallow for safe navigation by all but the smallest boats.

Little is known about currents in the subarea. Woody Island channel is the main corridor for water transport through the subarea. The subarea is primarily freshwater. During very low river discharge conditions, saline water extends into Woody Island Channel.

Sediments in most of the subarea are sandy. Coarse sand occurs in the deeper areas while fine sand occurs on the flats. Sediments in the tidal marshes probably consist mainly of silt and clay.

Plant types in the subarea include phytoplankton, benthic algae, and tidal marsh vegetation. Phytoplankton productivity is relatively high. Benthic algal productivity on the predominantly sandy tidal flats is very low. The marshes of the subarea include colonizing low marshes dominated by bulrush (Scirpus validus) and higher elevation low marshes dominated by Lyngby's sedge (Carex lyngbyei), reed canary grass (Phalaris arundinacea), and cattail (Typha angustifolia). The colonizing marshes develop on the downstream side of the islands while the higher marshes develop on the upstream sides.

Of the estuary's invertebrate types, only benthic infauna and epibenthic organisms have been studied in the subarea. Benthic infauna densities are high. Important fish prey species such as the amphipod Corophium salmonis and the clam Corbicula manilensis are abundant. Epibenthic organism densities are also high in the subarea.

Fish species present in the subarea are the same as those found in the River Channels Subarea and the upstream end of the Estuary Channels Subarea. The shallow tidal flats and marsh channel are important feeding and nursery areas for juvenile salmonids.

Several species of water birds utilize the subarea. Double-crested cormorants nest on channel range markers west of Miller Sands. Western and glaucous-winged gulls occupy a small nesting colony on the western tip of the Miller Sands sandspit. Canada geese are exhibiting significant growth in the estuary. A large nesting colony is established on Miller Sands. Abundant waterfowl in the subarea include western grebe, mallard, and common merganser.

Marine mammal use of the subarea concentrates around a haulout site south of Miller Sands. Harbor seals occupy this haulout year round with peak use in spring and winter. The aquatic mammal species muskrat and nutria utilize the marshes of the subarea.

Shoreland Features

Shorelands in the subarea include Miller Sands and Jim Crow Sands, both dredged material disposal islands. Soils on the islands consist of Columbia River sand. Both islands are relatively low and flat.

Vegetation has been planted on the islands to help stabilize the sand. Miller Sands has some well-developed grasslands, shrub and willow/cottonwood habitat on the main island. Only scattered grasslands have become established on Jim Crow Sands.

Wildlife on the islands includes small mammals such as muskrat and nutria and several bird species. Bald eagles hunt from the islands. Canada geese nest on Miller and Jim Crow Sands. There is a small nesting colony of Caspian terns on Miller Sands.

Human Use

Activities in this area include navigational improvements, dredged material disposal, commercial and sports fishing, wildlife observation, waterfowl hunting, and trapping. Active dredge material disposal sites are located on Jim Crow Sands and Miller Sands. Gillnet drifts are found in Woody Island Channel and along the margins of the navigational channel.

Issues

The establishment of duck shacks in the sloughs and along the shores of the islands is a longstanding issue. These structures are approved for temporary periods (i.e., the hunting season) and not for use as permanent residences. However, in some cases, they have been improved beyond their intended function.

A proposal involving a possible exchange of the State of Oregon's ownership interests in some estuary islands, including Miller Sands and Jim Crow Sands Islands, for federal property on the South Tongue Point peninsula was first investigated in 1987 and is again being considered in 1990. As part of the proposal, the federal government would consolidate ownership of islands in the Lewis and Clark

National Wildlife Refuge (except Mott Island). The State of Oregon would expand its ownership of the old naval station site on the North Tongue Point peninsula and acquire the South Tongue Point peninsula, facilitating its plans for development of the Tongue Point area. Clatsop County may also quitclaim its relatively minor ownership interests in the estuary islands to the federal government in exchange for in-lieu-of-tax payments.

This subarea is relatively distant from all boat ramps. The hunting and sport fishing use of this area is probably less than in some other subareas. All areas except Miller Sands are open to hunting and trapping. Future use of Miller Sands and Jim Crow Sands is an issue of concern. Public access to the wildlife refuge is discussed in the Upper Marsh Islands Subarea Plan.

Aquatic and Shoreland Designations

All aquatic areas are designated Conservation except:

The wetlands above the 3 feet bathymetric contour surrounding the Snag Island Jetty; the wetlands north of Green Island; and the unnamed sands southeast of the Woody Island Channel area are all designated Natural.

Shorelands, including Miller Sands and Jim Crow Sands, are designated Conservation.

Jim Crow Sands and Miller Sands Islands are within the regulatory shoreland boundary of Clatsop County.

Four dredged material disposal sites are listed in the *1986 Columbia River Estuary Dredged Material Management Plan*: CC-B-23.1, CC-S-23.5 (Miller Sands), and CC-B-27.2, CC-S-27.2 (Jim Crow Sands).

Subarea Policies

1. Measures that increase or enhance public access opportunities to the Wildlife Refuge are encouraged.

2. The use of heavy equipment in association with dredged material disposal on Miller Sands and Jim Crow Sands is appropriate.

3. In-water activities that may leave snags in gillnet drifts shall be avoided whenever possible. The project sponsor shall notify the drift captain if a drift cannot be avoided.

P 30.7 CATHLAMET BAY

General Description

This subarea includes Lois, Mott, Green, Russian, Seal, McGregor and unnamed marsh islands; sand and mud flats; and parts of South, Prairie and other subsidiary channels.. It extends from near Tongue Point (RM 19) to RM 25. The entire subarea is in the Lewis and Clark Wildlife Refuge, and within Clatsop County.

Aquatic Features

The aquatic features in this subarea include several tidal marsh islands separated by relatively deep, narrow channels. Historically, this subarea has tended to shoal and develop more marsh habitat. The marshes of Green Island have developed in the past century. Also, the unnamed marsh islands in the western part of the subarea increased in size since the creation of Lois Island.

There is little information on currents in the subarea. The subarea is primarily freshwater with some salinity intrusion in the deeper water areas north of Lois and Mott Islands. Sediments in the subarea are similar to sediments in the Snag Islands Subarea.

The plant types present in the subarea include phytoplankton, benthic algae, and tidal marsh and swamp vegetation. Phytoplankton and benthic algal productivity are similar to that in the Snag Islands Subarea. The low marshes of Green Island and the unnamed islands east of Lois Island have developed a pattern of growth common in the Cathlamet Bay islands. The lowest elevation marshes develop on the downstream sides of the islands and the highest on the upstream sides. The downstream sites consist of bulrush (Scirpus validus) dominated colonizing low marshes which grade into tidal flats, while the upstream sides consist of higher elevation marshes dominated by Lyngby's sedge (Carex lyngbyei). The marshes of Russian Island are slightly higher than those on the other islands. They are dominated by Lyngby's sedge, horsetail (Equisetum fluviatile), rush (Juncus oxymeris), wappato (Sagittaria lattifolia), water parsnip (Sium suave), and creeping spikerush (Eleocharis palustris). The marsh islands have an extensive network of tidal channels. These channels are important as feeding and shelter areas for juvenile salmonids. Although they have not been studied extensively in the Columbia, marshes and associated tidal channels have been demonstrated to be the most important salmon rearing habitats in other estuaries. Lois and Mott Islands are surrounded by tidal marshes and swamps. The marshes are similar to others found in the subarea. The swamps contain primarily shrub species.

Invertebrate and fish species in the subarea are similar to those found in the Snag Island Subarea.

Bird species common in the subarea are similar to those in the Snag Island Subarea. In addition, great blue heron and shorebirds utilize the subarea. Bald eagles use the subarea intensively as a feeding area. South channel and the unnamed islands and associated flats east of Lois Island are used most frequently. Eagles also feed on Green and Russian Islands and the marshes and flats around Lois Island. Piling on the northern side of South channel are important bald eagle perching sites. A

breeding pair of eagles known as the Twilight Creek pair as well as many non-breeding eagles that occupy the area primarily in winter and spring use the subarea.

Marine mammal use of the subarea primarily occurs on and adjacent to a harbor seal haulout site on Green Island. Although a relatively small number of harbor seals utilize the site, it is one of the few haulouts in the estuary where harbor seals give birth to young. They generally give birth in late spring and raise the pups through summer. The group of harbor seals remaining in the Columbia River during this period generally produce fewer than 10 pups per year.

Aquatic and terrestrial mammals utilize the marshes and swamps of the subarea. Muskrat and nutria occupy the marsh islands. These species, along with beaver and raccoon are found in the swamps surrounding Lois and Mott Islands.

Shoreland Features

Shorelands in the subarea are on Lois and Mott Islands. Both islands were created from material dredged from the MARAD Basin and Tongue Point pier area. Both islands are wooded with willow and alder along the fringes and grass-covered on the interiors. Wildlife values are considered high. There is a bald eagle perch site on the eastern-most point of Lois Island.

Human Use

Human use of this area includes sport and commercial fishing, log storage and transport, hunting, trapping, and wildlife observation. None of these could be classified as intensive.

Issues

The tidal flats and marshes of Cathlamet Bay are a highly productive, integral part of the estuarine ecosystem. Their inclusion in the Lewis and Clark National Wildlife Refuge provides needed protection for fish and wildlife resources in the area.

The establishment of duck shacks in the sloughs and along the shores of the islands is a long-standing issue. These structures are approved for temporary periods (i.e., the hunting season) and not for use as permanent residences. However, in some cases, they have been improved beyond their intended function.

Both Mott and Lois Islands are within the wildlife refuge and the habitat value of the upland areas for birds and wildlife is high. The U.S. Fish and Wildlife Service (USFWS) has indicated that they generally oppose use of the area for dredged material disposal. Recreational fishing and boating may conflict with port development in the Tongue Point area. Public access to the islands in the Wildlife Refuge is limited. USFWS does not provide any access facilities, and does not manage the refuge for public access.

Aquatic and Shoreland Designations

Aquatic areas are Conservation, except for tidal marsh and other wetland areas on and adjacent to the islands which are designated Natural.

Shoreland areas in this subarea are designated Natural. The entire upland portions of Lois and Mott Islands are included in the regulatory shoreland boundary of Clatsop County.

Subarea Policies

1. Measures that increase or enhance public access opportunities to the Wildlife Refuge are encouraged.

P 30.8 UPPER MARSH ISLANDS

General Description

This diverse group of marsh islands and interconnecting channels extends between Minaker Island (RM 26) and Welch Island (RM 35). The subarea includes Minaker, Karlson, Marsh, Brush, Horseshoe, Woody, Tronson, Quinns, Goose, Grassy, Fitzpatrick and Welch Islands. Parts of Prairie and other subsidiary Channels are also included. Large sections of the islands consist of forested and shrub swamps, with tidal marsh in the lower areas. Sand and mudflats also occur. The shorelands on Woody, Welch, and Fitzpatrick Islands are current or former dredged material disposal sites. The entire area is in the Lewis and Clark National Wildlife Refuge, and within Clatsop County.

Aquatic Features

The aquatic portions of this subarea include several large intertidal marsh and swamp islands separated by relatively deep, narrow channels. Historically the area has changed little compared with other areas of the estuary. Horseshoe and Grassy Island marshes have enlarged slightly in the last century.

There is little information on currents in the subarea. Saline water does not intrude into the subarea. Sediments consist primarily of very fine sand, silt, and clay. Prairie Channel contains some coarser sandy sediments.

The plant types in the subarea include phytoplankton, benthic algae, and tidal marsh and swamp vegetation. Phytoplankton and benthic algal productivity levels are similar to those in the Snag Islands Subarea. The islands of the subarea contain the largest tracts of tidal marsh and swamp in the estuary.

Most of Minaker Island is low marsh, with high marsh and mixed shrub vegetation in a few areas. Karlson Island is more complex. About one-fourth of the island was diked, but the dikes have breached and the area has returned to tidal marsh. The western end of the island is undisturbed tidal marsh. The rest of the island is tidal swamp consisting of willow and a species mixture of alder, Sitka spruce, western red cedar and cottonwood. Brush and Horseshoe Islands are a mixture of low marsh, high marsh, and swamp. Marsh and Woody Islands consist mostly of tidal swamp with some marsh. There is some willow swamp on Quinns and Tronson Islands and some marsh on Goose, Grassy and Quinns Islands. Fitzpatrick Island is dominated by low marsh. Welch Island is covered with high sedge marsh, and cottonwood and willow swamp. The marsh and swamp islands have an extensive network of tidal channels. These channels are important as feeding and shelter areas for juvenile salmonids. Although they have not been studied extensively in the Columbia, marshes and associated tidal channels have been demonstrated to be the most important juvenile salmon rearing habitats in other estuaries.

Invertebrate and fish species in the subarea are similar to those in the Snag Island Subarea.

Several species of resident and migratory birds feed and nest in the subarea. Because of presence of several types of habitats, the subarea has the greatest bird numbers and species diversity in the estuary. Double-crested cormorant feed in the water areas in summer, fall, and winter. Western grebe and several other species of migratory waterfowl winter in the subarea. Resident waterfowl which nest in the marshes of the subarea include common merganser, mallard, green-winged teal, wood duck, and blue-winged/cinnamon teal. Green-winged teal and wood duck are most concentrated on Karlson Island. Shorebirds feed in the tidal flats, low marsh, and high marsh habitats. Great blue heron feed in the subarea year round and occupy a larger nesting colony in a tidal spruce swamp on Karlson Island. The marshes and swamps of the subarea also contain a diverse array of land birds. The subarea provides important bald eagle habitat. Karlson, Marsh, and Quinns Islands have bald eagle nesting sites within the wooded tidal swamp habitats. In addition to supporting two nesting pairs of eagles, the subarea also provides feeding habitat for wintering and transitory eagles.

The marshes and swamps of the subarea receive the greatest aquatic and terrestrial mammal use in the estuary. Muskrat and nutria feed and den primarily in the tidal marshes. Muskrat are particularly abundant in the sedge-dominated low marshes. Beaver feed and den in the Sitka spruce and willow swamps while raccoon utilize the shrub swamps of the subarea. River otter feed in the tidal sloughs of the subarea's swamps. Two species of deer, the black-tailed deer and the Columbian white-tailed deer, utilize the subarea. Black-tailed deer feed in the swamps of the larger islands as well as on the mainland. Columbian white-tailed deer, an endangered species, occur on Karlson and Welch Islands.

Shoreland Features

The shorelands in the subarea consist of dredged material disposal sites on Welch and Fitzpatrick Islands and an inactive dredged material disposal site on Woody Island. These areas are primarily sandy with little wildlife value. The Soil Conservation Service is revegetating the eastern part of the Fitzpatrick Island disposal site. Welch Island is being revegetated by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service in accordance with an agreement on its use for dredged material disposal. Woody Island has been revegetating naturally. Only Fitzpatrick Island is designated as a dredged material disposal site in the *1986 Columbia River Estuary Dredged Material Management Plan.*

Human Use

Human uses in the area include dredged material disposal, log storage and transport, small boat navigation, sports and commercial fishing, hunting, trapping, and wildlife observation.

Issues

The main access point is at Aldrich Point, and the nearby islands probably receive more use than islands more distant from the boat ramp. Karlson Island is closed to all public use. Welch Island is subject to seasonal access regulations. Otherwise, the islands are open to the public, but access is difficult.

The use of duck shacks in the subarea's sloughs is an issue. They are sometimes used as permanent dwellings. The U.S. Fish and Wildlife Service believes that this level of use is incompatible with the refuge's goal of wildlife protection and management. The U.S. Fish and Wildlife Service does not provide any public access facilities for the refuges, and does not manage the refuges for public access. Increased public access, consistent with wildlife management needs, is desired locally.

Aquatic and Shoreland Designations

The marsh and tideflat areas and the formerly diked area on Karlson Island are Natural. All other water areas are Conservation.

The shoreland areas on Woody, Welch, and Fitzpatrick Islands are designated Conservation.

The dredged material disposal upland sites on Woody, Welch, and Fitzpatrick Islands are entirely within the regulatory shorelands boundary of Clatsop County. The dredged material disposal site on Fitzpatrick Island (CC-S-31.2) is listed in the *1986 Columbia River Estuary Dredged Material Management Plan.*

Subarea Policies

1. Measures that increase or enhance public access opportunities to the Wildlife Refuge are encouraged.

2. The use of heavy equipment in association with dredged material disposal on Welch and Fitzpatrick Islands is appropriate.

P 30.9 TENASILLAHE ISLAND

General Description

This subarea extends from Multnomah Slough (RM 35), which separates Welch and Tenasillahe Islands, to the pile dike (RM 38) at the upstream end of Tenasillahe Island, and includes the south side of the Main Channel and to the center of the Clifton Channel. Most of the perimeter of Tenasillahe Island is forested wetland. The remainder inside the dike is pasture land and wetland. The island is part of the Columbia White-tailed Deer National Wildlife Refuge. The entire subarea is in Clatsop County.

Aquatic Features

The aquatic portions of this subarea include waters adjacent to the main navigation channel and in Clifton Channel and tidal marshes and swamps which fringe Tenasillahe Island. Historically the subarea has undergone large changes. Tenasillahe Island once consisted of a large tidal marsh and swamp. It is now primarily diked pasture land and nontidal wetland. A small island south of Tenasillahe Island has been created from dredged material.

Physical characteristics in the waters surrounding the island areas are similar to those in the River Channels Subarea.

Phytoplankton, invertebrate, and fish productivity and species are similar to those in the River Channels Subarea.

Tidal marsh and swamp fringe the island. The tidal swamp on the south and east side of the island has been proposed for designation as a Federal Research Natural Area because it represents some of the last remaining habitat of tidally-influenced deciduous forest in the lower Columbia River that has not been altered by diking and ditching activities.

Many of the water bird species found in the Snag Islands and Cathlamet Bay Subareas utilize the waters and wetlands surrounding Tenasillahe Island. A pair of bald eagles nest in the tidal swamp on the southeast side of the island.

Aquatic and terrestrial mammal use of the marshes and swamps surrounding the island is similar to mammal use in the Upper Marsh Islands Subarea.

Shoreland Features

Shorelands include Tenasillahe Island and a small dredged material disposal island to the south. Tenasillahe Island is a diked, former tidal wetland. The small island to the south consists of sandy sediments dredged from the main navigation channel.

Vegetation on Tenasillahe Island includes pastures with a mix of grasses and rush, and wooded areas consisting largely of alder, willow, and cottonwood. There are several sloughs on the island which are surrounded by large nontidal wetlands. Several of the wetlands are classified as significant under Oregon Statewide Planning Goal 17.

Wildlife values on the island are high. The island serves as a wintering area for mallards, Canada geese, whistling swans, and other waterfowl species. Muskrat, nutria, and beaver are common. Tenasillahe Island is managed for Columbia white-tailed deer, an endangered species, by the U.S. Fish and Wildlife Service. The island's population of this species is between 50 and 60 animals.

Human Use

Human use of the area includes log storage and transport, small boat navigation, sports and commercial fishing, wildlife management and observation and grazing on the island. There is a log storage area along Clifton Channel and commercial fishing areas along both the Clifton and Main Channel sides of Tenasillahe Island. There is restricted public access to the island; however, a private duck hunting club has access during certain periods of the year to an area near Multnomah Slough.

The cumulative impact of diking has been significant in this area. Diking at the turn of the century resulted in the conversion of Tenasillahe Island from tidal marsh and swamp to pasture.

Issues

Log storage and public access are issues, as they are in the Upper Marsh Islands Subarea. The establishment and expansion of beach nourishment sites are also of concern.

Aquatic and Shoreland Designations

The waters of Multnomah Slough and other wetlands are Natural, except along Clifton Channel, where log storage sites are Conservation, and at the U.S. Fish and Wildlife Service boat dock, which is Conservation. The waters south of the Main Channel and Clifton Channels are classified Conservation.

The dikes and diked area of Tenasillahe Island are Conservation Shoreland. Much of the island is classified as a significant non-tidal wetland.

The entire diked portion of Tenasillahe Island and the small dredged material disposal island are included in the regulatory shorelands boundary of Clatsop County. The three dredged material disposal sites in this subarea designated in the *1986 Columbia River Estuary Dredged Material Management Plan* are on or adjacent to Tenasillahe Island: CC-B-36.8, CC-B-38.3, CC-S-38.3.

Subarea Policies

1. Measures that increase or enhance public access opportunities to the Wildlife Refuge are encouraged.

P 30.10 FORT STEVENS STATE PARK

General Description

This subarea encompasses the northern part of Fort Stevens State Park. The subarea extends east along the top of the South Jetty, over the existing dune ridge at the Jetty landfall, to meet and follow the western margin of the Russell-Clatsop Spit Road to the south. The subarea's boundary on the east is the Town of Hammond's Urban Growth Boundary. Included is the Swash Lake wetland area between the Town of Hammond Urban Growth Boundary and Trestle Bay. The aquatic area boundary is the -40 MLLW contour line to River Mile 3, and the -3 MLLW contour line thereafter, to its intersection with the south jetty. The entire subarea is in Clatsop County.

Aquatic Features

The northwest face of Clatsop Spit is a sandy beach area with significant wave energy impinging upon it. The northeast face of the spit, also a beach area, is an area of high erosion and strong currents.

Trestle Bay is a shallow embayment on Clatsop Spit consisting primarily of tidal flats, low marsh, and high marsh habitat types. A portion of the South Jetty and a trestle form a barrier across the bay, the jetty being overtopped regularly by tidal waters. Water passes freely through the jetty allowing for tidal exchange between the inner and outer portions of the bay. The marshes are cut by deep tidal channels, one of which, on the southeast margin, leads inland to Swash Lake, another area which is dominated by tidal marsh.

There is also a small tidal salt marsh on Clatsop Spit adjacent to the observation tower. It is covered by high salinity tidal waters coming directly in under the jetty from the ocean.

Little information exists on Trestle Bay sediments. Based on knowledge of similar environments, researchers speculate that most of the bay's sediments consist of very fine sand, silt, and clay year round. The sediments off of Point Adams range in mean grain size from medium to fine sand.

No information exists on circulation within Trestle Bay. Current speed is most likely very low within the portion of the bay enclosed by the jetty. The tides at Point Adams have an average range of 6.41 feet and an extreme range of 13.7 feet.

Salinity levels have not been measured within the bay. Surface salinities adjacent to the mouth of the bay range from less than 0.5 ppt to 20 or 30 ppt during high river discharge and from 5 t 30 ppt during low river discharge.

The plant types of Trestle Bay include phytoplankton, benthic algae, eelgrass, and brackish tidal marsh and swamp vegetation. Phytoplankton productivity has not been measured in the bay. Benthic microalgal productivity on the tidal flats ranges from high levels in the more protected inner portion of the bay to moderate levels in the outer bay. Sparse patches of eelgrass (Zostera marina) probably grow on the outer bay's tidal flats. It is the only location on the Oregon side of the estuary where this species is found. Tidal marshes and swamps form a wide band along much of the bay's shoreline. American Threesquare (Scirpus americanus) dominates the Trestle Bay lowest marshes while Lyngby's Sedge (Carex lyngbyei), and Pacific Silverweed (Potentilla pacifica) dominate higher elevation low marshes. Swash Lake low marshes consist primarily of (Scirpus validus), Common Cattail (Typha angustifolia), and Pacific Silverweed (Potentilla pacifica) dominate the subarea's high marshes. The high marsh assemblage is more species-rich than that of the low marsh. The swamps consist of an assemblage of shrubs and trees that grade into a similar upland community.

Little information exists on the invertebrates of Trestle Bay. Zooplankton and epibenthic organisms have not been studied and benthic infauna have only been sampled at one site in the outer bay. The principal taxa in the single infauna sample were Neanthes limnicola, oligochaetes, Macoma balthica, and Eohaustorius estuarius.

Fish community sampling has been conducted on tidal flats adjacent to the mouth of the bay only. No information exists on fish utilization of the portion of the bay enclosed by the jetty. The marine demersal species English sole (subyearlings), starry flounder, and Pacific staghorn sculpin utilize river areas near the bay much of the year. Juveniles of these species may use the bay as a nursery area. Threespine stickleback, a freshwater species, is also abundant near the bay. Adult Pacific herring and shiner perch migrate into the estuary in spring and summer and possibly spawn in the Trestle Bay subarea in summer. Longfin smelt ranging in age from yearlings to adults are abundant in the area year round. They may spawn in the bay during winter and spring. Juvenile herring, perch, and smelt may utilize the bay as a nursery area. Juvenile salmonids migrate primarily along the main channels and adjacent tidal flats in the lower estuary. Although several species of salmon migrate in the channel adjacent to the bay's mouth, the outer bay probably receives its greatest use by subyearling chinook and yearling coho salmon, which migrate in the estuary's channels and tidal flats in spring and summer.

Trestle Bay is a feeding, nesting, and wintering site for many species of birds. Migratory waterfowl, particularly swans, canvasback, scaups, surf scoter, ruddy duck, wigeon and bufflehead utilize the bay during their spring and fall migrations and winter in the bay. The mallard, a resident waterfowl species, feed in the slope, tidal flat, low marsh, and high marsh habitat types and nest in the marshes. The largest nesting colony of double-crested cormorants in the estuary exists on rows of pilings adjacent to the bay's rock jetty. Double-crested cormorants nest in spring, summer, and fall and feed in the bay year round. Snowy Plover and Sanderlings also nest in the subarea. Shorebirds and great blue heron feed on the tidal flats and in the low marshes of the bay.

Aquatic and terrestrial mammals utilize the marshes and swamps of the bay year round; however, mammal use is low compared to upriver wetlands. Several muskrat dens have been found along the tidal channels of the low and high marshes. In addition, beaver colonies have been found in non-tidal areas adjacent to the bay. Nutria, raccoon, and deer also utilize the subarea's marshes and swamps.

Shoreland Features

The shorelands of Clatsop spit are rolling foredunes stabilized by European beachgrass. Coastal strawberry, hairgrass, scotch broom and coastal pine are also present. The Columbia River Estuary shoreline up to Hammond consists of protected sandy beaches, river beaches, rock riprap and some shrub vegetation. The upland adjacent to Trestle Bay consists primarily of beachgrass. Stands of willow and alder as well as beachgrass form the upland adjacent to Swash Lake and to a lesser extent, at Trestle Bay. Trestle Bay is important for waterfowl, wading birds, shorebirds and raptors, as well as deer, elk, nutria, mink, beaver, raccoon and opossum.

Human Use

Intensity of human use in the Fort Stevens subarea varies from high to low. Most use centers around the community of Fort Stevens and the three parking lot areas on Clatsop Spit and includes sightseeing, bicycling, hiking, beachcombing, clamming, nature observation, and jetty and beach angling. Drift logs are used for firewood. There is also some illegal off-road use of the area by four-wheel drive vehicles, even in the salt marsh adjacent to the observation tower. The old gun batteries at Point Adams have been restored and a parking area developed.

Issues

Development potential of the area is restricted to recreation and historic preservation. The Clatsop Spit area is already developed as far as it is intended to be.

Erosion problems along Jetty Sands and on Clatsop Spit, just south of the South Jetty, use of the area by four-wheel drive vehicles, removal of beach logs, and the possibility of ocean waves breaching the spit south of the jetty are issues of concern. While some structural control over erosion south of the jetty may eventually be required, non-structural means of erosion control are more suitable in a state park.

Swash Lake in recent years has been the focus of attention as a possible mitigation site for several projects. There is potential for conflict between State Park management interests and potential developers considering Swash Lake as a possible mitigation site. It is designated as a potential mitigation match-up for development at the Hammond Boat Basin, but projects far off-site, for example the John Day River Bridge, have used or may be interested in using Swash Lake for mitigation.

Aquatic and Shoreland Designations

All aquatic areas are designated Natural.

Parts of Clatsop Spit are designated Natural, with the remainder as Conservation. The three developed parking areas are considered to be consistent with the conservation designation. The South

Jetty is classified as Development from Point Adams to its outer end. The shoreland area from Hammond northwest to Swash Lake is designated Conservation.

Mitigation sites are designated in the *Mitigation and Restoration Plan of the Columbia River Estuary*.

Subarea Policies

1. Off-road vehicles should not be permitted on dune or wetland areas in the park and should not traverse the wetland saltmarsh on Clatsop Spit.

P 30.11 YOUNGS BAY

General Description

Youngs Bay is one of the more biologically productive parts of the estuary. This subarea extends from the old Highway 101 bridges over the Youngs River and the Lewis and Clark River to the 20-foot bathymetric contour adjacent to the navigation channel of the Columbia River. It includes large fringing marshes, tideflats, open water, and restored wetlands at the Airport Mitigation Bank. The subarea boundary follows the shoreline, except adjacent to the Port of Astoria and the East Peninsula of the Skipanon River. No shorelands are included. Youngs Bay is in Warrenton, Astoria and Clatsop County.

Aquatic Features

Because of numerous development proposals, Youngs Bay is the most intensively studied bay of the estuary. The area has been considerably altered by human activity. The most important physical alterations have been diking of tidal marshes and spruce swamps, the filling of shallow areas, and the hydraulic alteration of the bay by channels, fills and causeways. Youngs Bay originally extended from Tansy Point to Smith Point, but the peninsulas at the mouth of the Skipanon River have completely separated Alder Cove from Youngs Bay, though the systems remain similar in their biology. The strongest effects on the bay's hydraulics have been exerted by the Skipanon peninsulas, the fills at Smith Point (Port of Astoria piers) and bridge causeways. The new Highway 101 causeway in particular has caused a marked reduction in currents and wave action in the interior of Youngs Bay. There has been extensive shoaling. Many of the adjacent diked areas were previously tidal marshes and swamps connected with Youngs Bay.

Tides in Youngs Bay and tributary streams are of the standing wave type. Thus, the tidal range increases somewhat from the port docks (8.0 feet) to the tidal reaches of the tributary streams (8.6 or 8.7 feet). High water is nearly simultaneous throughout the system and occurs at slack water. This type of tide is typical of shallow bays but atypical of the Columbia River Estuary.

Three water masses contribute to circulation in Youngs Bay: Columbia River fresh water, tributary fresh water and marine water. Fresh water flow in the Columbia River is greatest during the spring freshet in June; winter freshets also occur. Youngs Bay tributary flow is strongest in December and January, when local rainfall is at a maximum. Intrusion of saline marine water is governed primarily by Columbia River flow and secondarily by tributary flow. Salinities in Youngs Bay rarely exceed 10 to 15 parts per thousand even in the fall. Under these conditions, the vertical salinity differences are pronounced and salinity may intrude upriver along the bottom as far as RM 10 in the Youngs River and RM 6 in the Lewis and Clark River. During high flow periods for either the Columbia River or Youngs Bay tributaries, salinity is entirely or nearly absent from Youngs Bay.

Current patterns in Youngs Bay are complex. Eddies and stagnant areas prevail in the shallows. Stronger currents are found in the deep areas. Currents are highly variable, depending on winds, tides, freshwater flow and salinity intrusion.

Water quality is generally good in Youngs Bay; no serious pollutant sources are present and the flushing is excellent. Flushing times for the bay itself have been estimated to vary from 1 to 2 days, depending on tide and freshwater flow conditions. The flushing time of the tributaries below the head of tide is slower; 3.3 to 16 days for the Lewis and Clark River and 2.3 to 7.8 days for the Youngs River. Water quality in some smaller tributaries and sloughs such as the Little Walluski River is less favorable because of the poor flushing.

Sediments in the subarea range from medium to fine sand in the central bay to very fine sand, silt, and clay on the tidal flats. Youngs Bay appears to experience alternating periods of sedimentation and erosion, with variations occurring on time scales from storm events and seasons to years and decades. Sedimentation predominates (average rate throughout bay 1 cm/yr) and most strongly so in the shallow areas (up to 6 cm/yr). These observations are confirmed by bathymetric changes over the last century.

Aquatic plant types in Youngs Bay include phytoplankton, benthic algae, and tidal marsh and swamp vegetation. Phytoplankton productivity is low compared with the remainder of the estuary. Benthic algal productivity on the tidal flats and in the low marshes ranks among the highest in the estuary. Tidal flats along the west shore of Youngs Bay are particularly productive. Tidal marshes and swamps form a narrow fringe along most of the Bay's shoreline. Colonizing low marshes dominated by bulrush account for about half of the low marsh area. The remaining low marshes are dominated by Lyngby's sedge and are highly productive. The high marshes consist of a mixture of several species of herbaceous plants and shrubs. Shrub species dominate the tidal swamps. A 35-acre diked area on the west side of the Lewis and Clark River mouth was restored to tidal influence in 1987. This area is expected to develop low and high tidal marsh.

Invertebrate types that have been studied in the subarea include benthic infauna and epibenthic organisms. Benthic infauna densities rank among the highest in the estuary. Fish prey species such as amphipods and clams are abundant in the infauna community. The epibenthic organism community in the subarea also ranks among the most abundant in the estuary. Key species include small copepods such as Eurytemora affinis and larger animals such as sand shrimp.

Youngs Bay is a feeding area for many species of fresh and salt water fish. The Bay is also a particularly important nursery area for the juveniles of many species. The marine demersal species English sole, starry flounder, and Pacific staghorn sculpin utilize the bay as a feeding and nursery area. The English sole found in the bay are primarily subyearlings and are most abundant in the deeper habitats during the fall months. Abundant freshwater species in the subarea include threespine stickleback, peamouth, and prickly sculpin.

Pacific herring, shiner perch, and longfin smelt possibly spawn in Youngs Bay. Pacific herring spawn in the estuary from April through July. Yearling and older herring, however, are not abundant in the bay. Subyearlings become abundant in the bay in summer. Youngs Bay is more important as a nursery area than a spawning area for Pacific herring. Shiner perch bear their young in the estuary in June and July. Yearling and older perch become particularly concentrated in the bay during this period. Subyearling perch utilize the bay as a nursery area in summer and fall. Longfin smelt spawn in the estuary from November through March. Smelt ranging in age from yearlings through adults utilize Youngs Bay throughout the year and are abundant in fall. Larval longfin smelt appear in the estuary in winter and spring and subyearlings utilize the bay as a nursery area primarily in fall.

In addition to longfin smelt, several other anadromous species, including American shad and the salmonids, utilize the bay as a migration route and nursery area. American shad spawn in tributaries to the bay from June to August. Adult American shad migrate through the bay in June and July and juveniles in November and December. Because these spawning runs are relatively small, American shad are less abundant in Youngs Bay than in the main stem of the estuary. All of the salmonid species abundant in the estuary utilize Youngs Bay as a migration route or nursery area. Subyearling Chinook salmon utilize the bay as a nursery area year round and are abundant during their spring migration. These juvenile Chinook include populations which have migrated from upriver as well as from natural spawning areas and hatcheries in the tributaries of the bay. Yearling Chinook and coho and juvenile steelhead and cutthroat trout migrate through the bay primarily in spring. The yearling Chinook populations represent upriver stocks, while the coho and steelhead populations originate both upriver and in natural spawning areas and hatcheries in the bay's tributaries.

The Youngs Bay subarea provides habitat for several species of resident and migratory birds. Double-crested cormorant feed in the subarea year round while pelagic cormorant utilize the subarea primarily in winter. The subarea's marshes and tidal flats provide habitat for migratory waterfowl, especially swans, canvasback, scaups, and scoters. These birds are abundant in winter and during their spring and fall migrations. The western grebe, another migratory species, is abundant in the subarea and uses Youngs Bay as a staging area before its spring migration. Mallard, a resident waterfowl species, utilize the subarea year round. Western and glaucous-winged gulls feed in the subarea year round. Shorebirds utilize the tidal flat and low marsh habitats during all seasons but are most abundant during their spring and fall migrations. Great blue heron feed in the tidal flats and marshes of the subarea year round. They are particularly abundant in spring and summer in association with their use during the nesting season of a rookery near the mouth of the Youngs River.

Aquatic and terrestrial mammals utilize the marshes of the subarea; however, mammal use is low compared with upriver wetlands. Muskrat and nutria use the low and high marshes for feeding and denning. Raccoon feed in the high marsh habitats of the subarea.

Human Use

The primary uses are recreational boating and fishing, commercial fishing, and log transport.

The cumulative impacts of diking, shore protection, bridge construction and other human activity in Youngs Bay has been significant. Circulation, aquatic habitat and public access have all been affected.

Issues

Youngs Bay is surrounded by Warrenton and Astoria. Several land use disputes have centered around proposed fills in Youngs Bay or uses of nearby shorelands that might have polluted the bay. Prime industrial sites on the shorelands adjacent to Youngs Bay include the East Peninsula of the Skipanon River and the Astoria Airport. These sites could be made larger by filling productive shallow areas.

The use of the bay and tributaries for fisheries-related uses will probably increase. The Clatsop Economic Development Committee's fisheries project on the north shore of the bay has been successful and is expanding. The physical characteristics of Youngs Bay, including good water quality, adequate depth at certain sites, and access to shoreland sites make it particularly suitable for aquaculture. The salmon gillnet fishery in Youngs Bay has increased in size in recent years, with rising production at the Oregon Department of Fish and Wildlife's Klaskanine Hatchery and the two Clatsop Economic Development Committee hatcheries on the south fork of the Klaskanine and on Tucker Creek. Youngs Bay gillnetters participate in a system of voluntary assessments to pay for the Clatsop Economic Development Committee hatchery projects. A net pen salmon smolt rearing project on the north shore of the bay is expected to increase salmon runs.

The Oregon Department of Transportation has proposed to reroute and expand Highway 30 so that the main-stem transportation system will by-pass downtown Astoria. The proposed rerouted Highway 30 will join Highway 202 near the mouth of Youngs River and proceed to Smith Point, to the Highway 101 causeway bridge. This reroute and expansion necessitates widening the existing Highway 202 and West Marine Drive. This will require filling portions of the northern shoreline of Youngs Bay. Proposals being investigated during the environmental impact analysis phase include widening the existing road approximately 50 feet and filling from 1 to 6 acres of aquatic areas in Youngs Bay and at the mouth of Youngs River. Resource agencies have raised concerns about the fill, indicating that impacts on the aquatic resources need investigating as the actual productivity of the aquatic areas in the northeastern portion of Youngs Bay is virtually unknown. The construction phase of the project is not scheduled to begin until 1995-1996.

A major limitation on development of shorelands adjacent to Youngs Bay to the west is the limited land transportation system. Navigational access to the Youngs Bay shoreline is limited by fringing tidal marshes, shallow water and the high shoaling rate. Commercial use of the bay in the near future will probably be limited to log transport and fishing. Recreational boating and fishing will probably increase. There is a need for support facilities along the shore of Youngs Bay for recreational and commercial fishing vessels.

Severe contamination of both upland and tidal flat sediments at the old Pacific Power and Light coal gasification plant on Youngs Bay was discovered in 1984. There was evidence of contamination of aquatic organisms (not including fish) as well as groundwater contamination. The sampling identified carcinogenic polynuclear aromatic hydrocarbons (PAHs) and benzene as the contaminants of primary concern in the coal tars. A remedial action program was developed in coordination with the Environmental Protection Agency and the Oregon Department of Environmental Quality. The old PP&L Service Center building was demolished in 1985 and the rubble was disposed on-site, then covered with sand and several feet of topsoil. Warning signs were placed around the contaminated area. A groundwater monitoring program indicated mainly localized groundwater contamination.

The dike adjacent to the airport runway designated for an instrument landing system, which once intruded into the clear zone of that runway, was moved waterward in 1984-85. Spruce and other vegetation from approximately one acre outside the present dike was also removed. This activity was mitigated by building a new dike landward of the previous dike east of the airport, creating a new marsh area. The old dike was then breached to restore the area to tidal influence. A 35-acre mitigation bank was created. The mitigation bank is administered by the Oregon Division of State Lands. An exception to Oregon Statewide Planning Goal 16 was approved for this action.

Aquatic Designations

The authorized navigation channels are designated Development. The mud flats, tidal flats, and fringing marshes are designated Natural, except for areas adjacent to the old PP&L facility, the site of a former net storage building south of the new Youngs Bay Bridge, and the existing structure at the Columbia Boatworks, which are designated Conservation. All other water areas are designated Conservation.

Subarea Policies

1. Proposed developments shall be evaluated for their impact on existing aquaculture operations. Aquatic sites that are especially suited for aquaculture development shall be reserved for that use whenever possible.

2. Development of the aquatic area adjacent to the old Pacific Power and Light facility shall be evaluated for its impacts related to contaminated sediments buried on-site. Potential exposure of coal tar pollutants from disturbance of contaminated sediments shall be avoided.

P 30.12 LEWIS AND CLARK RIVER

General Description

This subarea includes the Lewis and Clark River and diked and flood-plain areas on the Lewis and Clark River and tributary sloughs between the Alternate Highway 101 bridge and the head of tide. The subarea is within Clatsop County.

Aquatic Features

The aquatic portion of the subarea consists of the Lewis and Clark River and the marshes fringing the river shore. Diking has brought about large changes in this subarea in the past century. Prior to diking activities, the river was flanked by broad tidal swamps. Most of the present fringing marshes along the river shore formed after the dikes were constructed.

The Lewis and Clark River has an annual average discharge of 255 cubic feet per second (cfs). Monthly average discharges can exceed 600 cfs in December and January, and are typically less than 100 cfs in summer and fall. Two-thirds of the total annual river discharge occurs during the period of December through March. Tidal flow reversals are evident as far upstream as Lewis and Clark River Mile 6 during low discharge periods and River Mile 2 during high discharge periods.

Salinity levels in the subarea depend on the salinity of Youngs Bay water and the volume of Lewis and Clark River discharge. Youngs Bay is freshwater during the spring and summer Columbia River freshet, hence the Lewis and Clark River is freshwater. By late summer, the mouth of the Lewis and Clark River exhibits salinities of 1 to 2 ppt. In fall, salinities at the river mouth average 2 to 8 ppt and saline water intrudes to Lewis and Clark River Mile 6. In winter, the high runoff of the Lewis and Clark River prevents saline water from entering the river.

Sediments have been quantitatively sampled at two sites in the river. At Lewis and Clark River Mile 7.5, the sediments consist of medium and coarse gravel. The lower river sediments consist mainly of fine sand and silt.

Of the river's plant types, only phytoplankton and tidal marsh and swamp vegetation have been studied. Information on these plant types exists for the lower river only (to about RM 2.5). Phytoplankton productivity in the lower river ranks among the highest measured in the estuary. The lower river marshes are similar to those in Youngs Bay (see Youngs Bay Subarea Plan).

Invertebrate and fish species using the river are similar to those in Youngs Bay (see Youngs Bay Subarea Plan).

Several anadromous species are known to spawn in the river. American shad spawn in the upper portion of the river from June through August. Fall Chinook spawn in August and September, coho from August through October, and steelhead from November through March.

Wildlife use of the subarea is similar to that in Youngs Bay (see Youngs Bay Subarea Plan).

Shoreland Features

Most shorelands in this reach are low, diked lands in the 100 year floodplain. Soils are of the Coquille-Tidal Marsh (fresh) - Clatsop and Walluski-Knappa Associations. The soils are fair to good for agricultural use. Most of the land is or has been in agricultural production. There are few houses in the subarea.

Several tidegated sloughs drain the shorelands. These are significant wetlands under Oregon Statewide Planning Goal 17. In addition, emergent wetlands east of the Fort Clatsop Memorial are classified as significant.

Wildlife use of the shorelands is high.

Human Use

Land uses include agriculture (largely grazing), rural housing, and the log dump owned by Cavenham Forest Products. Highway access is provided by Alternate Highway 101 and county roads. Water is private or provided by the Youngs River and Lewis and Clark Water District. There is no sewer system. The scenic value of the river is high. The Fort Clatsop National Memorial commemorates the winter headquarters of the Lewis and Clark Expedition. The major human uses of the waters are fishing, log sorting, storage and transport, and recreational boating. There are two active diking districts in the subarea.

The cumulative impact of dike construction on circulation and aquatic habitat has been substantial. Large areas in this subarea have been converted from marsh/swamp habitat into agricultural use.

Issues

There is limited development potential because of the flood hazard, poor transportation network and distance from developed areas. Some housing development may occur on adjacent upland areas.

Dredging of the Lewis and Clark River channel (10 feet deep and 150 feet wide) was at one time authorized, but has since been deauthorized. However, private dredging occurs in the river.

Maintenance of fresh water flow and water quality during summer minimum flow periods is important for continuation and enhancement of fish runs. There is potentially a conflict between public water supply and the need to maintain minimum stream flows.

This subarea includes hundreds of acres of farmland and many residences which are dependent upon an extensive diking and drainage system for protection from flooding. The maintenance of this system is the responsibility of local diking districts which have limited funds. In some instances the only economically feasible material for dike maintenance are river bottom sediments outside the dike.

An exception to Oregon Statewide Planning Goal 16 has been approved to allow subtidal dredging for dike maintenance.

Public access to the Lewis and Clark River is limited. Construction of a small boat ramp would significantly improve this situation. Concerns have been raised by local landowners about the potential negative impacts of increased public access. Problems cited by riparian owners include trespassing, damage to dikes, and erosion caused by boat wakes.

Aquatic and Shoreland Designations

The river channel from the Alternate Highway 101 bridge to the upstream end of the Cavenham log booming area is designated Development. Adjacent to the Development Shoreland (Miles Crossing Subarea) south of the bridge and including the mouth of Jeffers Slough, the aquatic area from the shoreline out to the channel is designated Development.

Shorelands at the Cavenham log dump are designated Water-Dependent Development. The Fort Clatsop National Memorial and a small forested shoreland area are designated Conservation. Remaining shoreland is designated Rural.

The regulatory shoreland boundary in this subarea is 50 feet from the shoreline, or from the inland toe of dikes and associated toe drains, which-ever is greatest, except where it extends farther inland to include the following features:

1. Significant riparian vegetation along the following tidegated sloughs: Jeffers Slough, Barrett Slough, Green Slough, and other unnamed diked sloughs, as shown on Columbia River Estuary Resource maps; and significant riparian vegetation along the banks of the Lewis and Clark River to the head of tide as shown on Columbia River Estuary Resource Maps.

2. Jeffers Slough, Barrett Slough, Green Slough and other unnamed diked sloughs providing significant wetland habitat as shown on Columbia River Estuary Resource Maps.

3. A log-dump site designated Water-Dependent Development.

4. The following dredged material disposal sites listed in the *1986 Columbia River Estuary Dredged Material Management Plan*: CC-S-12.9, CC-S-12.7.

5. Mitigation and restoration sites designated in the *Mitigation and Restoration Plan for the Columbia River Estuary*.

Subarea Policies

1. Existing log storage areas should be inventoried to determine where logs rest on the bottom at low water. Use of these areas should be minimized and phased out as new sites adequate to meet industry needs are provided.

2. Boat ramps on the Lewis and Clark River shall be sited and designed to minimize negative impacts on adjacent properties. Only relatively small ramps offering access to smaller boats may be permitted.

P 30.13 MILES CROSSING

General Description

This subarea extends between the intersection of Clover Lane with Jeffers Slough at the southwest, around the peninsula separating the Lewis and Clark River and the Youngs River, and Miller Slough toward the southeast. There are no estuarine aquatic areas in this subarea. The subarea is within Clatsop County.

Shoreland Features

The subarea's shorelands, except for the causeway fill for the Old Highway 101 bridge over the Youngs River, are diked. The area is entirely within the 100 year floodplain, with the exception of the highway and some lands north and west of the highway. The subarea consisted of tidal marsh and swamp before it was diked.

Soils are of the Coquille-Tidal Marsh (fresh) - Clatsop Association and topography is flat. Because the land is low, the agricultural suitability is fair to moderate, and there is no timber of commercial value. Much of the subarea is developed with residential, commercial and light industrial uses.

There are several tidegated sloughs in the subarea. The larger sloughs are classified as significant wetlands under Oregon Statewide Planning Goal 17. Wildlife values are high in the undeveloped areas and low in the developed areas.

Human Use

The major agricultural use is grazing. Other land uses include rural and low density residential housing, commercial uses and light industry. The only water-dependent uses are the AMCCO Shipyard on the Lewis and Clark River, a small shipyard north of AMCCO, and boat construction at the mouth of Cook Slough. Commercial and industrial uses are concentrated along Alternate Highway 101. County roads provide access to nearby rural areas.

There is no sewer system, and septic tank suitability is poor. Sewering the area would probably require connection to the Warrenton or Astoria sewer systems.

Water and marsh areas adjacent to this subarea are used for hunting, fishing, boating and trapping. Some shoreline views are scenic.

Issues

Major portions of this subarea were considered for inclusion in Astoria's Urban Growth Boundary in the late 1970s. The City and some commercial interests favored inclusion. A large majority of area residents who voiced their opinion were opposed. A decision was made not to include the area. Future inclusion may be possible (see subarea policy below).

The area has development potential due to its proximity to Astoria and the availability of flat land. This potential is constrained, however, by the lack of sewers, flood hazard, and poor soil suitability. Water-oriented development is feasible only along the Lewis and Clark River.

This subarea includes hundreds of acres of agricultural land and many residences which are dependent upon an extensive diking and drainage system for protection from flooding. The maintenance of this system is normally the responsibility of local diking districts which have limited funds. An exception to Oregon Statewide Planning Goal 16 has been approved to allow subtidal dredging for dike maintenance. The Corps of Engineers has completed a plan to rehabilitate the dikes in this subarea. As of the date of this Plan, no dike work has begun.

A boat construction facility adjacent to the tide box at the mouth of Cook Slough is presently being used for construction of steel-hulled fishing vessels. Extensive shoaling has substantially reduced water depths and launching is extremely difficult. The dredging of a "pothole" in the area would allow vessels to be launched in a safe manner and would permit the vessels to be moored at this location while final outfitting takes place. Movement out to the main river channel could occur at high tide. Continued shoaling of this area, however, could result in shallow water depths which would not allow the movement of these vessels (drafts of approximately 9 feet) out to the river channel even on the highest tides. Under those circumstances limited dredging for ingress and egress to the area would be appropriate. An exception to Oregon Statewide Planning Goal 16 will be required to permit this dredging.

Shoreland Designations

All shorelands in this subarea are designated Rural, except for the existing industrial zone on the east bank of the Lewis and Clark River which is designated Water-Dependent Development, and the existing industrial zone between Alternate Highway 101 and Knowland Slough; which is designated Development.

The regulatory shoreland boundary in this subarea is 50 feet from the Youngs Bay shoreline, or from the landward toe of dikes and associated toe drains, whichever is greatest, except where it extends further inland to include the following shoreland features:

1. Significant riparian vegetation along Knowland Slough, Jeffers Slough, Cook Slough and other unnamed sloughs, as mapped on Columbia River Estuary Resource Maps; and significant riparian vegetation along the Youngs Bay shoreline, as shown on Columbia River Estuary Resource Maps.

2. Jeffers Slough, Cook Slough, Knowland Slough, and other unnamed tidegated sloughs providing significant Goal 17 wetland habitat as shown on Columbia River Estuary Resource Maps.

3. The Astoria Marine Construction (AMCCO) boatworks, in a Water-Dependent Development Shorelands designation; a small boat shop about 1,500 feet downstream from the AMCCO facility, also in a Water-Dependent Development Shorelands designation; a partially developed site at the mouth of Cook Slough, also in a Water-Dependent Development Shorelands designation; and mitigation and restoration sites designated in the *Mitigation and Restoration Plan for the Columbia River Estuary*.

Subarea Policies

1. The Rural designation in the Miles Crossing area recognizes that there are no plans to include this area in the Astoria Urban Growth Boundary (UGB) at this time. However, there are commitments between the County and City to reconsider the UGB issue during future review and update of plans. In the meantime, the nature and intensity of new uses should be consistent with the Rural designation and availability of public services.

P 30.14 YOUNGS RIVER

General Description

This subarea includes the aquatic and shoreland areas of Youngs River above the Old Highway 101 bridge upstream to the head of tide. On the west side of the river, the shoreland north of Millers Slough is not included. The boundary of this subarea in Astoria is the pierhead line between the bridge and the point where the Astoria city limits intersect the Youngs River shoreline. The subarea is under Clatsop County's jurisdiction.

Aquatic Features

The aquatic areas in this subarea include the Youngs, Walluski, and Klaskanine Rivers to the head of tide and adjacent tidal marshes and swamps. Diking has brought about large changes in this subarea in the past century. Broad tidal marshes and swamps flanked the shores of the rivers prior to being converted to agricultural land by diking and clearing. Most of the narrow fringing marshes along the rivers' shores formed after the dikes were built.

Youngs River has an average annual discharge of 560 cubic feet per second (cfs). Monthly average discharges can exceed 1,200 cfs in December and January, and typically range around 100 cfs in summer and fall. Two-thirds of the total annual river discharge occurs during the period of December through March. Flow reversals are evident as far upstream as Youngs RM 9.5 during average river discharge and RM 6 during high discharge.

The salinity levels in Youngs Bay and the discharge levels of Youngs River determine the salinity of the river. During the Columbia River freshet, both Youngs Bay and River are entirely freshwater. In fall, salt water intrudes into Youngs Bay and the mouth of Youngs River exhibits salinities of 4 to 10 ppt with significant salinity stratification. Brackish water moves up the river to RM 10. In winter, Youngs River becomes entirely freshwater.

The sediments of Youngs River grade from coarse-grained in upriver areas to fine-grained in downriver areas. The sediments consist of cobbles and boulders upriver from the Klaskanine River confluence. The river bed grades from sand to silt between the Klaskanine River confluence and Daggett Point. Fine suspended sediments tend to settle out in the portion of this stretch of river between the Walluski River confluence and Daggett Point. The sediments become coarser silt downriver from Daggett Point.

The plant types of the Youngs River Subarea include phytoplankton, benthic algae, and tidal marsh and swamp vegetation. Phytoplankton productivity levels in the lower river rank among the highest measured in the estuary. Benthic algal productivity on the lower river tidal flats is moderate to high. There is no information on phytoplankton or benthic algal productivity upriver from RM 5. Data on marsh production and community composition exist for the lower river only (to RM 8). The tidal low marshes near the river mouth resemble the brackish marshes of Youngs Bay, while those farther upriver resemble the freshwater marshes of Cathlamet Bay (see Youngs Bay and Cathlamet

Bay Subarea Plan). The dikes surrounding Haven Island were breached in the early 1980's and the island is reverting to tidal marsh.

Invertebrate and fish utilization in the subarea is similar to Youngs Bay (see Youngs Bay Subarea Plan).

Several anadromous species are known to spawn in the river. American shad spawn in the upper portion of the Youngs and Walluski Rivers from June through August. Fall chinook spawn in the Klaskanine River in August and September, coho in the Youngs and Klaskanine Rivers from August through October, and winter run steelhead in the Youngs and Klaskanine Rivers from November through March. In addition hatcheries on the Klaskanine River releases fall chinook, coho, and steelhead.

Bird and wildlife use of the subarea is similar to Youngs Bay (see Youngs Bay Subarea Plan). A great blue heron nesting colony exists east of the subarea on Brown's Creek. Heron from this colony feed in Youngs River and Bay. Much of the subarea is within the home range of a nesting pair of bald eagles. The pair nests east of Youngs River near Cooperage Slough.

Shoreland Features

Most shorelands in this reach are low diked lands in the 100 year floodplain. Soils are of the Coquille-Tidal Marsh (fresh) - Clatsop, Walluski-Knappa, and Nehalem Associations. These soils are fair to good for agricultural use. Most of the land is or has been in agricultural production. There is some commercially valuable timber in the subarea. Adjacent uplands are highly productive timberland. There is rural housing development along the main roads passing through the subarea.

Several tidegated sloughs drain the shoreland of the subarea. Most of the large sloughs are significant wetlands under Oregon Statewide Planning Goal 17.

Bird use of the shorelands is high and mammal use is high in the undeveloped areas and adjacent to the rivers and wetlands.

Human Use

Major land uses are agriculture and rural housing. Highway access is provided by Oregon Highway 202 and county roads. Water is provided by three water districts; there is no sewer system, except at the old naval hospital. The scenic value of the river is high. There is a County park at Youngs River Falls and there are several undeveloped access points for angling.

The major human uses of the aquatic areas are fishing, log storage and transport, and recreational boating. There is one active diking district and one defunct diking district on the Youngs and Klaskanine Rivers. Most dikes throughout the area have been maintained by barge-mounted dragline. An exception to Oregon Statewide Planning Goal 16 has been approved to allow subtidal dredging for

dike maintenance. The Corps of Engineers has completed a plan to rehabilitate the dike from the Miles Crossing subarea to Binder Slough. As of the date of this plan, work has not begun.

The cumulative impact of diking in this subarea has been substantial. Nearly all of the former marshes and swampland along the rivers have been converted to agricultural use. Remaining intertidal areas are greatly diminished relative to their pre-diking size.

Issues

There is limited development potential in this subarea because of the flood hazard, poor transportation network and distance from developed areas. Residential development may occur on adjacent upland areas. The old naval hospital site is on high ground near the intersection of Youngs and Walluski Rivers, has water and sewer systems, and could be developed. Increased residential use in the Youngs River area is likely. Water-related issues include the preservation of diked, freshwater wetlands, log storage in wetland areas where logs may go aground at low water, and the dredging of shallow productive areas for fill material to maintain dikes.

The Oregon Department of Transportation has proposed to reroute and expand Highway 30 so that the mainstem transportation system will by-pass downtown Astoria. The proposed reroute will join Highway 202 near the mouth of Youngs river. The proposed reroute and expansion will necessitate widening the existing Highway 202 and West Marine Drive, which will require filling portions of the northern shoreline of Youngs River and Bay. The proposals being investigated during the environmental impact analysis phase consider filling from 1 to 6 acres in Youngs River and Bay. Portions of the road may extend approximately 50 feet into the aquatic areas. Resource agencies are concerned that the actual impact on aquatic resources may be underestimated because the productivity of the northern shoreline of Youngs Bay and River is virtually unknown. The construction phase of the project is not scheduled to begin until 1995-1996.

This subarea includes hundreds of acres of farmland and many residences which are dependent upon an extensive diking and drainage system for protection from flooding. The maintenance of this system is the responsibility of local diking districts which have limited funds. In some instances the only economically feasible material for dike maintenance are river bottom sediments outside the dike.

The Youngs River subarea contains significant natural values which should be protected. Except for extensive diking, people have changed this environment to a lesser extent than many other portions of the estuary. There is a substantial local and state investment in fisheries enhancement. The state and Clatsop Economic Development Committee operate fish hatcheries on the Klaskanine River. Expansion of these fish-rearing efforts is planned. The construction of a fish ladder at Youngs River Falls and the use of the area for mitigation sites could result in development of the river as an extremely valuable fisheries resource. Youngs River Falls has also been considered as a potential hydroelectric development site.

Aquatic and Shoreland Designations

The authorized navigation channel in Youngs River is designated Development to Haven Island. The following aquatic areas are designated Natural: Cooperage Slough, Grant Island, Haven Island, Fry Island, and the tidal flats downstream of the Walluski River on both sides of the river including Daggett Point. Remaining aquatic areas are designated Conservation.

Shorelands in this subarea used for agriculture and associated uses are designated Rural. Areas along the upper tidal reaches of the Walluski, Klaskanine, and Youngs River, and shorelands used primarily for timber production are designated Conservation.

The regulatory shoreland boundary in this subarea is 50 feet from the Youngs River shoreline, or from the landward toe of dikes and associated toe drains, whichever is greater, except where it extends farther inland to include the following shoreland features:

1. Significant riparian vegetation along both banks of the Youngs River, the Walluski River, the Little Walluski River, Crosel Creek and the Klaskanine River to the head of tide, as mapped on Columbia River Estuary Resource Maps; and significant riparian vegetation along diked sloughs as shown on Columbia River Estuary Resource Maps, including Sales Slough, Binder Slough, Casey Slough, Tucker Creek Slough, Battle Creek Slough and other unnamed sloughs.

2. An eagle's nest near Cooperage Slough and a 50-foot buffer around the next tree.

3. Sales Slough, Binder Slough, Tucker Creek Slough, Battle Creek Slough, Casey Slough and other unnamed sloughs providing significant Goal 17 wetland habitat as shown on Columbia River Estuary Resource Maps.

4. Mitigation and restoration sites as designated in the *Mitigation and Restoration Plan for the Columbia River Estuary*.

Subarea Policies

1. Existing log storage areas should be inventoried to determine where logs rest on the bottom at low water. Use of these areas should be minimized and phased-out as new sites adequate to meet industry needs are provided.

2. To protect present investments and the future potential of the fisheries resource of the Youngs River, new development in the area shall be carried out so as to preserve water quality, biological productivity, and other factors which contribute to fisheries production.

P 30.15 TONGUE POINT

General Description

This subarea covers both shorelands and aquatic areas between the navigation channel on the north, the MARAD Basin on the east, the Astoria Urban Growth Boundary on the south, Highway 30 on the west (from the Astoria Urban Growth boundary on the south to Mill Creek), and the Burlington Northern Railroad right-of-way (from Mill Creek to the Astoria sewage ponds). This subarea contains the former Tongue Point Naval Station and finger piers, portions of the federal Job Corps Center, and the U. S. Army Corps of Engineers Field Station. The area is in the Astoria Urban Growth Boundary, under the jurisdiction of Clatsop County.

Aquatic Features

The aquatic areas include the access channel to Tongue Point from the Columbia River, the area surrounding 8 large finger piers, the MARAD Basin between Mott Island, Lois Island and South Tongue Point, the tidal flats and marshes adjacent to the Corps of Engineers Field Office, and water areas west and north of Tongue Point and the Coast Guard piers.

The aquatic area adjacent to Tongue Point has been highly altered by human activities. Prior to 1939, the area between the mouth of the John Day River and Tongue Point was an area of shallow waters, tidal flats, and marshes. The railroad track marked the approximate shoreline east of the neck of Tongue Point, except on the west side of the John Day River mouth, where the railroad track cut off a shallow embayment. The present Mott and Lois Islands were tidelands or waters up to 15 feet deep. The material dredged from the entrance channel into Tongue Point and the MARAD Basin was used to form virtually all of the low-lying, flat lands of the present Tongue Point and Corps of Engineers facilities. Mott and Lois Islands in the adjacent subarea were also formed with this material.

The aquatic area north and west of Tongue Point differs markedly from the basin formed by the Point and Lois and Mott Islands. The aquatic characteristics north and west of Tongue Point are discussed in the Estuary Channels Subarea Plan.

The partially enclosed aquatic area east of Tongue Point is characterized by slower currents, finer sediments, and lower salinity than the main channel. The entrance channel into Tongue Point ranges from about 40 feet deep at the mouth to about 25 feet deep east of the finger piers. The adjacent turning basin is approximately -34 feet MLLW. The MARAD Basin is generally between 20 and 26 feet deep. Depths between the finger piers are generally less than 15 feet. A band of intertidal areas, including tidal flats, marshes, and swamps, surrounds the south Tongue Point peninsula. This intertidal area varies from 300 to 1,500 feet in width and averages about 500 feet in width. Currents and flushing in these waters east of Tongue Point result primarily from tidal flow. Columbia River flow through the south channel is relatively small and the discharge of the John Day River is inconsequential.

Sediments in the area east of Tongue Point consist primarily of very fine sand, silt, and clay. Organic content is fairly high in some areas, and a potential layer of navy grey paint in the MARAD Basin may cause the sediments to be polluted according to EPA standards. Based on bathymetric surveys and core studies, the average sedimentation rate in the MARAD Basin is 4-6 cm/yr (about 2 in/yr) at the present depth of 20-26 feet below MLLW.

Tidal marshes and swamps in the subarea exist primarily around the south Tongue Point peninsula. The tidal swamps form an approximately 250-foot wide band around the peninsula. They contain primarily shrub species. The tidal marshes form a fringe waterward of the swamps. This fringe extends 1,200 feet on the north side of the peninsula. Softstem bulrush (Scirpus validus) dominates the lowest elevation marshes while Lyngby's sedge (Carex lyngbyei), reed canary grass (Phalaris arundinacea) and cattail (Typha angustifolia) dominate the higher elevation marshes.

Of the estuary's invertebrate types, only benthic infauna have been sampled in the area east of Tongue Point. Important fish prey items such as amphipods (Corophium salmonis), insect larvae (chironomids), and freshwater clams (Corbicula manilensis) dominate the infauna community. Infauna biomass is high compared with sandy areas of the estuary.

Fishes found to be abundant in the subarea include species tolerant of freshwater conditions and anadromous species. Two marine demersal species tolerant of freshwater, starry flounder and Pacific staghorn sculpin, utilize the subarea. Subyearling starry flounder are particularly abundant in summer. Another marine species, whitebait smelt, has been found in the subarea in winter. The most abundant freshwater species in the subarea are threespine stickleback and peamouth. White sturgeon are also abundant.

Two species that spawn in the estuary, longfin smelt and shiner perch, utilize the subarea. Longfin smelt, an anadromous species, spawns from November through March. Smelt ranging in age from yearlings through adults are found in the subarea in winter. Larval longfin smelt appear in the estuary in winter and spring and subyearlings utilize the subarea as a nursery area in fall. The subarea is probably important to shiner perch only as a nursery area because only subyearling perch are abundant. They use the subarea primarily in summer.

In addition to longfin smelt, several other anadromous species, including American shad and the salmonids, use the subarea as a migration route and nursery area. Adult American shad migrate upriver in June and July. Most of the upstream migrants are destined for spawning areas upriver from the estuary and do not pass through the subarea. Some, however, migrate through the subarea and spawn in the John Day River. Juvenile American shad migrate downriver primarily in November and December. Juvenile shad, originating from upstream spawning areas as well as from the John Day River, use the subarea as a nursery area. The subarea is also a nursery area for juvenile salmon. Subyearling Chinook salmon are abundant during their spring and summer migrations and remain fairly abundant through fall and winter. Yearling coho are found in greater abundance in the subarea than in other estuarine areas during their spring migration. Yearling Chinook and juvenile steelhead and cutthroat trout migrate through the subarea primarily in spring.

The subarea provides habitat for several species of resident and migratory birds. Double-crested cormorant are found in the subarea in winter while pelagic cormorant are found in spring, fall, and winter. Common merganser, a resident waterfowl species, utilize the subarea in fall and winter.

Western grebe, a migratory species, winters in the subarea. The tidal flats and low marshes provide feeding areas for great blue heron year round and for shorebirds primarily in spring.

Bald eagle use of the Tongue Point area was studied intensively in 1984 and 1985. The subarea is used by a resident pair of eagles, referred to as the Mill Creek pair, and by transitory and wintering eagles. The Mill Creek pair's nesting site is located about 2,500 feet east of the subarea along Mill Creek. The nesting area is protected under Astoria's Comprehensive Plan and by state and federal regulations. Another eagle pair nesting several miles to the east, the Twilight Creek pair, use the extreme eastern part of the Tongue Point Subarea. This pair is discussed in the John Day-Eddy Point Subarea Plan.

The home range or territory of the Mill Creek pair encompasses the entire Tongue Point subarea and portions of the adjacent subareas. The eagles' use of the subarea includes use of old growth conifer perch trees at the tip of Tongue Point, just south of the mouth of Mill Creek, and on the north and south tips of the south Tongue Point peninsula. The primary foraging areas for the pair include the mudflat off the mouth of Mill Creek and Taylor Sands (see Estuary Sands Subarea Plan). The Mill Creek site is used more often in winter while the Taylor Sands site is used more often during the nesting season. The pair also forage in the aquatic area around the periphery of Tongue Point and off the southern tip of the south Tongue Point peninsula.

Wintering and transient eagles use the subarea from November through August. Peak numbers occur in March. The perch trees and foraging area off the mouth of Mill Creek are also used by these eagles. This area is used much less frequently by these eagles than perching and foraging areas east of Lois Island (see Cathlamet Bay Subarea Plan).

In and adjacent to the foraging area off the mouth of Mill Creek, the Mill Creek pair exhibit a high tolerance of motor vehicles and trains, moderate tolerance of walking humans, and a very low tolerance of boats. The pair avoids the industrial area except when flying over at high altitudes. High priority measures for protecting this pair within the subarea include complete protection of all of their perching trees along the tip of Tongue Point, south of the mouth of Mill Creek and on the north and south tips of the Tongue Point peninsula and protection of mudflats and marshes off of the mouth of Mill Creek. In addition, human activities in the vicinity of the foraging areas should be minimized during morning hours.

Aquatic and terrestrial mammals utilize the marshes and swamps of the subarea. Muskrat and nutria feed and den in the marshes and occasionally utilize the swamps. Beaver and raccoon feed and den in the swamps and deer feed in the swamps and adjacent upland.

Shoreland Features

From north to south, the shorelands of this subarea include the steep, forested slopes of Tongue Point itself, the relatively flat developed area occupied by the Coast Guard station and the former naval base, the sloped area waterward of Highway 30 between Mill Creek and the south Tongue Point peninsula, and the south Tongue Point peninsula. Almost all of the flat lands of this subarea are the result of filling former aquatic areas with dredged material.

The flat land on the north Tongue Point peninsula is mostly developed. The developed flat land forming the south Tongue Point peninsula consists of a Corps of Engineers field station and access roads. The remainder of this area consists of vegetated shorelands with some nontidal wetland. The boundaries of the nontidal wetland were surveyed by the Corps of Engineers in 1987. Tongue Point proper consists of a steeply sloping hill. The point contains basalt rock. Vegetation on Tongue Point consists of old growth coniferous forest.

Wildlife in the subarea include deer and small mammals. As discussed under Aquatic Features, bald eagles utilize the subarea. Although there are currently no active eagle nests in the subarea, a nest tree on Tongue Point was occupied in the early 1970's. The trees at the tip of Tongue Point are used for roosting.

Human Uses

North Tongue Point Peninsula:

The peninsula is mostly undeveloped with the exception of a Coast Guard installation on the southwest corner. Tongue Point has been designated a habitat area for the bald eagle by the U.S. Fish and Wildlife Service. There is an access road circling the point between the Job Corps Center on the southeast corner and the U.S. Coast Guard installation on the southwest corner.

The Naval Station, Job Corps Center and Finger Pier Area:

The Federal Job Corps Center occupies the area immediately adjacent to Tongue Point Road on the west and between Tongue Point Road and the railroad tracks. East of the railroad tracks there is a large level area which was used as a naval station at one time. The north portion of this area is under Federal ownership, the south portion is owned by the State of Oregon and administered by the Division of State Lands. The Division of State Lands has leased this area to a private developer wishing to establish a deep draft car import facility at the site. The finger pier area has been used for long-term storage of vessels. The aquatic area between the finger piers is used for log storage as well.

South Tongue Point Mediation Agreement Area:

Constructed out of dredged material, this area is enclosed by water on three sides and by railroad tracks on the south. It is almost undeveloped with the exception of a U.S. Army Corps of Engineers installation. The lower areas have a high water table and contain wetland vegetation. South Tongue Piont has been proposed for development of a U.S. Naval base.

Issues

The Tongue Point subarea contains one of the most difficult conflicts between natural resource values and development potential in the Columbia River Estuary. The subarea receives extensive use by bald eagles. The aquatic area is productive for several fish species, including shad, Chinook salmon, and starry flounder. The area around south Tongue Point contains tidal marsh and wetland habitat.

There have been a number of proposals for water-dependent uses at Tongue Point. A mediation agreement was reached by representatives from state and federal resource agencies and local jurisdictions in 1981. The Agreement designated use zones and development requirements for Tongue Point. It provides for the potential development of water-dependent uses in the finger pier area by designating the aquatic area between the finger piers, the access channel, and turning basin as development aquatic. A determination of dredged material disposal sites for excavation of the access channel and turning basin and mitigation sites for filling of the aquatic area was not made. Major issues involved in proposals for water-dependent uses at Tongue Point include the dredging of access channels, disposal of the dredged material, the filling of wetlands in and around Tongue Point, protection of intertidal habitat, the impact of access road construction on residences, and protection of bald eagle habitat. An access channel and turning basin were dredged in 1989, related to development of the proposed automobile import facility.

The development potential of the area around the finger piers is high. The shoreland immediately adjacent to the finger piers would provide a backup area for water-dependent development. The area has good access to Oregon Highway 30 and the Burlington Northern railroad tracks. The 1981 Mediation Panel Agreement permits filling of the area between the piers and construction of access channels from the navigation channel to the finger piers. The Agreement also provides for an access channel on the east side of South Tongue Point, and construction of a turning basin. A private developer has leased the area around the finger piers from the Division of State Lands for the purposes of developing a car import facility. The access channel and turning basin were dredged during 1989 to approximately -34 feet MLLW.

The 1986 Lower Columbia River Assessment of Oregon Deep Draft Sites identified Tongue Point as a potential deep draft development site. The document included two scenarios for development of Tongue Point. The first scenario, identified as the East Astoria Development Plan, appears consistent with the Mediation Panel Agreement. The second scenario, identified as the Tongue Point Development Plan, involves larger aquatic area fills than specified in the Mediation Panel Agreement. The total Tongue Point Mediation Panel Agreement fills amount to 97 acres while fills under the second scenario amount to 209 acres. The additional fill would occur in areas designated Aquatic Natural. This Plan retains the designations and development scenario specified in the 1981 Mediation Panel Agreement. Redesignation of Tongue Point to allow for the development scenario in the Deep Draft Sites assessment would require full coordination with all of the Mediation Panel participants and other affected agencies.

There are some physical and natural resource constraints to development at Tongue Point. There are steep slopes in much of the area and evidence of landsliding at one site, a factor which may affect access road construction. Extensive wetland areas exist south of the finger piers. In addition, an earthquake fault, possibly no longer active, crosses the area in a northeast/southwest alignment just south of the finger piers.

The federal General Services Administration has considered the possibility of trading ownership of the Tongue Point south peninsula to the State of Oregon in exchange for several state owned estuary islands. The General Services Administration would then transfer its interest in the estuary islands to the U. S. Fish and Wildlife Service. The Oregon Division of State Lands would assume ownership of the Tongue Point south peninsula in addition to existing State ownership in the finger pier area. In addition, Clatsop County could quitclaim its interest in the estuary islands to the U. S. Fish and Wildlife Services. This transaction had not taken place as of 1989, although it is again under serious consideration in 1990. The federal government is considering designating Astoria as a homeport base, proposing to station two mine sweepers at the new base. South Tongue Point is the most likely choice for the new base.

Aquatic and Shoreland Designations

The following aquatic areas are designated Development:

1. The aquatic area between the shoreline of the old naval station and the waterward end of the finger piers.

2. A channel 500 feet in width from the main navigation channel to the finger piers and out 700 feet from the end of the finger piers.

3. A turning basin approximately 1,500 feet wide lying immediately waterward of the end of the southerly four finger piers.

4. The aquatic area within the Coast Guard base.

5. The wetland lying south of the Corps of Engineers causeway, if South Tongue Point is used for a water-dependent development. Otherwise the designation is Natural.

6. Tidal wetlands above the fringing emergent marsh lying between the Corps of Engineers dock and the southerly line of T8N, R9W, Section 12, if South Tongue Point is used for a water-dependent development. Otherwise, the designation is Natural.

The following aquatic areas are designated Natural:

1. The subtidal and intertidal areas between the southern most finger pier and the South Tongue Point Peninsula.

2. The wetlands lying south of the Corps of Engineers causeway if South Tongue Point is used for non-water-dependent development.

The following aquatic areas are designated Conservation:

1. The aquatic area between the shoreline of the North Tongue Point peninsula, the navigation channel to the north, and the access channel to the east.

The following shoreland areas are designated Water-Dependent Development:

1. The Coast Guard base.

2. The shorelands between Mill Creek and the Job Corps Center.

3. The South Tongue Point Peninsula can be committed to water-dependent or non-water-dependent developments.

The following shoreland area is designated Development:

1. The Federal Job Corps Center.

The following shoreland area is designated Rural:

1. The potentially unstable slope area waterward of Oregon Highway 30 between Mill Creek and the entrance to South Tongue Point, outside of the Astoria city limits.

The following shorelands are designated Natural:

1. The Tongue Point peninsula north of the Job Corps Center, with the exception of the Coast Guard Base.

The regulatory shoreland boundary is 50 feet from the Columbia River Estuary shoreline except where it extends farther inland to include the following features:

1. The Tongue Point peninsula, because of its significant shoreland habitat.

2. Bald eagle roosting trees in the Mill Creek area and south of Mill Creek to the South Tongue Point Peninsula (waterward of Highway 30).

3. The steeply sloping potentially unstable area waterward of Oregon Highway 30 between Mill Creek and the entrance to the South Tongue Point peninsula.

4. Water-Dependent Development sites at the South Tongue Point peninsula; a designated dredged material disposal site (As-S-18.7) (from the *Columbia River Estuary Dredged Material Management Plan*); the upland area between the railroad right-of-way and the finger piers north of Mill Creek (also containing a designated dredged material disposal site (As-S-18.2); and the Coast Guard base.

Subarea Policies

1. Tidal wetlands south of the Corps of Engineers causeway on the South Tongue Point peninsula can only be developed for improved vehicular or rail access. Otherwise, uses permitted shall conform to the Natural Aquatic designation.

2. Development proposals for the area between the railroad right-of-way and Oregon Highway 30 south of Mill Creek shall demonstrate through such measures as a soils engineering analysis that surface alteration will not result in slope failure.

3. The USFWS and the ODFW shall be contacted prior to any development to assess the potential for impacts on bald eagle habitat.

4. The design and construction of new access roads to the finger pier area shall take into account potential impacts on residences and slope stability.

5. The areas designated Development by the Mediation Panel Agreement can be developed for all uses permitted under that designation, but compliance with the policies in the agreement shall be required.

6. Uncontaminated dredged material from navigation channel projects in this subarea should be used for dike maintenance.

Mediation Panel Agreement Subarea Policies - North Tongue Point

7. The maximum extent of fill in aquatic areas at North Tongue Point shall be: from the present shoreline eastward to the end of the existing piers; from the south side of the southernmost finger pier to the northern line of state ownership (halfway between the 5th and 6th finger piers from the south). Fill shall be allowed only for water-dependent uses.

8. A navigation channel 500 feet wide and 40 feet deep (with overdredge for compatibility with main channel) is allowed to provide access from the Columbia River to North Tongue Point. The width of the access channel may be extended 200 feet (creating a 700-foot wide channel) if necessary to allow movement around vessels docked at North Tongue Point.

9. If the main Columbia River navigation channel is deepened, the access channel into North Tongue Point may be deepened to the same depth.

10. Construction and maintenance of a 1,500-foot wide, 25-foot deep (MLLW) turning basin is allowed. The basin shall be designed to protect productive intertidal and nearshore subtidal areas in the Tongue Point area. The turning basin may extend southward into the MARAD Basin but not south of the existing Corps of Engineers dock at South Tongue Point.

11. The location and dimensions of the access channel and the turning basin shall be determined through engineering studies as a part of the permit application process.

12. Spur railroad trestle access to North Tongue Point from the main line across adjacent wetland areas is allowed. This rail access corridor may also contain piling-supported conveyor or vehicle access facilities for movement of commodities or cargo between South Tongue Point and North Tongue Point (pursuant to the exception to Oregon Statewide Planning Goal 16 adopted by Clatsop County and Astoria).

13. Dredged material disposal sites needed for fill development of North Tongue Point must be identified and agreed upon in preapplication consultation with resource agencies or in the permit process.

Mediation Panel Agreement Subarea Policies - South Tongue Point

14. If South Tongue Point is developed for water-dependent uses, the following accessory activities are allowed:

A) One access corridor from South Tongue Point to North Tongue Point is allowed in addition to the rail access provided in the North Tongue Point agreement. This corridor shall be located adjacent to and waterward of the Burlington Northern Railroad to allow movement of commodities or cargo between the sites. The corridor may contain rail, conveyor, road access, or a combination thereof. If a road is built some fringing wetlands along the shoreland may be filled. Otherwise the corridor must use pile supported structures (pursuant to the exception to Oregon Statewide Planning Goal 16 adopted by Clatsop County and Astoria).

B) A navigational access channel (not to exceed 500 feet in width or 25 feet depth at Mean Lower Low Water) suitable for ocean-going vessels is allowed to the eastern side of South Tongue Point. Dredging shall be allowed in this channel to maintain the approved depth not to exceed -25 feet. The objective shall be to locate the channel below -20 feet MLLW and to minimize the amount of dredging required.

C) T-docks or other piling-supported structures are allowed to facilitate movement of commodities from the shoreland to barges or boats in this channel (pursuant to the exception to Oregon Statewide Planning Goal 16 adopted by Clatsop County and Astoria). Such structures shall be designed and located with an objective of protecting productive intertidal and nearshore subtidal areas.

15. Spur railroad trestle access to South Tongue Point from the main line across adjacent wetland areas located southeasterly of the site is allowed (pursuant to the exception to Oregon Statewide Planning Goal 16 adopted by Clatsop County and Astoria).

16. Specific locations of spur lines, transportation corridors, roads, pile-supported structures, and the channel described above shall be determined during the permit process.

17. Filling in the Development Aquatic shrub wetland area lying adjacent to and southerly of the access causeway must meet the use-needs-alternatives criteria of the Section 404 permit process.

P 30.16 JOHN DAY RIVER

General Description

This area includes the John Day River from its mouth to the head of tide, and the adjacent shorelands. The subarea is under the jurisdiction of Clatsop County.

Aquatic Features

The aquatic portion of this subarea includes the John Day River and adjacent tidal marshes. Diking activities have reduced the amount of tidal wetlands in this subarea. Prior to diking most of the river's floodplain consisted of tidal swamp.

Water depths are a relatively shallow 4 to 12 feet. The river is considered navigable for a distance of three miles. River flow from the small drainage basin is low, particularly in the summer. There is minimal sediment transport, and flushing is slow. There is little salt water intrusion. The aquatic ecosystem of the John Day River is thus freshwater in nature.

Tidal swamps and marshes exist near the mouth of the river and near the upstream end of tidal influence. These tidal wetlands have plant species similar to those found in Cathlamet Bay wetlands (see Cathlamet Bay Subarea Plan).

There is no information on invertebrate populations in the subarea and little information on fish. During the fall, there are cutthroat trout, some coho salmon, and maybe a small number of Chum salmon. During May and June, there is a run of American Shad which spawn around the head of tide. Other species which occur throughout the year are carp, largemouth bass, crappie, yellow perch, catfish, and other rough fish.

Bird and mammal use of the river's waters and wetlands is probably similar to Cathlamet Bay (see Cathlamet Bay Subarea Plan). Bald eagles feed at the mouth of the river. The Aquatic Features sections in adjacent subarea plans discuss these eagles (see Tongue Point and Cathlamet Bay Subarea Plans).

Shoreland Features

The shorelands are predominantly diked tidelands used for low intensity agriculture. There are also small forested shoreland areas. Shoreland soils are the Coquille-Tidal Marsh (fresh)-Tolovana Association. These lowlands have high flooding potential (most of the area is within the 100 year floodplain), relatively high ground water level, and moderate agricultural suitability. The shorelands have moderate wildlife value. Deer and elk, along with smaller wildlife, frequent the area and several bald eagle nests have been located in adjacent upland areas.

There are several nontidal wetlands in the subarea that are significant under Oregon Statewide Planning Goal 17. The wetlands include emergent marshes dominated by sedges (Carex sitchensis, Carex cusickii, and Carex obnupta), Sitka spruce swamps, and shrub swamps.

Human Use

Existing land and water use includes agriculture, forestry, residential use, and recreation. Low-lying shoreland areas are protected by dikes and fourteen tidegates located along the river. Adjacent land uses are mostly related to agriculture and forestry.

Ownership is mostly private with some county, state and corporate owners. There is a public boat launching ramp on county land near the mouth of the river. There are also numerous private docks along the river. Access to the area is by water from Cathlamet Bay and by road from Highway 30.

Relocation of the John Day River bridge was approved by Clatsop County. The new bridge was constructed slightly downstream of the existing one. The project involved fill of approximately 1.3 acres of tidal marsh on the west side of the river. The embankment is stabilized with riprap. The project required wetlands mitigation.

Issues

There is limited potential for new development on the John Day River and its low-lying shorelands. The river itself is relatively narrow and shallow. Increased river traffic would conflict with existing houseboat uses and worsen the streambank erosion problem. The shorelands, being either low and flood-prone or steep and unsuitable for intensive development, also offer little potential for expanded use. Factors which could improve development potential in the future would be the use of low areas for disposal of dredged material and possible relocation of Highway 30. An exception to Oregon Statewide Planning Goal 16 to permit continued houseboat use on the John Day River was approved by Clatsop County in 1983. This exception does not permit expansion of the outside boundaries of the aquatic area "committed to houseboat use" at the time the exception was approved. The Oregon Department of Land Conservation and Development's position on houseboats is that residential uses are not water-dependent and therefore cannot be permitted in aquatic areas. Water quality and navigational access concerns related to existing houseboats may become a more significant issue in the future.

The tidal marsh-mudflat areas just inside the river mouth are very shallow, are flooded on every tide, have significant fish and wildlife values, are publicly owned, and have little potential for development. It is in the public interest to protect these natural resource values. The low-intensity recreational uses of the river, the fishery resources and wildlife values should be protected while providing for limited development.

Aquatic and Shoreland Designations

The large tidal marsh and mudflat just inside the mouth of the John Day River, to the west of the river channel, is designated Natural. The remaining aquatic areas to the head of tide are designated Conservation.

Shorelands in this subarea are designated Rural in agricultural areas and Conservation in forestry areas.

The regulatory shoreland boundary in this subarea is 50 feet from the shoreline or the inland toe of dikes and associated toe drains, whichever is greatest, except where it extends farther inland to include the following shoreland features:

1. Significant nontidal wetlands as shown on Columbia River Estuary Resource Maps.

2. Significant riparian vegetation along the John Day River to the head of tide, as shown on Columbia River Estuary Resource Maps.

3. The John Day River Boat Ramp, including parking lot; dredged material disposal sites CC-S-8.6 and CC-S-18.8 (from the *Columbia River Estuary Dredged Material Management Plan*); and mitigation and restoration sites as designated in the *Mitigation and Restoration Plan for the Columbia River Estuary*.

Subarea Policies

1. The tidal marsh and mudflats just inside the river mouth have significant fish and wildlife values and are publicly owned. They shall be protected.

2. New, replacement and relocated houseboats may be permitted in the John Day houseboat exception area, subject to local, state, and federal lease and permit requirements, and subject to the exception to Oregon Statewide Planning Goal 16. Approval of new or reoriented houseboats shall be subject to the following policies:

a. Any new or reoriented floating residence must have a DEQ approved sewage disposal system.

b. New or reoriented floating residences must show an upland parking area off any public road right-of-way.

c. New or reoriented floating residences must have an approved lease from the Division of State Lands to occupy the water surface.

d. Alignment of new or reoriented floating residences shall be such that navigability on the river is hindered as little as possible.

e. Maximum building height of new floating residences shall be equivalent to that in the adjacent upland zone.

f. A distance of 25 feet is required between any portion of the floats of a new or reoriented floating residence and any existing floating residence.

g. Any new or reoriented floating residence shall be sited so that the longer dimension runs parallel with the shoreline.

P 30.17 JOHN DAY POINT TO EDDY POINT

General Description

This subarea extends from John Day Point to Eddy Point. Included are the shorelands along this part of the Cathlamet Bay shoreline, adjacent tidal marshes, the lower portions of Twilight, Mary's, Bear, and Ferris Creeks, and Svensen and Calendar Islands. Most of the mainland shorelands are forested and rural. Svensen Island is diked and used primarily for pasture. Calendar Island consists of tidal marshes and swamps. The subarea is under the jurisdiction of Clatsop County.

Aquatic Features

Aquatic portions of this subarea include the nearshore areas from John Day Point to Eddy Point, the waters surrounding Svensen Islands, and the marshes and swamps of Calendar Island. The principal historic changes that have occurred in the subarea have resulted from diking. All of the subarea's diked agricultural land previously consisted of tidal marshes and swamps.

Physical and biological characteristics of the aquatic areas are similar to those in adjacent subareas (see Cathlamet Bay and Upper Marsh Islands Subarea Plans). Tidal marshes and swamps fringe much of the subarea's shoreline. In addition, large marshes and swamps exist at the mouth of Twilight Creek, adjacent to Mary's, Bear, and Ferris Creeks, and on Calendar Island. The Mary's, Bear, and Ferris Creek wetlands were at one time diked but have returned to tidal influence when the dikes breached many years ago.

Mary's, Bear and Ferris Creeks have small wild runs of cutthroat trout, steelhead, and coho and chum salmon; coho from state hatcheries have been placed in Bear Creek. The creeks and adjacent waters and wetlands receive extensive use by feeding juvenile salmonids.

The subarea receives heavy use by bald eagles. The Mill Creek bald eagle pair (see Tongue Point Subarea Plan), Twilight Creek pair, and wintering and transient eagles feed off of John Day Point. The Twilight Creek marsh and adjacent south channel are feeding areas for the Twilight Creek bald eagle pair as well as wintering and transitory eagles. Calendar Island and adjacent waters are used by a pair of eagles that nest on Karlson Island.

Shoreland Features

Soils from John Day Point to Settlers Point include the Tolovana and the Walluski-Knappa associations. Flood potential is low and there is a seasonally high water table. The soils have a very low suitability for agriculture. Soil movement hazards are present to the west of Twilight Creek. While the movement is not rapid, it is present almost every winter, intruding on Highway 30. The soils in the remainder of the subarea are primarily of the Coquille-Tidal Marsh (fresh)-Clatsop Association. Soil morphology is to a large extent a result of flooding, a relatively high seasonal water table, and a low slope. Agricultural suitability is moderate.

Shoreland vegetation is characterized by shrub willow, alder, Sitka spruce, and Douglas fir. Wildlife in the area includes blacktailed deer, elk, and small mammals. Freshwater marshes classified as significant under Oregon Statewide Planning Goal 17 are located on Svensen Island and Twilight Creek.

Bald eagle use of the shorelands is high. Several bald eagle nesting and roosting trees (outside of the estuary area) have been identified inland from the subarea. The Twilight Creek nest is located about one-half mile South of the subarea and a large communal roost known as the Mary's Creek roost is located about one and one-half miles south of the subarea. The eagles' main hunting perches in the subarea are located on John Day Point, adjacent to the Twilight Creek marsh, and near Settler's Point.

Human Use

Existing uses in the area are agriculture, forestry, and scattered residential uses. The railroad runs along the shoreline. There are several in-water log storage areas. There is a mixture of state and private ownership. Physical access to the water is limited to private shoreline structures.

Issues

There is limited development potential in the subarea. Some expansion of residential uses in the Burnside area near Settlers Point may occur in the future.

The tidal marshes at the mouth of Twilight Creek (also known as Eskeline Creek) have been intensively studied and are a valuable natural resource. The marshes are primarily in private ownership and are managed for waterfowl hunting by a local club. There are several small docks and walkways giving access to tidal channels cut in the marshes. Low intensity recreation is the dominant use of these marshes. Continued maintenance and possible improvement of docks and duck shacks is expected. Demand for recreation facilities requiring major alterations, however, is not expected.

A major issue in this subarea is whether or not the formerly diked wetlands can be rediked and placed into agricultural or other use. According to federal, state, and local policy, once areas have substantially reverted to wetland vegetation, repairing dikes and tide boxes is considered new diking. New diking of wetlands for agricultural use could not be permitted without an exception to Oregon Statewide Planning Goal 16. Proposals for restoring abandoned dikes on Mary's Creek and Ferris Creek have been made.

Dikes on the north side of Svensen Island have experienced problems with erosion. A series of pile dikes to retard erosion have been placed near the center of the island. These have not solved all of the erosion problems. Material to maintain the dikes has been difficult to obtain.

Aquatic and Shoreland Designations

All tidal marshes and swamps are designated Natural except for the following which are designated Conservation: marshes around Svensen Island and fringing marshes along the mainland shore south of Svensen Island. All other aquatic areas are also designated Conservation.

Shoreland areas are designated Rural in agricultural and residential areas and Conservation in forested areas.

The regulatory shoreland boundary in this subarea is 50 feet from the estuary shoreline, or from the landward side of dikes or associated toe drains, whichever is greatest, except where it extends further inland to include the following resources:

Significant wetlands and riparian vegetation identified in *Significant Shoreland and Wetland Habitats in the Clatsop Plains and the Columbia Floodplain of Clatsop County, 1986.*

The western half of Svenson Island has been designated a dredged material disposal site (CC-S-24.0) in the *Columbia River Estuary Dredged Material Management Plan* and as a mitigation site in the *Mitigation and Restoration Plan for the Columbia River Estuary.*

Subarea Policies:

1. Identified bald eagle roosting trees shall be preserved.

2. Dike maintenance and repair for existing dikes on Svenson Island shall be encouraged.

P 30.18 BIG CREEK/LITTLE CREEK/FERTILE VALLEY

General Description

This subarea lies between Eddy Point and Knappa Dock and includes adjacent waters of Knappa Slough, the spruce swamp and tideland soil shorelands at the mouths of Big and Little Creeks, and the diked lands in Fertile Valley. This subarea is under the jurisdiction of Clatsop County.

Aquatic Features

Big and Little Creeks, a large tidal spruce swamp at the mouth of the creeks, and Knappa Slough are all prominent aquatic features of this subarea. There have been few changes to this subarea over the past century. Diking Fertile Valley has converted it from a tidal wetland to pastureland and nontidal wetland.

Physical and biological characteristics of the aquatic area are similar to those in the adjacent subarea (see Upper Marsh Islands Subarea Plan).

The approximately 125 acre tidal spruce swamp at the mouth of the Big and Little Creeks is undisturbed Sitka spruce forest, dominated by a large, open-growth form of Sitka spruce and some red alder, vine maple, salmonberry, skunk cabbage, sedges and waterparsley. A variety of other wetland plants are also present.

A state salmon hatchery on Big Creek releases chinook salmon, coho, and steelhead. The stream occasionally has a run of lamprey and has a wild population of cutthroat trout. Little Creek fish runs are primarily strays from Big Creek.

Shoreland Features

The primary soil in this area is the Coquille-Tidal Marsh (fresh)-Clatsop Association. Portions of Little Creek flow through a group of soils known as the Nehalem Association. The upper part of Fertile Valley Creek flows through Walluski-Knappa Association. Many of the soils' characteristics are similar, but the primary difference is the agricultural suitability: the Nehalem and Walluski-Knappa Associations are mostly Class II soils, while the Coquille-Tidal Marsh (fresh) Clatsop Association is Class III and IV. The primary hazard in the area is the potential of flooding of the creeks, which also occurs upstream of tidal areas.

Shoreland vegetation includes primarily pasture grasses mixed with wetland plants such as common rush (Juncus effusus). There are also some forested areas.

Fertile Valley Creek is diked with a tidegate near its mouth where it joins Warren Slough. The area is a private wildlife reserve and receives significant wildlife use. Ducks and geese are common and nesting areas have been provided. No fishery information is available on Fertile Valley Creek, but warm water fish are probably common.

Human Use

Agriculture on shorelands in the upper portion of the subarea is the most intensive human use. There is forestry on adjacent shorelands and recreational fishing in Big Creek is important farther upstream. Part of Fertile Valley is a privately owned wildlife refuge.

Issues

The major issue in this subarea is the need for protection of the old growth spruce swamp at the mouth of Big and Little Creeks versus private property rights. The area has been inventoried by the Nature Conservancy and, based on its natural values, recommended for protection. Most of the spruce swamp is in a single corporate ownership (Boise Cascade), with a small portion in private farm ownership near the upper tidal reaches between the two streams. Both landowners object to a protective land use designation which would prevent their use of the area for forestry.

The waters of Knappa Slough adjacent to Big and Little Creeks are important holding areas for adult anadromous fish prior to ascending the streams to spawning grounds and the hatchery. This area should be protected from conflicting uses. The Knappa Slough area has significant historical and archaeological value. The shoreline of the slough was the site of an Indian village. The present Knappa Dock is also the first landing site of the Lewis and Clark expedition in Clatsop County.

The Knappa dock area, midway between public water access points on the John Day River and at Aldrich Point, has been proposed as a possible public boat launch site. Because of the inability of local roads to handle increased traffic and impacts on area residents and lifestyle, this has been opposed by some local residents.

Aquatic and Shoreland Designations

The entire spruce swamp and portions of Big and Little Creeks running through the swamp are designated Natural. The wetland area north of the railroad at Eddy Point on the west is designated Conservation.

Shorelands from Eddy Point east to the spruce swamp and shorelands along the western and eastern edges of the swamp in forestry use are designated Conservation. Areas in agricultural use south and east of the spruce swamp are Rural. The privately-owned wildlife refuge in Fertile Valley is designated Natural.

The regulatory shoreland boundary in this subarea is 50 feet from the estuary shoreline, or the inland toe of dikes and associated toe drains, whichever is greater, except where it extends farther inland to include the following features:

1. Significant riparian vegetation along both sides of Big Creek to the head of tide; and significant riparian vegetation along the Columbia River shoreline near Eddy Point, as shown on Columbia River Estuary Resource Maps.

2. A privately-owned wildlife refuge consisting of lands below the 100-year flood level bounded by Knappa Road on the west, and by Ziak-Gnat Creek Road on the east and south.

Subarea Policies

1. The Natural designation of the Big Creek spruce swamp recognizes the unique natural fish and wildlife values of this area. However, such a designation should not limit logging of adjacent shoreland and upland areas in accordance with the Oregon Forest Practices Act, and should not impede construction of a log sorting yard or similar support facilities on the uplands adjacent to the swamp.

2. The Natural designation on the privately owned portion of wetland south of Blind Slough expressly provides for construction of a single residence at some future time on a piece of higher ground near the railroad. The residence would provide for a caretaker of the area, which is intended as a wildlife preserve.

P 30.19 BROWNSMEAD/GNAT CREEK

General Description

The Brownsmead/Gnat Creek subarea includes all of the lands behind the Brownsmead dikes, all sloughs and wetlands behind the dikes, Blind Slough and adjacent wetlands, Gnat Creek, and Prairie Channel waters and wetlands fronting the subarea. This subarea is in Clatsop County.

Aquatic Features

The aquatic portions of this subarea include parts of Knappa Slough and Prairie Channel, Warren Slough, Blind Slough, and Gnat Creek. Diking activities have brought about large changes to this subarea in the past century. Prior to diking, the Brownsmead area consisted of tidal marsh and swamp.

Physical and biological characteristics of the aquatic area are similar to those in the adjacent subarea (see Upper Marsh Islands Subarea Plan). The freshwater wetland areas north and south of Blind Slough are some of the largest undisturbed tidal spruce and shrub swamps along the shoreline of the estuary. Natural resource values are high. The areas have not been extensively studied but the vegetation and wildlife use is probably similar to the Big Creek area. Sitka spruce, willow and alder make up the overstory with low wetland vegetation as an understory. Knappa Slough has been inventoried by the Nature Conservancy, and its tidelands, fringing marshes and riparian vegetation are described as valuable fish and wildlife habitat.

The fisheries value of the Gnat Creek area is very high. The Gnat Creek Fish Hatchery supports steelhead sport fishing in the creek. Most of the fish raised at the hatchery are transported and released at the other streams in Oregon. Gnat Creek also supports a good run of fall Chinook, and some coho, cutthroat, and chum.

The Brownsmead/Gnat Creek aquatic areas are within the home range of three nesting pairs of bald eagles: the Karlson Island, Marsh Island, and Aldrich Point pairs. There is an osprey nest in the Gnat Creek tidal wetlands.

Shoreland Features

The shorelands consist of Class III and IV soil types of the Coquille-Tidal Marsh (fresh)-Clatsop Association. There are large areas of peat and organic soils. The lowlands are protected by dikes and five tidegates.

Shoreland vegetation consists mostly of upland grasses in large pasture-lands of the subarea. Some of these areas have developed wetland vegetation such as common rush (Juncus effusus). The diked sloughs within the shoreland are lined with riparian vegetation such as willow and alder.

There is a population of warm water game fish such as bass, crappie, and perch in Brownsmead Slough. Other sloughs also have populations of warm water fishes.

Wildlife values in and around the sloughs are high. Waterfowl use these sloughs as well as the surrounding pastures.

Human Use

Existing uses include farming and rural residences. Portions of Blind Slough and Prairie Channel are used for log storage. Ownership is entirely private except for small parcels in state and county ownership. Recreational use of the aquatic area is high, including hunting and fishing.

There are several water access points. Private docks are located mainly on Blind Slough. There is a public boat launching facility at Aldrich Point, which receives extensive use, particularly in the summer.

Issues

The Brownsmead area, according to the U. S. Soil Conservation Service, has the best agricultural land in Clatsop County. Most of the area is used as pasture land, but corn, peas, beans and other crops are also grown. The area is in the Exclusive Farm Use zone (EFU).

The public boat launching facility at Aldrich Point is a source of conflict in the area. Local residents do not want the facility expanded because traffic generated by the facility already causes problems during peak use periods. The County government operates the facility and has expressed plans for improving the boat ramp.

The bulk of the wetlands north and south of Blind Slough are owned or leased by Western Transportation Company, with the remainder in a small private ownership. These undisturbed wetlands have high natural values and need protection.

Blind Slough, Prairie Channel and Knappa Slough are among the more important log storage areas in the estuary. Water quality is good, the water is deep enough so that grounding at low water is not a problem, and there are no gillnet fish drifts in the area.

Gnat Creek, with its wetlands, riparian vegetation, and important fishery, needs protection from major alterations. Some of the wetlands are formerly diked areas, but no dike restoration has been suggested. Some pressure exists for installation of private docks. The recreation value of the stream for sport fishing is high.

Aquatic and Shoreland Designations

The following aquatic areas are designated Natural:

1. The wetlands north and south of the mouth of Blind Slough.

2. The wetlands adjacent to the eastward bend in Prairie Channel.

3. The tidal marshes and swamps associated with Gnat Creek.

All other aquatic areas are designated Conservation.

All shorelands are designated Rural.

The regulatory shoreland boundary in this subarea is 50 feet from the estuary shoreline, or the inland toe of dikes and associated toe drains, whichever is greater, except where it extends farther inland to include the following features:

1. Significant riparian vegetation along the tidegated portions of Blind Slough, Saspall Slough, Grizzly Slough, and other tidegated sloughs in the Brownsmead area; significant riparian vegetation along both sides of Gnat Creek to the head of tide; and significant riparian vegetation along a tidegated slough in Sections 4 and 9, T8N R7W.

2. Significant wetlands of diked sloughs including Blind Slough, Grizzly Slough, Saspall Slough and other unnamed sloughs as shown on Columbia River Estuary Resource Maps.

3. A boat ramp on Blind Slough, a boat ramp on Gnat Creek, and the Aldrich Point boat ramp.

4. Mitigation and restoration sites designated in the *Mitigation and Restoration Plan of the Columbia River Estuary*.

Subarea Policies

1. Maintenance and possible expansion of log storage activities in Blind Slough are provided for in this plan. This area is well protected from winds and river currents, has relatively deep water and is one of the most important log storage areas in the estuary. The Natural designation of the adjacent spruce swamps at the mouth of Blind Slough are intended to provide for protection of the natural vegetation and wildlife values, while not limiting adjacent log storage and transport activities. Logging in the swamp area shall not be permitted.

P 30.20 CLIFTON CHANNEL

General Description

This subarea consists of a shoreland strip from Aldrich Point to Bradwood. The area also includes the Columbia River to the center of the Clifton Channel. This subarea is in Clatsop County.

Aquatic Features

The aquatic physical and biological characteristics of the deeper part of Clifton Channel, are, for the most part, similar to the River Channels Subarea. Because sediments are finer in the Clifton Channel than the Main Channel, benthic organisms tend to be more concentrated.

The nearshore parts of the channel contain some narrow, fringing tidal flats and swamps. Subyearling fall Chinook salmon migrate along the near-shore tidal flat and shallow subtidal areas. Two nesting pairs of bald eagles perch and feed in these nearshore areas. Their nests are located within the subarea's shoreland. The tidal swamps of the subarea provide habitat for small mammals and waterfowl.

Shoreland Features

Most of the shorelands in this subarea are steep, heavily forested and subject to landslide hazards, particularly adjacent to Clifton Channel. Vegetation on these shorelands and adjacent uplands is mostly Douglas fir and hemlock. Small pockets of tideland soils occur along Clifton Channel, vegetated with conifers, alder and willow. Wildlife using shore and uplands include deer, elk, bear and smaller animals. Two bald eagle nests are located near Aldrich Point. The eagles using the nests are referred to as the Aldrich Point Pair and Clifton Channel Pair. Their home ranges extend over the adjacent islands.

Human Use

Forestry and some residential uses occur in this area. The old fishing community of Clifton is still occupied by several families and is used as a staging area for fishing the Clifton Channel gillnet fish drifts. Extensive log storage sites are located across the channel adjacent to Tenasillahe Island.

Issues

The fish drifts in this area are very productive, but are hampered by snag material. Most of these obstructions are sinker logs from log rafts stored across the channel. Occasional broken log bundles also cause serious problems, resulting in lost fishing time and expensive snag removal from drifts. Local fishermen are working with lumber companies to alleviate the problem.

Aquatic and Shoreland Designations

All aquatic areas along Clifton Channel are designated Conservation.

Shoreland areas in forestry use or hazard areas are designated Conservation. The developed area at Clifton, southeast to Bradwood, is designated Rural.

The regulatory shoreland boundary in this subarea is 50 feet from the shoreline, except where it extends farther inland to include the following:

1. Bald eagle nest trees and a 500-foot buffer extending around the trees.

P 30.21 BRADWOOD

General Description

This area includes the industrial area at Bradwood, a stretch of steep forested shoreline to the east, and portions of the Columbia River. This subarea is in Clatsop County. The eastern boundary is the section line between Sections 21 and 22 of T8N, R6W, which corresponds to the downstream end of Puget Island.

Aquatic Features

The aquatic portions of this subarea include portions of Clifton Channel, the main navigation channel, an embayment and tidal marshes and swamps near Bradwood. The biological and physical characteristics of the aquatic area are similar to those in adjacent subareas (see River Channels and Clifton Channel Subarea Plans).

Shoreland Features

The soils in this subarea include the Hembre-Klickitat Association (30% - 60% slope) in the Bradwood area, and the Astoria-Hembre-Klickitat Association (3% - 30% slope). The industrial area at Bradwood has been filled with sandy dredged material.

The vegetation on the Bradwood Cliffs is mostly Douglas fir and hemlock, portions of which were logged in 1988-1989. This serves as habitat for deer, elk, bear, small mammals and furbearers, and birds.

Human Use

The Bradwood industrial site is currently proposed for use as a rock quarry. It is designated as a dredged material disposal site. Bradwood is privately owned. The shoreline area between Bradwood and Wauna is forested. Some logging has occurred on the Bradwood Cliffs.

There are private access points to the river in this reach. River use includes sport fishing, commercial gillnet drifts, and commercial ship and barge traffic.

Issues

The Bradwood industrial site offers limited potential for small to medium sized water-dependent industrial development. There is deep water close to shore, some available vacant land, and railroad access. There are constraints to development, however, including poor highway access and the proximity of the wildlife refuge.

Future development which would require extensive filling (impacting aquatic areas in excess of 20 acres) along the Columbia River shoreline for the purpose of creating additional industrial land is not appropriate. In order to fully utilize the marine industrial shorelands, it would be appropriate to fill the old Bradwood mill pond. This pond covers an area of less than 10 acres. This fill activity would be subject to the state and federal permit process and the development of proper mitigation areas. An upland area along the entrance road into Bradwood has been identified as a potential mitigation site. This site is different from a nearby mitigation site designated in the *Mitigation and Restoration Plan for the Columbia River Estuary*.

Aquatic and Shoreland Designations

The mill pond will be designated Development Aquatic until such time as it is filled; then it will be placed in the Marine Industrial zone. An aquatic band from the entrance of the mill pond upriver to the eastern boundary of the existing Marine Industiral zone and extending either 400 feet out from the shoreline or to the 40 foot depth contour where this contour is closer than 400 feet from shore shall be designated Development Aquatic. A 200 foot access channel from the shoreland to the main ship channel is also designated development.

The remaining aquatic areas are designated Conservation, except where the Development ship channel and its 600-foot wide flowlane disposal area (either 600 feet wide or to the 20-foot bathymetric contour, whichever is narrower) extend into the subarea.

The entire filled area at Bradwood is designated Water-Dependent Development. All other shorelands are designated Conservation.

The regulatory shoreland boundary in this subarea is 50 feet from the shoreline except where it extends farther inland to include the following shoreland features:

1. Significant riparian vegetation around the Hunt's Creek tidal marsh, as shown on Columbia River Estuary Resource Maps.

2. The Bradwood industrial site; dredged material disposal site CC-S-38.9, from the *Columbia River Estuary Dredged Material Management Plan*; and a mitigation site as designated in the *Mitigation and Restoration Plan for the Columbia River Estuary*.

Subarea Policies

1. Large-scale fills along the Columbia River shoreline and impacting areas in excess of 20 acres is not appropriate.

2. The exact location of the 200-foot wide access channel to the Bradwood site is not designated in this Plan. The location of the channel shall be determined at the time of permit application.

3. The old Bradwood mill pond could be filled in order to provide a contiguous marine industrial site provided that proper state and federal permits were obtained.

P 30.22 WAUNA/WESTPORT

General Description

This subarea includes the Wauna Mill, Driscoll Slough, Westport Slough, the unincorporated community of Westport, and a private recreational home development east of Westport Slough. The subarea extends between the Clatsop/Columbia County line and the downstream end of Puget Island. It extends waterward to the state boundary, and landward to Oregon Highway 30.

Aquatic Features

The aquatic portions of this subarea include a portion of the main channel of the Columbia River, wetlands and sloughs south of the Wauna Mill, and Westport Slough. This subarea has been altered appreciably during the past century. Much of the present shoreland areas were created by filling or diking tidal swamp.

Physical and biological characteristics of the aquatic area are similar to the River Channels and Clifton Channel Subareas. Nearshore areas tend to be very deep.

The tidal swamp south of the Wauna Mill is vegetated with spruce, willow, and blackberries. The swamp is one of the last remnants of the climax floodplain community that once covered large areas in the region. This area provides habitat for small mammals, deer, and waterfowl. A small population of the endangered Columbia white-tailed deer also use the swamp.

There is little information about the biological and physical characteristics of Westport Slough. The slough supports warm-water game fish. Plympton Creek, which drains into the slough, has a run of fall Chinook and some steelhead, coho, cutthroat, and chum.

Shoreland Features

The soils in this area are of the Sauvie-Peat Association. These soils have a low slope, a high flood potential, and a high seasonal water table. They are moderately suitable for agricultural activities. Parts of the property just east of Driscoll Slough and the northern portion of the peninsula have been filled. Shorelands at the Wauna Mill site are developed while most of the other shorelands are undeveloped.

Shoreland vegetation includes shrubs, spruce, cottonwood, and grasses for pasture. Wildlife present include deer (black-tailed and Columbian white-tailed), elk, small mammals, and birds.

Human Use

The Wauna Mill site is heavily developed. There are vacant lands east of Driscoll Slough, a ferry landing and access point on Westport Slough, grazing on the diked land and the southern part of the peninsula, and residential use on the northern portion of the peninsula. Ownership on the mainland portions of this subarea is largely corporate. The unincorporated community of Westport has urban-level services, including sewer, water and fire protection.

Issues

This subarea contains both a high degree of development potential and substantial wetland habitat. With excellent accessibility to the main navigation channel of the Columbia River, the large vacant areas have potential for water-dependent industrial development.

Portions of this subarea are low-lying with considerable wetland habitat value. This is especially true of the area between the railroad and the highway. North of the railroad there are some areas of wetland and a strip of mature riparian vegetation along the west bank of Westport Slough. The area east and north of the community of Westport has been designated by the U.S. Fish and Wildlife Service as critical habitat for the endangered Columbia White-tailed deer.

The planning process involved extensive discussion of the conflict between the habitat values and economic development potential of the area. Resource agencies have agreed that the area has unique development potential but note that the good natural resource values can and should be protected, consistent with development of the area. Development interests have responded that within the very limited areas which are suitable for intensive development, undue restrictions should be avoided.

The portion of Driscoll Slough between the railroad and the river is a water and wetland area which has received considerable attention. During the original CREST planning process, resource agency representatives noted the habitat values, the need to preserve water quality, and the fact that riparian vegetation can be protected without unduly restricting development of adjacent land. A Conservation designation would provide such protection while allowing construction on pilings and minor dredging and filling, which may be necessary for development.

A site between Westport and Driscoll Sloughs has been identified as a potential deep-draft site by a 1986 study for the Oregon Department of Economic Development (Lower Columbia River Assessment of Oregon Deep-Draft Sites, Ogden Beeman and Associates, 1986). A portion of the site has been used for dredged material disposal and it is designated for this use in the *1986 Columbia River Estuary Dredged Material Management Plan*. Potential development of this site involves issues of riparian and wetland habitat protection. The development outlined in the Deep Draft Sites Assessment would involve filling 27 acres of wetlands at the site. These wetlands are significant under Oregon Statewide Planning Goal 5. A 1982 wetlands study (*Significant Shoreland and Wetland Habitats in the Clatsop Plains and the Columbia Floodplain of Clatsop County, Oregon* (Thomas, 1982) identified wetlands at the site as one of the last remnants of climax floodplain tidal swamp on the lower Columbia River Estuary. Resource agencies have requested protection of this valuable habitat. This Plan recognizes the suitability of this site as a small port facility. Development of the

site should be confined to the existing upland area. Any fill in the adjacent wetlands must be justified through the plan amendment process.

Residential property owners across Westport Slough have requested that protection be provided from noise and other impacts of development on the adjacent property.

This subarea includes the Westport Bar shoal in the main ship channel. Large quantities of sand are removed from this shoal each year to maintain required depths. The availability of this fill material coincides with the needs of developers to prepare their land for development. Substantial amounts of material have already been deposited. Disagreement, however, has arisen over continued filling that may impact wetland habitat and riparian vegetation along Westport Slough.

The northern shoreland portion of the peninsula was designated Development in the draft 1979 CREST Plan. However, Rural is a more appropriate designation, given the lack of sewers in the area and the moderate housing density. Portions of the shorelands and wetlands on the peninsula are considered critical habitat for the Columbian white-tailed deer and are to remain undeveloped as part of a zone-change agreement with the River Ranch subdivision developers.

Shorelands east of Westport are diked. There are no immediate development plans and the property will probably remain leased for grazing. Consideration should be given to the area's use by the Columbian white-tailed deer and also the proximity of the property to the community of Westport.

Aquatic and Shoreland Designations

The following aquatic areas are designated Development:

1. The area fronting the Wauna Mill site, the development site southeast of Wauna and Westport Slough, extended to the north subarea boundary;

2. Westport Slough;

3. The main navigation channel and the flowlane disposal area on each side of the channel (600 feet wide or to the 20-foot bathymetric contour, whichever is narrower).

The following aquatic areas are designated Natural:

1. Driscoll Slough;

2. The tidal wetland designated as significant under Oregon Statewide Planning Goal 5.

All other aquatic areas are designated Conservation.

The shorelands area north of Westport Slough is designated Rural. Shorelands south of the railroad track and east of Driscoll Slough are designated Conservation. All other shorelands are designated Natural.

Two dredged material disposal sites, CC-S-42.9 and CC-B-44.0, are listed in the *1986 Columbia River Estuary Dredged Material Management Plan*. A mitigation site is described in the *1987 Mitigation and Restoration Plan for the Columbia River Estuary*.

Subarea Policies

1. Development on lands adjacent to Driscoll Slough shall be carried out in a way that will minimize alteration of existing wetlands and riparian vegetation, degradation of water quality and stream sedimentation. Filling or other removal of vegetation for construction of a bridge or other transportation access across the slough shall be the minimum necessary to accomplish the project.

2. Except where direct access to water is required for wharves, docks or piers, riparian vegetation along Westport Slough shall be protected for bank stabilization, wildlife habitat, water quality, and a visual and noise buffer.

P 40. COLUMBIA RIVER ESTUARY DREDGED MATERIAL MANAGEMENT PLAN

P 40.1 PURPOSE AND PLAN CONTENT

In 1979 the Columbia River Estuary Study Taskforce (CREST) completed a *Dredged Material Management Plan* for the Columbia River Estuary. The primary purpose of the plan was to establish policies and standards for regulating dredging and disposal in the estuary and to identify an adequate number of sites with sufficient capacity to meet projected disposal needs over a 20 year period. Since 1979 dredging needs have changed, site capacities have been altered, and certain sites or portions of sites have been found to be unavailable for use due, for example, to the presence of important wetland habitat. Updating the policies and disposal site inventory to reflect the changes the have occurred over the past seven years will ensure that the *Dredged Material Management Plan* remains useful.

In 1986, the Columbia River Estuary Study Taskforce updated the existing Plan. CREST coordinated the revision of the *Dredged Material Management Plan* with government organizations, citizens, and development interests in the lower Columbia River. To accomplish this coordination, CREST established two groups to assist in plan revisions. The first was a general review group consisting of about 65 individuals representing local governments, state and federal agencies, ports, citizens, commercial fishing interests, diking districts, and development interests. This group reviewed an initial draft disposal site inventory and the draft *Dredged Material Management Plan.* The second group, the Dredged Material Disposal Advisory Committee, consisted of 22 representatives from the general review group. This committee participated in four workshops to revise disposal policies and refine the initial disposal site inventory. The Advisory Committee also reviewed the draft Plan.

The purpose of this revised *Dredged Material Management Plan* is to refine the original dredging and disposal policies and to inventory an adequate number of disposal sites with sufficient capacity to accommodate projected disposal needs for at least a five year period. A five year span was selected as the minimum planning period. Many of the inventoried sites provide for disposal over a much longer time span. The Plan is designed to be incorporated into local comprehensive plans in Oregon and shoreline master programs in Washington to update these documents with respect to changes in disposal needs and regulatory policies.

The Plan is also intended to serve as a guide to dredging project sponsors and regulatory agencies in planning and reviewing dredging projects. In order to be a useful guide, it focuses on disposal sites that are both in the proximity of the dredging areas and appear approvable under existing regulatory requirements. In this way, the plan can be used to expedite the dredging project sponsors' search for appropriate disposal sites and regulatory agencies' permit review process.

The Plan is not intended to be an exhaustive list of all possible disposal sites and it in no way restricts the disposal of dredged materials to designated sites only. Also, the Plan does not guarantee site availability. In many cases designated sites are privately owned and their use will require owner approval. The plan does not obviate the need to obtain dredging and disposal permits. In all cases, use of a site for dredged material disposal will have to conform with local, state, and federal regulatory requirements.

The revised Plan which exists as a separate background report entitled *Columbia River Estuary Dredged Material Management Plan* consists of six major sections. Section 2 provides updated policies and standards for regulating dredging and disposal projects. These policies and standards reflect refinements in local, state, and federal disposal policies that have occurred since 1979. Sections 3 and 4 include information on disposal site designation and plan implementation. Section 5 presents a summary of existing and potential dredging projects in the estuary and a projection of dredging volumes for a five years period. Section 6 inventories disposal sites needed to meet the projected dredging requirements. The final section compares the site and project inventories to determine if designated sites are adequate to meet dredging needs. appendices in the document summarize dredging and disposal options (Appendix B), and changes made to the original dredged material disposal site inventory (Appendix C).

P 50. MITIGATION AND RESTORATION PLAN FOR THE COLUMBIA RIVER ESTUARY

P 50.1 PURPOSE AND PLAN CONTENT

The Mitigation and Restoration Plan for the Columbia River Estuary(1987) revises and updates the *Mitigation Plan for the Columbia River Estuary* developed in 1983 by the Columbia River Estuary Study Taskforce (CREST). The 1983 plan designated mitigation sites in the Columbia River Estuary. The plan also provided a method to determine estuarine mitigation site area and type requirements [now adopted into Oregon state estuarine mitigation law (ORS 541.626)].

After four years of reviewing permits requiring mitigation under the 1983 plan, it became apparent certain revisions were required. With regard to policies, a more detailed review of government policy and legislation are completed and regional policies are revised to address current local, state, and federal policy concerns. Recent research on wetland mitigation feasibility and on cumulative aquatic area impacts is used to help guide mitigation policy revisions. New information on potential development scenarios and mitigation site designations is also included. The revised *Mitigation and Restoration Plan for the Columbia River Estuary* existing here as a separate background report, embodies these plan alterations and is incorporated by reference into the 1987 *Columbia River Estuary Regional Management Plan.*

CREST coordinated the revision and update of the *Mitigation and Restoration Plan* with government agencies, local jurisdictions, citizens, and development interests in the lower Columbia River. To accomplish this coordination, CREST established two groups to assist in plan revision (Appendix A). The first group consisted of 50 individuals representing local governments, state and federal agencies, ports, private industry and citizens. This general review group provided written comments on the draft *Mitigation and Restoration Plan.* The second group, the Mitigation and Restoration Plan advisory Committee, consisted of 33 members from the general review group. This committee participated in two meetings. The first meeting consisted of a review of standards and policies that were drafted using local, state and federal regulations and policies and guidelines. The Advisory Committee made suggestions for modifications. The second meeting focused on selecting appropriate mitigation sites. Sites were prioritized based on anticipated need. Landowners with mitigation sites designated on their properties made comments during the meeting. Final site selection and priority ratings were based on anticipated need and landowner concerns.

The Plan defines mitigation as any action that diminishes the degree of impact of development on aquatic areas. Mitigation is categorized as project design mitigation (planning developments to avoid impacts in order to conserve aquatic area and values) and compensatory mitigation (aquatic area creation, restoration, or enhancement at a site other than the impact site to compensate for lost aquatic area and values).

Portions of the Plan treat restoration as a management strategy separate from mitigation. That is, restoration of severely diminished habitat types is considered a worthwhile management directive for its own sake. Unless otherwise specified, this document considers restoration as a component of mitigation in the mitigation-related sections and as a separate management option in the restoration-related sections.

Section 2 of the Plan reviews current state and federal government definitions that are used in statutes and policies pertaining to mitigation and restoration. These definitions were used to help form definitions used in the policy and standard section (Section 5) of the Plan.

Section 3 discusses current federal and state regulations and policies that guide mitigation and restoration efforts in the Columbia River Estuary. These regulations and policies are used as a basis for determining standards and policies listed in the Plan (Section 5).

Section 4 reviews a study by Duncan Thomas (1983) that compares present day habitat types in the Columbia River Estuary with habitat types mapped in the estuary in the mid 1860's and 1870's. Historical changes in areal extent and spatial distribution of habitat types are discussed. Cumulative impacts on habitat types are documented. The most severely depleted habitat types are used as the basis for weighing the relative ranking of present day habitat types in the Columbia River Estuary (Smith 1983). This section summarizes the method used to determine the relative values of estuarine habitat types and the technique by which those values are used to determine mitigation requirements. A more detailed discussion of the method is discussed in the *Mitigation Plan for the Columbia River Estuary* (Smith 1983). Efforts toward developing restoration strategies outside of the context of mitigation are briefly discussed. Potential legal mechanisms and funding sources are described. A review of potential techniques for mitigation and restoration implementation is included.

Section 5 lists Mitigation and Restoration Plan policies and standards. These policies and standards are based on information in Sections 1 - 4 of the Plan and recommendations from the Columbia River Estuary Mitigation and Restoration Plan Advisory Committee.

Section 6 discusses specific mitigation and restoration sites available in the Columbia River Estuary. Sites are classified and protected at different priorities and levels based on the certainty of developments they are matched with. Private landowner rights and public need issues concerning mitigation are briefly discussed. Site selection strategies were reviewed by the Columbia River Estuary Mitigation and Restoration Plan Advisory Committee and concerned landowners. Modifications of protection language and site selection were made using input from the Advisory Committee and landowners.

P60. APPENDICES (On File in the Clatsop County Department of Planning and Development)

The following materials are included in the County's comprehensive Plan by reference:

1. *Columbia River Estuary Inventory of Physical, Biological, and Culture Characteristics* (1977)

2. *The Columbia River Estuary Regional Management Plan* (1988)

3. *An Economic Evaluation of the Columbia River Estuary* (revised 1990)

4. The CREST Mediation Panel Agreement (1981)

5. *Energy Related Development in the columbia River Estuary: Potential, Impacts and Mitigation* (1983)

6. *Columbia River Estuary Dredged Material Management Plan* (1986)

7. *A Mitigation and Restoration Plan for the Columbia River Estuary* (1987)

8. *Changes in the Columbia River Estuary Over the Past Century* (1983)

9. Columbia River Estuary Resource Base Maps. The Columbia River Estuary Planning area in the County is illustrated on nine Columbia River Estuary Resource Base Maps. The resource base maps include the following information:

    a. Shoreline

    b. Vegetation types: swamp, high and low marsh

    c. Depth contours: -3 feet MLLW and deeper

    d. Goal 17 significant wetlands

    e. Goal 17 significant riparian vegetation

    f. Roads/railroads

    g. Designated dredged material disposal sites

    h. Designated mitigation sites

    i. Aquatic Zones: Development,Conservation Two,Conservation One,Natural

    j. Shoreland Zones: Marine Industrial, Conservation and Natural

    k. Shoreland Boundary

    l. Overlay Zones: Shoreland,Mitigation & Dredged Material Disposal (DMD)

III. NECANICUM ESTUARY (GOALS 16 AND 17)

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III. NECANICUM ESTUARY INTRODUCTION

The Necanicum River Estuary and Coastal Shorelands Element (Goals 16 and 17) of the Clatsop County Comprehensive Plan is comprised of several sources.

The Plan Element was developed by CTIC, the Cities of Seaside and Gearhart and Clatsop County.

The Necanicum Estuary Inventory. It was developed by Neal Maine of E-3 Awareness on contract to Clatsop County. This inventory has been updated for wetlands and riparian vegetation in the report Significant Shoreland and Wetland Habitats in the Clatsop Plains by Duncan Thomas (1982). These documents, together with the proposed Plan and zoning changes form the Necanicum Estuary and Coastal Shorelands Elements of the Clatsop County Comprehensive Plan.

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THE NECANICUM RIVER ESTUARY PLAN

PREPARED BY THE

NECANICUM ESTUARY COMMITTEE

AND THE STAFF

OF THE

CLATSOP-TILLAMOOK INTERGOVERNMENTAL COUNCIL
(CTIC)

ADOPTED: SEPT. 1983

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THE NECANICUM ESTUARY COMMITTEE

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THE NECANICUM ESTUARY PLAN

ESTUARINE AND SHORELANDS GOALS AND POLICIES

INTRODUCTION

The Estuarine Resources Goal requires that the Land Conservation and Development Commission classify Oregon's estuaries to specify the most intensive levels of development or alteration to be allowed within each estuary. In October, 1977 an Administrative Rule classifying the estuaries was adopted.

The intent of the classification system adopted is to:

1. Specify the most intensive level of development or alteration allowable within each estuary;

2. Direct the kinds of management units appropriate and allowable in each estuary;

3. Affect the extent of detail required and items inventoried for each estuary;

4. Affect the issuance of and conditions attached to permits by state and federal agencies;

5. Provide guidance for the dispersal of state and federal public works funds; and

6. Indirectly affect decisions concerning private investment in and around estuaries.

The Necanicum Estuary is classed a Conservation Esutary, which is defined in the Estuary Classification Rule as shown in (b) on the following page. The definition for a natural management unit is provided on the following pages because a conservation estuary must include natural management units, as well as conservation management units.

a. Natural estuaries (and management units) shall be managed to preserve the natural resources and the dynamic natural processes. Those uses which would change, alter or destroy the natural resource and natural processes are not permitted.

   Natural estuaries shall only be used for undeveloped, low intensity, water-dependent recreation; and navigation aids such as beacons and buoys; protection of habitat, nutrient, fish, wildlife and aesthetic resources; passive restoration measures, and, where consistent with the resource capabilities of the area and the purpose of maintaining natural estuaries, aquaculture; communication facilities; placement of low water bridges and active restoration measures. Existing man-made features may be retained, maintained, and protected where they occur in a natural estuary. Activities and uses, such as waste discharge and structural changes, are prohibited. Rip-rap is not an allowable use, except that it may be allowed to a very limited extent where necessary for erosion control to protect:

   (1) uses existing as of October 7, 1977;

   (2) unique natural resource and historical and archeological values, or;

   (3) public facilities;

   and where consistent with the natural management unit description in Goal #16 (and as deemed appropriate by the permitting agency).

b. Conservation estuaries (and management units) shall be managed for long-term uses of renewable resources that do not require major alterations of the estuary.

   Permissible uses in conservation areas shall be those allowed in (a) above; active restoration measures; aquaculture; and communication facilities. Where consistent with resource capabilities of the area and the purposes of maintaining conservation management units, high-intensity water-dependent recreation; maintenance dredging of existing facilities; minor navigational improvements; mining and mineral extraction; water-dependent uses requiring occupation of water surface area by means other than fill; and bridge crossings, shall also be appropriate. Conservation estuaries may have shorelines within urban or developed areas. Dredged marinas and boat basins without jetties or channels are appropriate in conservation estuaries. Waste discharge meeting state and federal water quality standards would be acceptable. Maintained jetties and channels shall not be allowed.

The Necanicum Estuary has been divided into the preceeding two management units. A management unit is defined as a discrete geographic area, defined by biophysical characteristics and features, within which particular uses and activities are promoted, encouraged, protected, or enhanced, and others are discouraged, restricted, or prohibited.

Establishment of the Estuary Boundary

The Estuary Boundary is established as the line of aquatic vegetation, which is considered to be the same as the Mean High or Higher Water line (MHHW). It is recognized that there are differences in elevation and therefore variances between the vegetation line and the MHHW water line, but these have been considered in the mapping of the line. The boundary corresponds with the jurisdictional boundary of the Division of State Lands (DSL) under the Fill and Removal Law, and the U. S. Army Corps of Engineers under the Section 404 program of the Rivers and Harbors Act. Activities that would have a significant effect on the estuary, such as dredging or filling, require permits from both the state and federal governments under these programs.

Designation of Estuary Management Units

In determining which management units within the estuary should be natural and which would be conservation, several criteria or considerations were used. These included:

1. The physical and biological characteristics;

2. The present zoning designation and degree of alteration;

3. The significance of the site in terms of size; and

4. The productivity of the areas in terms of the three most important production units: marsh, mudflat, or water.

Natural Area Designations Criteria

Natural areas fall into one or more of the following criteria:

1. Water or wetlands areas which lack significant alteration;

2. Areas which perform resource support functions, such as important shoreline vegetation, mudflats, creeks and creek banks, algae and eel grass beds and important animal habitat e.g. breeding, nesting, and feeding habitat, fish feeding grounds and critical habitat buffers.

3. Areas of significant or extensive salt marshes or tideflats.

Conservation Designation Criteria

1. Areas which have sustained alteration in the past and therefore have lower biological productivity than natural areas;

2. Areas which can withstand limited amounts of adjacent development or alteration, consistent with the intent of the overall goals and policies. Uses within the conservation management unit must be non-consumptive, in that the area is to be managed for resource protection.

3. Certain areas of the conservation management unit have been designated for higher levels of development, consistent with the resource capabilities of the area. These areas are where uses such as boat ramps, aquaculture, and other uses may be permitted on a conditional use basis.

PURPOSE: The purpose of the following goals and policies is to establish a basis for the conservation and development of the Necanicum Estuary. As mandated by the State Estuarine Resources Goal, the Comprehensive Plan must recognize and protect the unique environmental, economic and social values of each estuary and associated wetlands. As a conservation estuary, the Necanicum is designated for long-term uses that do not require major alteration of the estuary, except for purposes of restoration. Specific policies and standards are meant to support and further the goals.

GOAL 1: To maintain all identified marsh areas in their natural, productive condition.

Policy 1-A: As a conservation estuary, the Necanicum shall be managed primarily to protect its natural resource values. Permitted uses or activities in the estuary that result in significant alteration, including filling, dredging, rip-rap, road building and similar activities shall not be carried out in salt marshes or associated fresh-water wetlands.

Policy 1-B: Uses or activities that do result in alteration of estuarine areas shall only be permitted in areas of existing alteration. The Necanicum River in the vicinity of downtown Seaside, other than marshes, is generally considered capable of sustaining development, whereas the upper Necanicum, the Neawanna and the Neacoxie estuary areas are not.

Policy 1-C: The general priority (from highest to lowest) for use of estuarine resources shall be:

a. Uses which maintain the integrity of the estuarine ecosystem;
b. Water-dependent uses requiring estuarine location, consistent with the Oregon Estuarine Classification;
c. Water-related uses which do not degrade the natural estuarine resources, values; and
d. Non-dependent, non-related uses which do not alter, reduce, or degrade the estuarine resources and values.

Policy 1-D: Fill activities are allowed in Conservation management units only as part of the following uses or activities:

a. Maintenance and protection of man-made structures existing as of October 7, 1977;

b. Active restoration if a public need is demonstrated;

c. Bridge crossing support structure if an estuarine location is required, no alternative locations exist, adverse impacts are minimized as much as feasible, and it is consistent with the resource capabilities of the area and purposes of the management unit;

d. Aquaculture, high intensity water dependent recreationand minor navigational improvement if an estuarine location is required, a public need is demonstrated, no alternative upland locations exist for the portion of the use requiring fill, adverse impacts are minimized as much as feasible, and it is consistent with the resource capabilities of the area and the purposes of the management unit;

e. Flood and erosion control structure, if required to protect protect a permitted water-dependent use and land use management practices and non-structural solutions are inadequate to protect the use.

Policy 1-E: There are presently no uses in the Clatsop County portion of the Necanicum Estuary which require dredging. The uses permitted by the County's Zoning Ordinance may require some dredging are aquaculture and boat ramps. These uses are not anticipated to generate sufficient dredge material disposal sites at this time. However, uses which generate dredge material shall develop a dredge material disposal program for the estuary prior to the issuance of a permit. If such projects would also require mitigation, a mitigation plan for the estuary shall also be developed.

a. Dredging shall be allowed only in conjunction with a permitted use or activity. Dredging shall not be permitted unless it can be shown that there is a specific need and that adverse impacts are minimized as much a possible.

b. Before action on a proposed marina, aquaculture facility, boat ramp, or other use which may require dredging or itigation, an estuary-wide dredge material disposal and mitigation plan shall be required.

c. Dredge material shall not be deposited in the water, in other estuarine areas, or fresh water wetlands. Upland sites shall be utilized and engineering practices consistent with Army Corps of Engineers requirements shall be utilized. Where there is erosion occuring and biological productivity is low, beach nourishment may be considered as a means of disposal. Proposed dredge material disposal sites shall be carefully evaluated through the permit process and fully coordinated with appropriate State and Federal Agencies.

Policy 1-F: Permitted uses or activities, other than dredge or fill, shall be allowed only upon a showing that there is a public need, and estuarine location is required and no alternative upland sites exist, and adverse impacts are minimized as much as feasible.

Policy 1-G: The following uses and activities shall be permitted only after a demonstration that they are consistent with the resource capabilities of the area and the purposes of the management unit:

- Natural management units; restoration
- Conservation management units; high intensity water dependent recreation, maintenance dredgging of existing facilities, minor navigational improvements, sand and gravel removal, bridge crossings, and water dependent uses requiring occupation of water surface by means other than fill.

Policy 1-H: In permitting uses or activities consideration shall be given to the cumulative impact of additional requests for like actions in the area. The total effect of all conditional uses shall remain consistent with the intent of the management unit and the resource capabilities of the area.

Policy 1-I: Actions which would potentially alter the integrity of the estuarine ecosystem shall be preceded by a clear presentation of the impacts of the proposed alteration, and a demonstration of the public's need and gain which warrant such modification or loss.

Policy 1-J: Where a use requires an estuarine location, construction on piling is preferred to filling.

GOAL 2: To manage areas and uses adjacent to marshes to protect the integrity of the marshes themselves.

Policy 2-A: In most areas, freshwater marshes that are adjacent to the estuary have been included within the estuary boundary. These areas are considered unsuitable for intensive development (filling and construction primarily), because of their resource value, poor suitability for development, and the effect development would have on the estuary.

Policy 2-B: Development that takes place in areas upland from the estuary shall respect the natural functions of the adjacent water areas. Shoreland standards should include as a minimum, control of vegetation removal, storm water runoff and public access. A general rule should be: the more intensive the development, the more careful the control of adverse impacts.

Policy 2-C: The proliferation of individual single purpose docks and piers shall be controlled through the encouragement of community facilities common to several uses and interests. The size and shape of docks or piers shall be limited to that required for the intended use. Alternatives to docks and piers, such as mooring buoys, dryland storage and launching ramps shall be investigated and considered.

GOAL 3: To encourage the restoration of the estuary and its physical and biological resources.

Policy 3-A: All jurisdictions and organizations with an interest in the productivity of the estuary should work together to encourage the U.S. Army Corps of Engineers or other agency to investigate the restoration of the mouth of the estuary in order to improve tidal and salinity patterns.

Policy 3-B: Development that takes place in areas adjacent to natural estuarine designations shall be carefully reviewed to insure that it is designed in a manner that will protect the integrity and function of the natural area. Additional buffers, setbacks or other controls may be required in order to carry out this policy.

Policy 3-C: Adverse impacts to estuarine resources resulting from dredge or fill activities permitted in intertidal or tidal marsh areas shall be mitigated by creation, restoration or enhancement of an estuarine area. The objective shall be to improve or maintain the functional characteristics and processes of the estuary such as its natural biological productivity, habitat and species diveristy, unique features and water quality.

Actions exempted from the mitigation requirement above include:

a. Removal or filling of less than 50 cubic yards of material or when an Oregon State Removal and Fill Permit is not otherwise required.
b. Filling for repair and maintenance of existing functional dikes when there is negligible physical or biological damage to tidal marsh or intertidal areas;
c. Rip-rap to allow protection of an existing bank line with clean, durable erosion-resistent material provided that the need for rip-rap protection is demonstrated and that this need cannot be met with natural vegetation;
d. Filling for repair and maintenance of existing roads when there is negligible physical or biological damage to tidal marsh or intertidal areas.
e. Dredging or filling required as part of an estuarine resource creation, restoration, or enhancement project agreed to by local, state and federal agencies, and
f. Other proposed projects of activities where, upon determination of the Oregon Division of State Lands, the proposed alteration would have negligible physical, biological, and water quality impacts.

GOAL 4: To achieve an improved level of water quality in the estuary by the improvement of wastewater discharge, the careful control of storm water runoff, and the prevention of erosion of uplands areas.

Policy 4-A: The City of Seaside is attempting to rebvuild its sewage treatment plant at the present time. The present level of discharge is causing severe water quality problems during peak summer months when stream runoff is low, tides are low and wastewater flows are high. Because of funding problems, EPA construction funds for the treatment plant appear to be postponed for several years. The cities and county, in conjunction with DEQ and State Fish and Wildlife, should: (1) investigate an interim solution to the problem to reduce the impact on water quality, and (2) investigate placement of the wastewater outfall so as to improve flushing of treated wastewater.

Policy 4-B: Because of the potential damage storm water runnoff can cause in estuaries, standards for storm water drainage systems (stream, etc.) wherever possible, and for the dispersion of storm water from parking lots and streets prior to entering the estuary. Storm water outfalls shall always be directed away from significant marshes and tideflats.

Policy 4-C: The Oregon Forest Practices Act shall be strictly enforced to insure that logging and other forest management does not adversely impact the estuary. The State Department of Forestry should be made aware of the special characteristics of the estuary environment, and the need for special protection. Local governments should take an active role to insure the enforcement of the Forest Practices Act.

Policy 4-D: The County recognizes the authority of the following state agency statutes in managing activities that may affect the estuary's quality:

a. The Oregon Forest Practices Act and Administrative Rules, for forested lands as defined by ORS 527.160—527-730 and 527.990.
b. The programs of the Soil and Water Conservation Commission and local districts and the Soil Conservation Service.
c. The non-point source of discharge water quality program administered by the Department of Environmental Quality under Section 208 of the Federal Water Quality Act as amended in 1972 (PC 92-500) and
d. The Fill Removal Permit Program administered by the Division of State Lands under ORS 541.605-541.665.

GOAL 5: To protect riparian (streambank) vegetation within the Necanicum Estuary.

Policy 5-A: Streambank vegetation shall be protected in order to provide wildlife habitat, prevent shoreline erosion, filter storm runoff, protect structures from flood hazards, and for aesthetic purposes. Wherever vegetation must be removed, for rip-rap, public access, bridge placement, and so forth, efforts shall be made to replant after construction.

Policy 5-B: Through the building permit, zoning and subdivision approval processes, the County shall provide standards for setbacks of structures, fills or other alterations from the shoreline.

GOAL 6: To protect fish and wildlife habitat throughout the Necanicum estuary.

Policy 6-A: Fish and wildlife habitat of the Necanicum estuary system contributes a great deal to the environmental quality and economy of the area. Actions that would reduce the habitat value of the estuary shall be carefully evaluated in this light. The Oregon Department of Fish and Wildlife shall be consulted whenever such actions are proposed in order to determine the impacts.

GOAL 7: To increase the public understanding of the value and functioning of the estuary and the river.

Policy 7-A: The County strongly encourages school districts and the community college to continue programs in Marine Ecology and Oceanography in order to promote this goal.

Policy 7-B: The County should participate in a regional organization (such as CREST) that maintains a staff capable of evaluating development proposals and working with resource agencies.

Policy 7-C: Public access to the estuary shall be encouraged; development shall be reviewed as to how access will be provided.

GOAL 8: To foster cooperation among jurisdictions and agencies in the management of the estuary.

Policy 8-A: Since actions in the estuary extend beyond corporate boundaries, all jurisdictions on the estuary shall pareticipate in the evaluation of development proposals affecting the estuary. This may be carried out in the state and federal permit processes, or through the conditional use or subdivision permit processatr the local level. The Oregon Department ofFish and Wildlife shall be used as a resource to evaluate the proposals.

Policy 8-B: The County recognizes the authority of the following state agency statutes in managing activities that may affect the estuary's quality:

a. The Oregon Forest Practices Act and Administrative Rules, for forested lands as defined by ORS 527.160—527-730 and 527.990.

b. The programs of the Soil and Water Conservation Commission and local districts and the Soil Conservation Service.
c. The non-point source of discharge water quality program administered by the Department of Environmental Quality under Section 208 of the Federal Water Quality Act as amended in 1972 (PC 92-500) and
d. The Fill Removal Permit Program administered by the Division of State Lands under ORS 541.605-541.665.

GOAL 9: To develop an implementation procedure that insures that estuarine development actions are consistent with the Estuarine Resource Goal of the State-wide Planning Goals.

Policy 9-A: Where a use could potentially alter the integrity of the estuarine ecosystem, the City shall require a clear presentation of the impacts of the proposed alteration, and a demonstration of the public's need and gain which would warrant such modification or loss. An impact assessment procedure is set forth in the Land & Water Development & Use Ordinance zoning ordinance. The impact assessment will be used to identify potential alterations of estuarine resources and values, determine whether potential impacts can be avoided and minimized, and to provide factual base information to assure applicable Policy Standards will be met. If the City requires additional information of an applicant, the City shall specify the nature of the assessment to addressing those standards and policies that the City determines are relevant.

Policy 9-B: Goal 16 requires that dredge, fill or other significant degradation of estuarine natural values, by man, be allowed only:

a. if required for navigation or other water-dependent uses that require an estuarine location, and
b. if a public need is demonstrated, and
c. if no alternative upland locations exist, and
d. if adverse impacts are minimized as much as feasible.

The County will apply the above standard to all dredge or fill activities during review of these projects, through the conditional use procedure. The County will rely on the existing Corps of Engineers permit process to determine when a significant degradation other than dredge or fill, may occur. In this process, a preliminary assessment is completed for every permit application and a determination is made as to whether the project would cause significant impacts. A public notice is then issued containing either a finding of no significant impact (FONSI), or a determination that there will be a significant impact and an Envrionmental Impact Statement is required. Any agency, governmental jurisdiction or other interested party has the opportunity to challenge the Corps determination, or to ask for a public hearing. Therefore, an opportunity is provided for any party to supply information that insignificant degredation or reduction of natural values

would occur in a specific project. The County will apply the above 4-part standard to all projects which the Corps has determined will involve significant impacts and requires an Environmental Impact Statement.

In addition to the Necanicum Estuary Plan Policies, Clatsop County also establishes the following policies:

1. Expand definitions that accompany the permitted use tables.

   a. Use is the end to which a land or water area is ultimately employed. A use often involves the placement of structures or facilities.

   b. Activity is any action taken either in conjunction with a use or to make a use possible. Activities do not in and of themselves result in a specific use. Most activities may take place in conjunction with a variety of uses.

2. Permitted with Standards, (PS). Uses and activities may be permitted under a Type II procedure, subject to:

   a. Policies of the Comprehensive Plan.

   b. The general requirement that the use or activity be designed and conducted in a manner that will minimize, so far as practical, any resultrant damage to both the ecosystems of affected aquatic and shoreland areas and the public's use of the water, and

   c. The Standards of the Land & Water Development & Use Ordinance.

3. Conditional (C) Uses and activities may be permitted under a Type II procedure. The use or activity must be found to be consistent with:

   a. Policies of the Comprehensive Plan,

   b. The standards of the Land & Water Development & Use Ordinance,

   c. The general requirement that the use or activity be designed and conducted in a manner that will minimize, so far as practical, any resultant damage to both the ecosystems of aquatic and shoreline areas and the public's use of the water, and,

4. Uses and activities must also be consistent with applicable state and federal agency permits and regulations.

PERMITTED USE TABLE, NECANICUM ESTUARY

USE/ACTIVITY	NATURAL	CONSERVATION
1. Aquaculture, water dependent portions		C
2. Boat Ramp		C
3. Bridge Crossings		C
4. Commercial development		
5. Communication facility		C
6. Docks, piers, moorages		C
7. Industrial development		
8. Marina		C
9. Navigational Aids	P.S.	P.S.
10. Residential development		
11. Sanitary sewer outfall		C
12. Storm water outfall		C
13. Underwater cables and pipelines	C	C

ACTIVITIES		
1. Dikes, temporary		P.S.
2. Dredging, maintenance		C
3. Dredging, new		C
4. Dredge material disposal		
5. Filling		C
6. Mining and mineral extraction		C
7. Piling		C
8. Research & education, observation	P.S.	P.S.
9. Restoration, passive	P.S.	P.S.
10. Restoration, active	C	C
11. Shoreline stabilization, structural	C	C
12. Shoreline stabilization, vegetative	P.S.	P.S.

LEGEND: C= Permitted as conditional use through a Type II procedure

PS= Permitted with a review through a Type II procedure

Blank= Not Permitted

THE ESTUARY SHORELANDS BOUNDARY

The Necanicum Estuary boundary, as discussed, was drawn around all water bodies, salt marshes, tideflats, and freshwater marshes adjacent to the Necanicum and its tributaries below the head of tide. The line of mean higher high water (MHHW) was used in most cases, but in some situations the line of non-aquatic vegetation was more appropriate.

The Shorelands boundary as drawn follows the 100-year flood plain line in most situations, except where extensive development has taken place. In such cases, the boundary is either one hundred feet (100') upland from the estuary boundary or conforms to a major man-made feature, such as a road or building.

The Estuary and Shorelands boundaries were drawn by the Estuary Committee using a composite aerial photo (Scale: 1"=100'). The photogrammetry at two-foot contour intervals was done by CH2M Hill in 1973 as part of the HUD Flood Study.

SHORELANDS POLICIES

1. Protection of Marsh Areas

Development of land adjacent to marshes can have a serious effect on the biological integrity of the marsh itself. It order to insure compatibiity, standards shall control the development through shoreline setbacks, protection of riparian vegetation, control and setbacks of fills, maintenance of natural drainage patterns, careful placement of storm water and other utility systems, and aesthetic standards. Particular attention shall be given to the control of erosion adjacent to water areas. Temporary measures to control runoff during construction shall be employed and revegetation plans shall be filed with building permits. Uses that could contaminate adjacent marsh areas; such as gasoline stations or oil depots, shall be prohibited.

2. Public Access to the Waterfront

Consistent with the policy to protect marshes and tideflats, public access to the waterfront shall be maintained and improved. This access may take the form of trails, viewpoints, or other low intensity uses: waterfront parks, small scale piers, boat docks or boat launching areas; bridges that provide for fishing, sitting or viewing; and in developed areas, commercial uses that take advantage of their proximity to the water, such as restaurants. Primary attention shall be given to the use of publicly owned lands for public access, such as street ends or other public lands. Private use of private shorelands is legitimate and shall be protected. Special consideration shall be given to make areas of the estuary shoreline available to the handicapped or other persons with limited mobility.

3. Protection of Riparian Vegetation

Because of the value that streambank vegetation has for wildlife habitat, water quality protection, prevention of erosion and other purposes, it shall be maintained and protected. In certain areas, removal of large trees may be necessary to prevent blowdowns, but such removal shall be carefully evaluated with the assistance of the Oregon Department of Fish and Wildlife, and the U.S. Soil Conservation Service. In any case, structures, parking lots, roads, fills, utilities or other uses or activities shall be kept away from the shoreline a distance of at least thirty feet (30'). Location on the shoreline shall be considered justification for a setback variance on the non-shoreline side of a lot in cases where the size of the lot would not permit such a setback. Each case must be carefully reviewed by the Planning Commission. Setbacks from natural areas shall be a minimum of fifty feet (50').

4. Uses Adjacent to the Estuary

The Necanicum Estuary is valuable for its natural values and is not considered a water body useful for waterborne commerce. It is not anticipated that shipping or water-dependent industry will ever be accommodated here. The types of water-dependent and water-related uses given highest priority on the shorelands adjacent to the Estuary are recreational and are mentioned in the policy on public access. Priorities for shoreland uses (from highest to lowest) shall be to:

a) Promote uses which maintain the integrity of the estuaries of coastal waters.
b) Provide for water-dependent uses;
c) Provide for water-related uses
d) Provide for non-dependent, non-related uses which retain flexibility of future use and do not prematurely and inalterably commit shorelands to more intensive uses;
e) Provide for development including non-dependent, non-related uses, in urban areas compatible with existing or committed uses;
f) Permit non-dependent, non-related uses which cause a permanent or long term change in the features of the coastal shorelands only upon a demonstrtion of public need.

The priority of uses shall be reflected in the Land and Water Development and Use Ordinance.

5. Dredge Material Disposal and Restoration

Inasmuch as the Necanicum Estuary is designated conservation and minimal dredging is permitted for uses such as small moorages, aquaculture or restoration, it is not anticipated that large volumes of material will be in need of disposal. However, dredge material shall be disposed of in a manner that is least disruptive of the environment. No water or wetlands areas shall be used for disposal. Upland sites other than freshwater marshes shall be utilized and good engineering practices shall be employed to protect water quality. Where active erosion is occurring and biological productivity is low, beach nourishment may be sufficiently coarse for this purpose. Dredge material disposal shall be carefully evaluated through the permit process.

6. Shoreland Stabilization

General priorities for shoreline stabilization for erosion control are (from highest to lowest):

a) Proper maintenance of existing riparian vegetation;
b) Planting of riparian vegetation;
c) Vegetated rip-rap;
d) Non-vegetated rip-rap;
e) Grains, bulkheads, or other structural methods.

Structural shoreline stabilization methods shall be permitted only if:

a) Flooding or erosion is threatening a structure of an established use; or
b) There is a demonstrated public need in conjunction with a water-dependent use; and
c) Land use management practices or non-structural solutions are inappropriate because of high erosion rates, or the use of the site; and
d) Adverse impacts on water currents, erosion, and accretion patterns of aquatic life and habitat are avoided or minimized.

STANDARDS

The following standards are intended to be included in the zoning ordinance conditional use standards of the City of Seaside, Gearhart, or Clatsop County. It is the intention of the plan to provide a set of standards for each use or activity in the permitted use table. The standards are arranged alphabetically. As other uses or activities are added to the table, additional standards must be devised. The standards must also be in conformance with the goals and policies of the comprehensive plan.

These standards were adopted from those of the Columbia River Estuary Taskforce, the City of Bay City, and the standards of state and federal resource agencies.

AQUACULTURE USE

DEFINITION: The raising, feeding, planting and harvesting of fish and shellfish, including associated facilities necessary to engage in the use.

1. Structures and activities associated with an aquaculture operation shall not unduly interfere with navigation.

2. Water diversion or other shoreline structures shall be located so as not to unduly interfere with public shoreline access. Public access to the facility shall be provided consistent with safety and security considerations.

3. Aquaculture facilities shall be constructed to blend in, and not detract from the aesthetic qualities of the area. In developed areas, views of upland owners shall be given consideration in facility design.

4. Water diversion structures or manmade spawning channels shall be constructed so as to maintain minimum required stream flows for aquatic life in the adjacent stream.

5. The potential impacts of introducing a new fish or shellfish species (or race within a species) shall be carefully evaluated so as to protect existing aquatic life in the stream and estuary.

6. Aquaculture facilities shall be located far enough away from sanitary sewer outfalls to the extent that there will be no potential health hazard.

7. Water discharged from the facility shall meet all federal and state water quality standard and any conditions attached to a waste discharge permit.

BOAT RAMPS

1. Boat ramps requiring fill or dredging shall be evaluated under fill or dredgi requirements. (Fill or removal of 50 cubic yards or less do not require permits from the U. S. Army Corps of Engineers or the Division of State Lands). Necessary permits will be obtained.

2. Boat ramps shall not be located in marsh areas or tideflats, and should be located in areas with a significant degree of alteration. Water depths shall be adequate so that dredging is not necessary.

3. Boat ramps shall be compatible with surrounding uses, such as natural areas or residential areas.

DOCK/MOORAGE

DEFINITION: A pier or secured float or floats for boat tie-up or other water use, often associated with a specific land use on the adjacent shoreland, such as a residence or group of residences. Floathouses, which are used for boat storage, net-drying and similar purposes, are also included in this category.

1. Community docks or moorages shall be given higher priority than private individual docks or moorages.

2. Where a private individual dock is proposed, the applicant must provide evidence that alternative moorage sites such as nearby marinas, community docks or mooring buoys are not available, are impractical or will not satisfy the need.

3. Evidence shall be provided by the applicant that the size of the dock or moorage is the minimum necessary to fulfill the purpose.

4. Covered or enclosed moorage shall not be allowed except in connection with a commercial or industrial use where such shelter is necessary for repair and maintenance of vessels and associated equipments, such as fishing nets, etc.

5. Open pile piers or secured floats shall be used for dock construction. Fills in aquatic areas to create a dock or moorage are not permitted.

6. Piers and floats shall extend no further out into the water than is needed to affect navigational access. Conflicts with other water surface uses, such as fishing or recreational boating shall be minimized.

7. Floats in tidally-influenced areas shall be located such that they do not rest on the bottom at low water.

FILL

DEFINITION: Fill is the placement by man of sediment or other material in an Aquatic area (which may create new shorelands) or on shorelands to raise the elevation of the land.

1. Fills shall be permitted for active restoration, aquaculture, placement of communications facilities, water-dependent recreation such as marinas, and flood and erosion control structures.

2. Where fills are permitted, the fill shall be the minimum necessary to accomplish the proposed use.

3. Fills shall be permitted only after it is established through environmental impact assessments that negative impacts on the following factors will be minimized:

   a. Navigation
   b. Productive estuarine habitat
   c. Water circulation and sedimentation patterns
   d. Water quality
   e. Recreation activities

4. Where existing public access is reduced, suitable public access as part of the development project shall be provided.

5. Aquatic areas shall not be used for sanitary landfills or the disposal of solid waste.

6. Fill in an intertidal or tidal marsh area shall not be permitted.

7. Fills in CONSERVATION Shorelands and Aquatic areas shall be allowed only if consistent with the resource capabilities of the area and the purpose of the CONSERVATION designation. Fills are not permitted in natural areas.

8. Fills shall be permitted only in areas where alteration has taken place in the past, such as the rip rap bank of the Necanicum River in downtown Seaside.

9. The following uses and activities shall be permitted with the following findings of fact:

   a. Maintenance and protection of man-made structures (rip rap or other shoreline protection) existing as of October 7, 1977;

   b. Active restoration if a public need is demonstrated;

   c. Aquaculture if:

      1) an estuarine location is required;

      2) a public need is demonstrated;

3) No alternative upland locations exist for the portion of the use requiring fill; and

4) Adverse impacts are minimized as much as feasible;

d. High-intensity water-dependent recreation and minor navigational improvements if:

1) The findings of 1.c.(1)-(4) are made; and

2) If consistent with the resource capabilities of the area and the purposes of the management unit; and

e. Flood and erosion control structures if:

1) Required to protect a water-dependent use, as otherwise allowed in 1.b.-d.

2) Land use management practices and nonstructural solutions are inadequate to protect the use;

3) There is no alternative upland locations for the portion of the use being protected;

4) An estuarine location is required by the use;

5) A public need is demonstrated; and

6) Adverse impacts, to include those on water currents, erosion and accretion patterns, are minimized as much as feasible.

LAND TRANSPORTATION FACILITIES

DEFINITION: Highways, railroads, bridges and associated structures and signs which provide for land transportation or motorized and/or nonmotorized vehicles (excluding logging roads).

1. Land transportation facilities shall not be located in wetlands or aquatic areas except where bridge crossings on pilings are needed.

2. Highways, railroads and bridges should be designed and located to take advantage of the natural topography so as to cause minimum disruption of the shoreline area. Causeways across aquatic areas shall not be permitted.

3. The impacts of proposed rail or highway facilities on land use patterns and physical/visual access shall be evaluated.

4. Culverts shall be permitted only where bridges are not feasible, and shall be large enough to protect water quality, salinity regime and wildlife habitat.

MAINTENANCE DREDGING - Necanicum River only.

DEFINITION: The removal of sediment or other material from a naturally occurring or man-made channel for the purpose of improving water flow or improving navigation.

1. Dredging shall not occur in marshes, tide flats, or other productive subtidal areas as determined by the state and federal permit process.

2. Dredging shall be permitted in areas of the Necanicum River with lower productivity and only to the extent necessary to achieve a minor navigational improvement.

3. Dredging shall be permitted for high intensity recreation purposes, including a moorage or small marina, where such use conforms with the above standards and the goals of this plan.

4. Dredging other than for aquaculture or restoration shall be limited to the main channel of the Necanicum River.

MARINAS

DEFINITION: Marinas are facilities which provide moorage, launching, storage, supplies and a variety of services for recreational, commercial fishing and charter fishing vessels. They are differentiated from docks/moorages by their larger scale and scope of landside services.

1. The applicant shall provide evidence to show that existing marina facilities are inadequate to meet the demand and that existing facilities cannot feasibly be expanded.

2. Marina facilities shall be designed and constructed so as to minimize negative impacts on navigation, water quality, sedimentation rates and patterns, fish rearing or migration routes, important sediment-dwelling organisms, birds, other wildlife, tidal marshes and other important vegetative habitat. An impact assessment shall normally be required.

3. Flushing and water circulation adequate to maintain ambient water quality shall be provided by design or artificial means. A calculated flushing time shall be presented as evidence that this standard has been met.

4. The size of the proposed facility, particularly that portion occupying the water surface, shall be the minimum required to meet the need. In this regard, new facilities shall make maximum use of dry boat moorage on existing shoreland areas.

5. Means for preventing contaminants from entering the water shall be provided. Equipment shall be available on-site for clean-up of accidental spills of contaminants. Sewage, storm drainage and fish wastes shall not be discharged directly into the water.

6. Marina facilities should provide for maximum public access and recreation use, consistent with safety and security considerations. Walkways, seating, fishing areas and similar facilities should be provided.

7. Covered or enclosed water moorage shall be minimized, except as needed for maintenance, repair or construction activities.

8. Marina facilities shall be located only in areas of existing shoreline development on the Necanicum River where its location would not eliminate marsh areas, and where water depths are sufficient so that new dredging is not required.

NAVIGATION STRUCTURES

DEFINITION: Pile dikes, groins, fills, jetties, and breakwaters that are necessary to maintain navigation channels, control erosion or otherwise improve water flow.

1. Evidence will be presented to the (city) (county), through the state or federal permit processes, that the structure(s) will not negatively affect currents, flushing characteristics, adjacent shorelines, marshes or fish habitat. Aesthetic factors shall be considered.

2. Applicants for in-water structures will present evidence why other means of addressing the problem are not feasible, such as riprap on the shoreline, or floating structures.

3. All structures shall be of minor scale, and shall make no major alteration to the estuarine ecosystem.

PILINGS

DEFINITION: The driving of wood, concrete, or steel piling into the bottom in aquatic areas to support piers or docks, bridges or other permitted uses.

1. Piling for a use permitted in the estuary shall be approved only after the applicant has established that adverse impacts on navigation, estuarine habitat and processes, water circulation and sedimentation patterns, water quality and recreational activities are minimized.

2. The piling will meet all state and federal engineering standards.

3. Pilings shall be used in lieu of fill wherever the use is engineering feasible. The number of pilings shall be the minimum necessary to accomplish the proposed use.

RESTORATION/RESOURCE ENHANCEMENT - ACTIVE

DEFINITION: Restoration is replacing or restoring original attributes or amenities such as natural biological productivity and aesthetic or cultural resources which have been diminished or lost by past alterations, activities or catastrophic events. Active Restoration involves the use of specific remedial actions such as removing dikes or fills, installing water treatment facilities, or rebuilding or removing deteriorated urban waterfront areas. Passive Restoration is the use of natural processes, sequences or timing to effect restoration after the removal or reduction of adverse stresses. Resource Enhancement is the use of artificial means such as hatcheries or rearing ponds to improve the quantity or quality of a specific resource.

1. Conditional use application for active restoration/resource enhancement should be accompanied by an explanation of the purpose of the project and the resource(s) to be restored or enhanced. The project shall be allowed only if consistent with the resource capabilities and purpose of the designation of the area and the other adjacent uses.

2. Aquaculture shall be evaluated under those standards.

SHORELINE STABILIZATION

DEFINITION: The protection of the banks of tidal or non-tidal stream, river or estuarine waters by vegetative or structural means.

A. General Standards

1. Preferred Methods

   Proper management of existing streamside vegetation is the preferred method of stabilization, followed by planting of vegetation. Where vegetative protection is inappropriate (because of the high erosion rate, the use of the site or other factors) structural means such as rip-rap may be used as a last resort.

   In the placement of stabilization materials, factors to be considered include, but are not limited to: effects on bird and wildlife habitat, uses of lands and waters adjacent to the bank, effects on fishing areas, effects on aquatic habitat, relative effectiveness of the various structures, engineering feasibility, cost and erosion, flooding and sedimentation of adjacent areas.

2. Emergency repair to shoreline stabilization facilities is permitted, not withstanding the other regulations in these standards, subject to those standards imposed by the State of Oregon, Division of State Lands and the U.S. Army Corps of Engineers.

3. Conditional use application for shoreline stabilization shall be based on a demonstration of need and consistency with the intent of the designation of the area and the resource capabilities of the area. Impacts shall be minimized.

B. Standards for Revegetation and Vegetation Management

1. Plant species shall be selected to insure that they provide suitable stabilization and value for wildlife. Justification shall be presented as to the necessity and feasibility for use of a bank with a slope greater than 2:1 (horizontal to vertical). Trees, shrubs and grasses native to the area are generally preferred.

2. The area to be revegetated should be protected from excessive livestock grazing or other activities that would hinder plant growth.

C. Standards for Rip-Rap

1. Good engineering and construction practices shall be used in the placement of rip-rap, with regard to slope, size, composition and quality of material, excavation of the toe trench, placement of a gravel fill blanket and operation of equipment in the water. State and federal agency regulation should be consulted in this regard.

2. Rip-rapped banks should be vegetated to improve bird and wildlife habitat, where feasible.

3. Shoreline protection measures shall not restrict existing public access to public shorelines.

4. Shoreline protection measures should be designed to minimize their impacts on the aesthetic qualities of the shoreline.

5. Bankline protection is not in itself a way to increase land surface area. Where severe erosion has occurred, fill may be used to obtain the desired bank slope and restore the previous bank line. Any extension of the bank-line into traditional aquatic areas shall be subject to the standards for fill. Disruption of tidal marsh, tidal flat and productive sub-tidal areas shall not be permitted.

6. Construction of shoreline protection measures shall be coordinated with state and federal agencies and local interests to minimize the effects on aquatic resources and habitats. Relevant state and federal water quality standards shall be met. Stream channelization should be avoided.

7. Use of fill material for shoreline protection shall be permitted for maintenance of man-made structures existing as of October 7, 1977.

UTILITIES

DEFINITION: Towers, facilities and lines for communication and power transmission; waste water treatment facilities; storm water and treated water outfalls (including industrial); public water, sewer and gas lines; solid waste disposal.

1. Overhead electrical or communication transmission lines shall be located so as not to unduly interfere with migratory bird flyways and significant habitat or resident waterfowl, birds of prey and other birds. In cases of serious conflict, utility facilities should be located underground.

2. Applications for a utility facility, including cable crossings, shall provide evidence as to why an aquatic site is needed, the alternative locations considered, and the relative impacts of each. Crossings shall avoid disrupting marsh areas wherever it is engineering feasible.

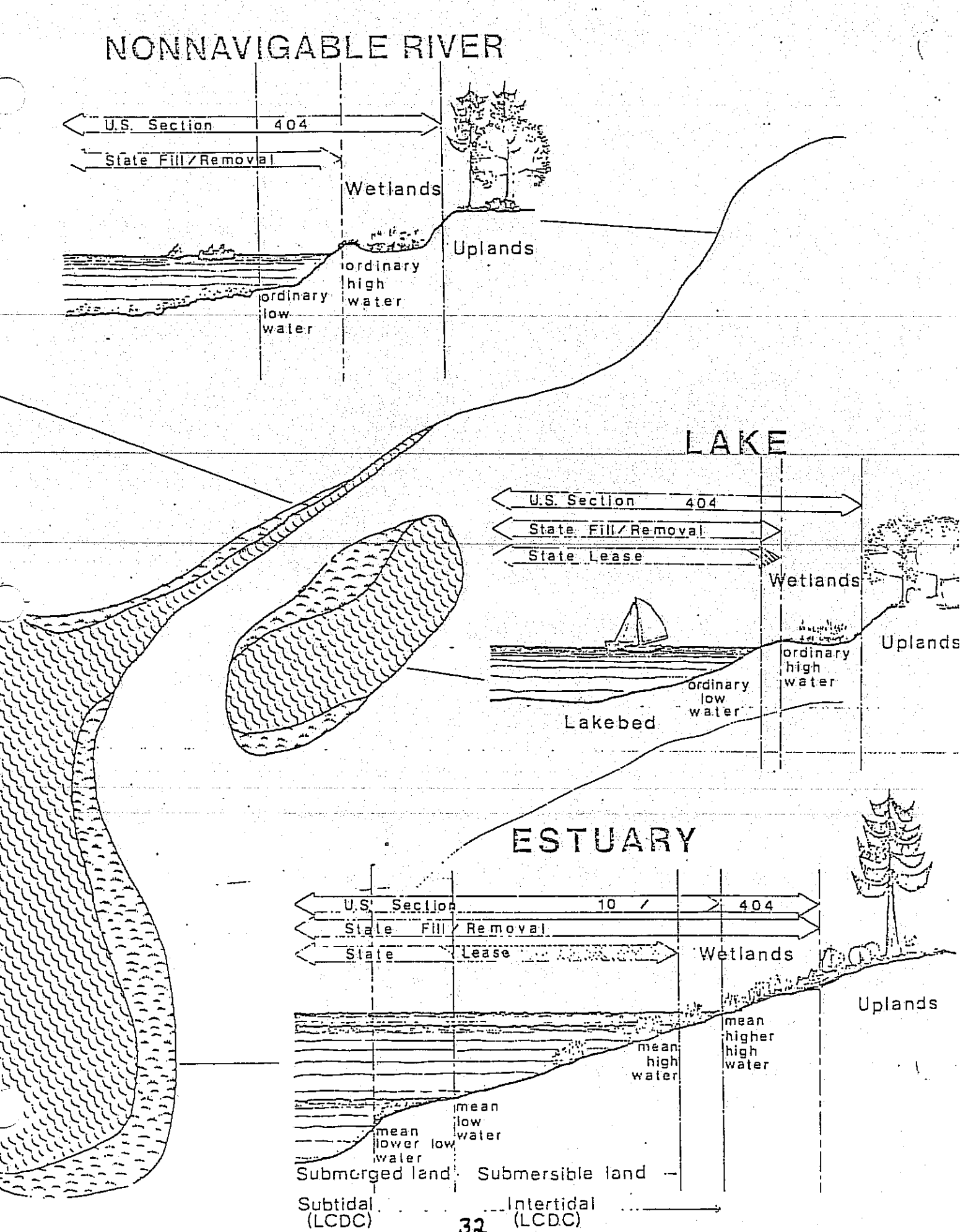
3. Utility facilities shall not be located on new fill land unless part of an otherwise approved project and no other alternative exists.

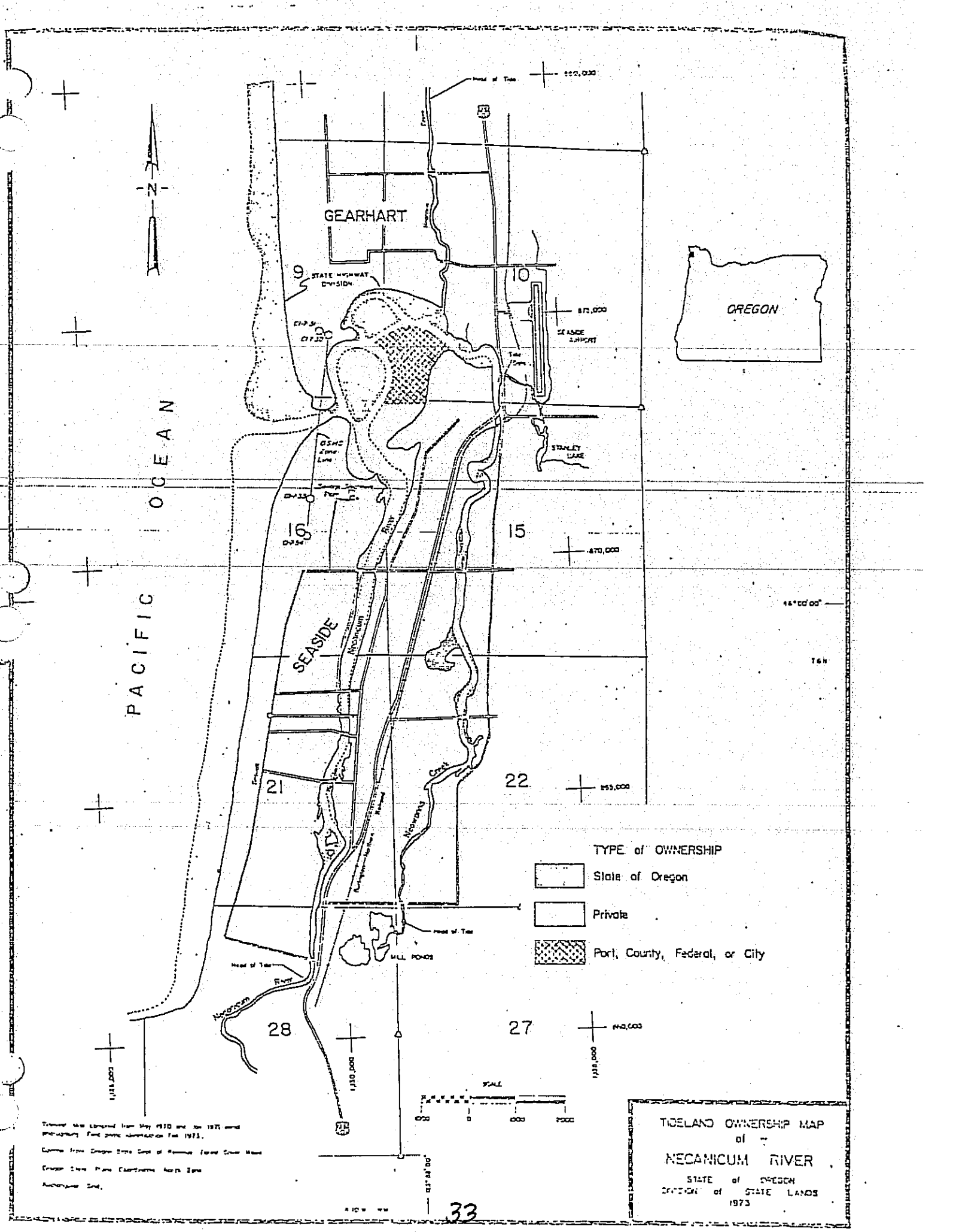
4. Above-ground utility facilities shall be designed to have the least adverse effect on visual and other aesthetic characteristics of the area.

5. Effluents from point-source discharges shall meet all applicable state and federal water and air quality standards. Monitoring shall be carried out so as to determine the on-going effects on the estuarine environment.

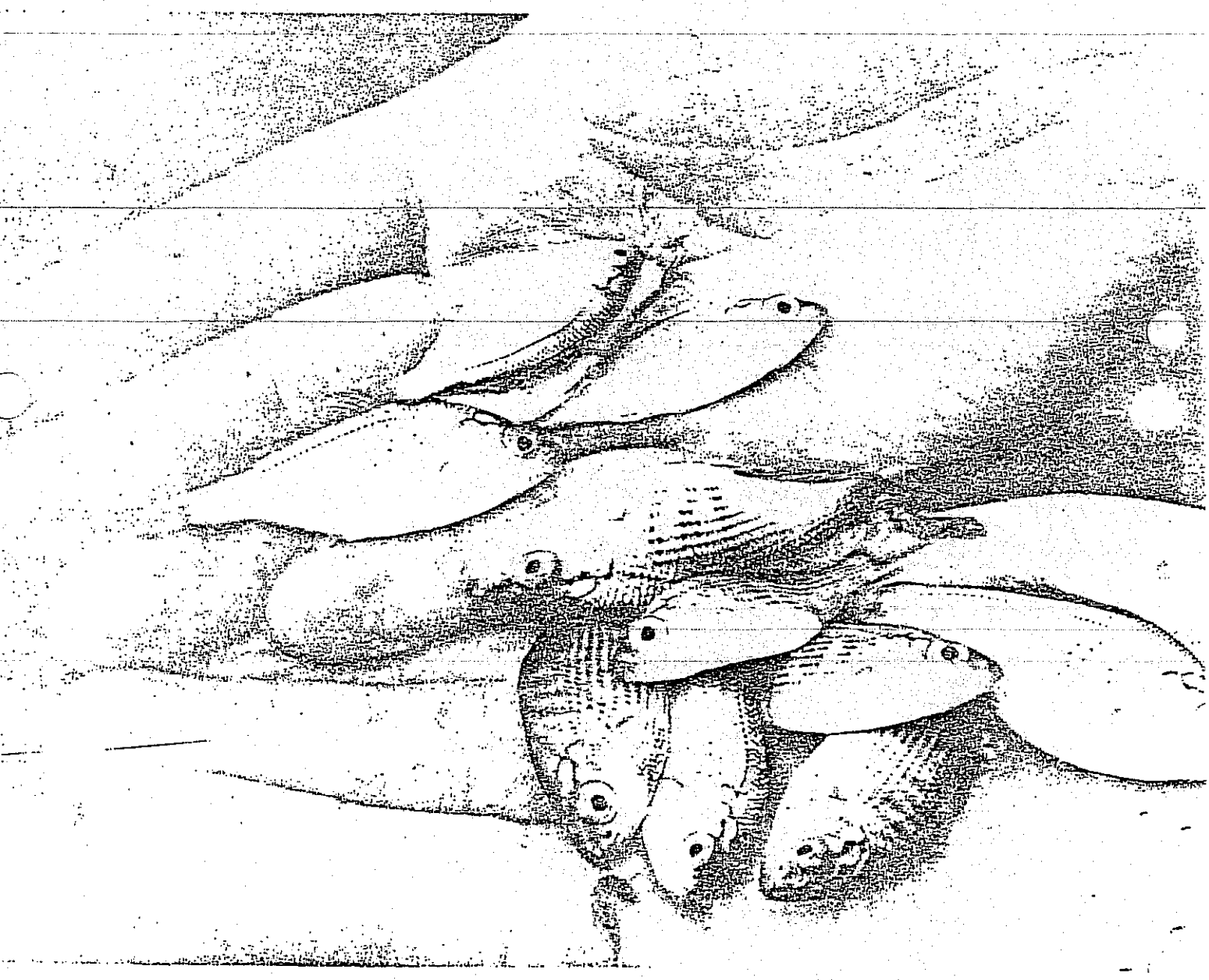
6. After installation or maintenance is completed, banks shall be replanted with native species or otherwise protected against erosion. The pre-project bank-line shall be maintained as closely as possible.

7. Storm water shall be directed into existing natural drainages wherever possible, and shall be dispersed into several locations so as to minimize the impact on the estuary. When adjacent to salt marshes and/or natural areas, special precautions shall be taken to insure contamination of the marsh by oil, sediment or other pollutant does not occur. This may be through use of holding ponds, wiers, dry wells, or other means.


NONNAVIGABLE RIVER
U.S. Section 404
State Fill/Removal
Wetlands
Uplands
ordinary high water
ordinary low water
LAKE
U.S. Section 404
State Fill/Removal
State Lease
Wetlands
Uplands
ordinary high water
ordinary low water
Lakebed
ESTUARY
U.S. Section 10 / 404
State Fill/Removal
State Lease
Wetlands
Uplands
mean higher high water
mean high water
mean low water
mean lower low water
Submerged land
Submersible land
Subtidal (LCDC)
Intertidal (LCDC)


GEARHART
SEASIDE
PACIFIC OCEAN
OREGON
STATE HIGHWAY DIVISION
SEASIDE AIRPORT
STANLEY LAKE
MILL PONDS
Necanicum River
Neawanna Creek
9
10
15
16
21
22
27
28
TYPE of OWNERSHIP
State of Oregon
Private
Port, County, Federal, or City
SCALE
TIDELAND OWNERSHIP MAP
of
NECANICUM RIVER
STATE of OREGON
DIVISION of STATE LANDS
1973

NECANICUM ESTUARY



INVENTORY

NECANICUM ESTUARY

INVENTORY

NEAL MAINE
E-3 AWARENESS

CLATSOP COUNTY, OREGON

JUNE 1979

Fish Drawings by Ron Pittard-Searep Studio
Line Drawings by Walt Linstrom, Clatsop County Planning Dept.
Photography by Neal Maine

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Harry Nehls-review of section on birds
Warren Knispel-field work and review of fish section(Dept. of Fish & Wildlife
Bob Emmitt-identification of benthic animals(National Marine Fisheries)

No. 23

NECANICUM RIVER ESTUARY

INVENTORY

This Necanicum River Estuary Inventory is the first attempt to compile and research information on the estuary system, and is not intended to fill all the voids of knowledge. It will provide some basic biological and physical information for use in the local planning process. Although there are still some blank spots in the study it is adequate to move into the planning process which will help delineate the next step in the information gathering. This initial document will be the tool which illustrates and stimulates the further need of study in the future.

Up to the initiation of the LCDC grant sponsored study of the Necanicum Estuary there was very little information to use for effective planning. Because of the size of the Necanicum Estuary along with other smaller estuaries in Oregon, little attention was paid to them. A new awareness is being generated about the small ocean contact units because of the key role they play in coastal ecology and their link with Coast Range watersheds. It is hoped that this study will help amplify that awareness in Clatsop County and serve as the springboard to a comprehensive plan for the Necanicum Estuary system.

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SECTION A

(Physical)

DRAINAGE BASIN

The Necanicum River-Neawanna Creek-Neacoxie system drains a total of 87 sq. miles. The average yearly freshwater yield of the system is 220,200 ac-ft. with an average annual precipitation of 100 inches. The basin consists primarily of forests (93.6% 40,500 acres), cropland (1.2% 500 acres), and rangeland (1.2% 500 acres).

The Necanicum Estuary measures less than 2000 feet at its mouth and covers about 278 acres. Maximum depth varies from 9-15 feet becoming very shallow at the mouth.

The estuary consists of the Necanicum River, Neawanna Creek, Mill Creek, and Neacoxie Creek. The Necanicum-Neawanna system drains an area of 87 sq. miles with the source of the Necanicum at river mile 21.2, elevation 1360 feet.

The mouth of Neawanna Creek enters the estuary from the North bank at river mile 1.2. Neawanna Creek is approximately 7 miles in length with its source at an elevation of 880 feet. Mill Creek, which enters the Neawanna at 1.5 miles and drains Stanley Lake, is a short 400 yd. from the lake system. At the present time Mill Creek tidal water is controlled by tide gates at its mouth.

The mouth of Neacoxie Creek enters the estuary from the North bank of river mile 0.2. The Neacoxie is less than 4 miles in length with its source at Sunset Lake, elevation approximately 25 feet.

PRELIMINARY
SUBJECT TO REVISION

NECANICUM WATERSHED

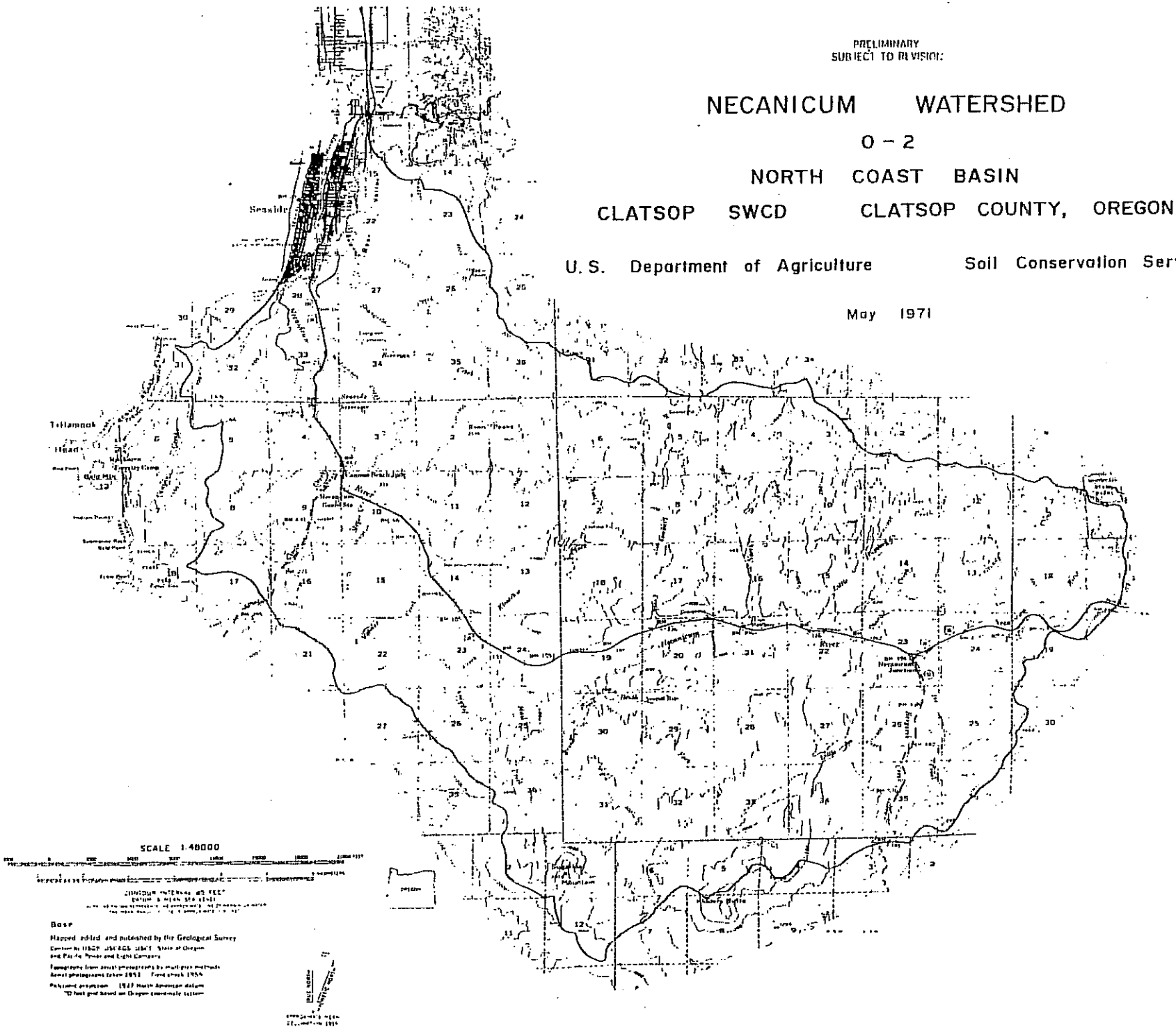
O - 2

NORTH COAST BASIN

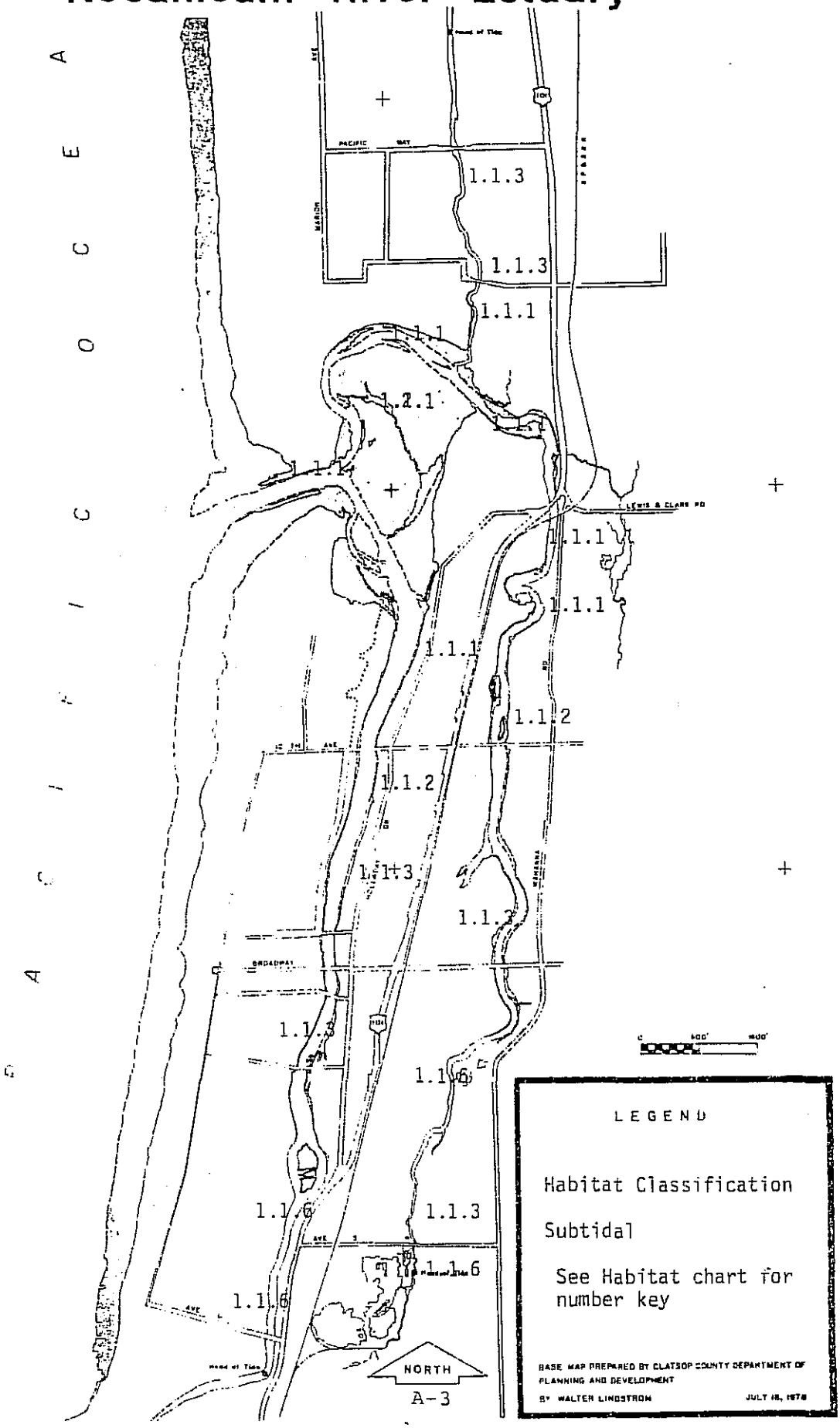
CLATSOP SWCD CLATSOP COUNTY, OREGON

U. S. Department of Agriculture Soil Conservation Service

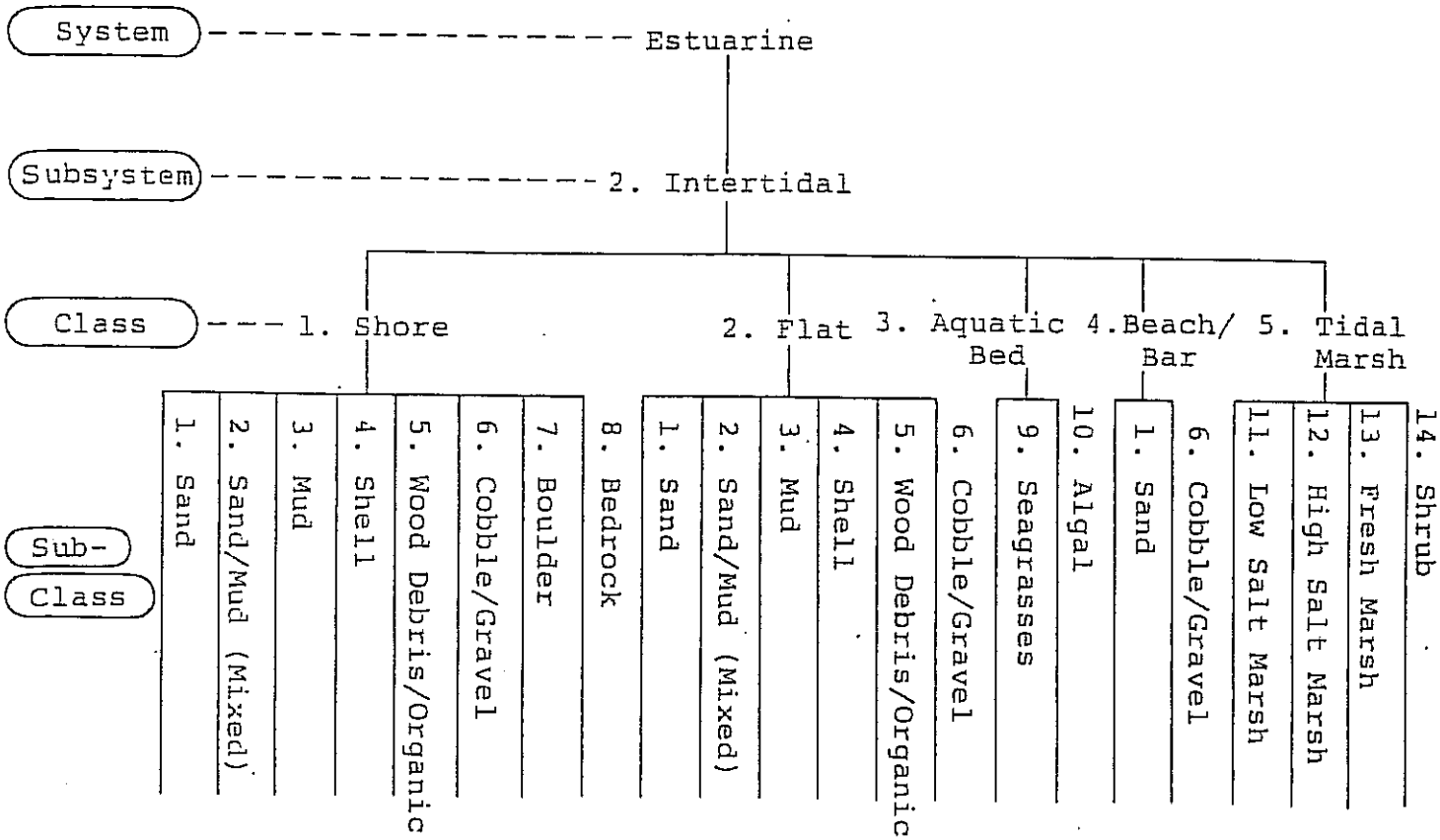
May 1971

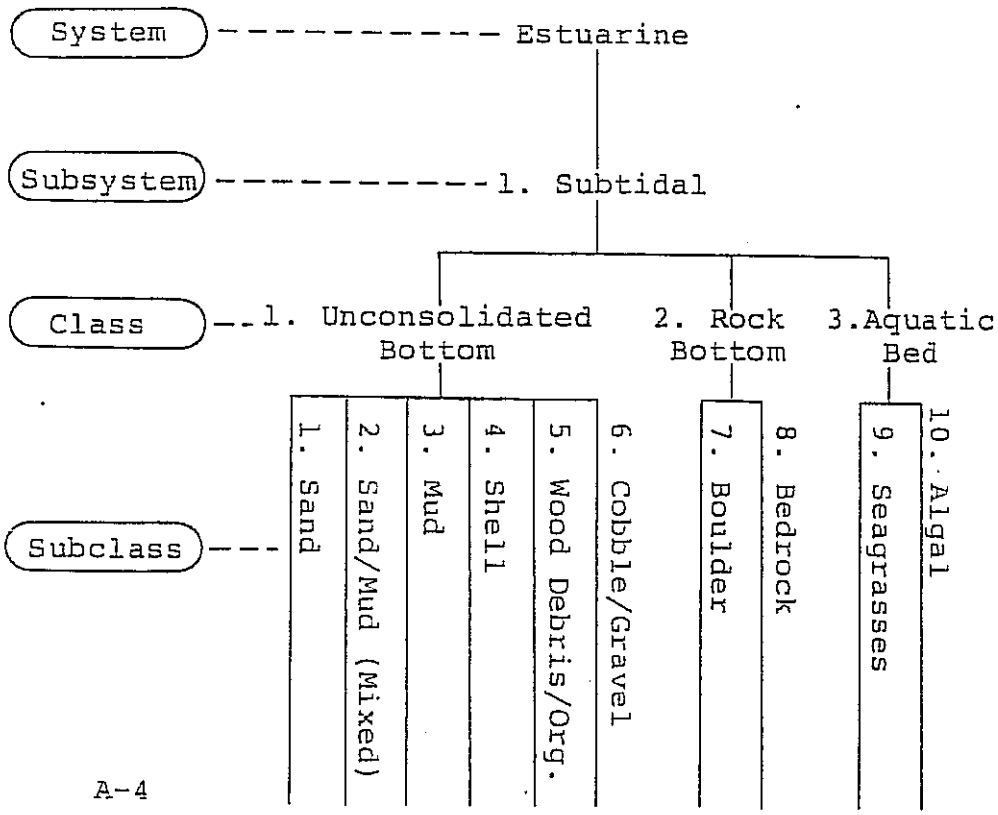


Necanicum River Estuary



ESTUARINE HABITAT CLASSIFICATION SYSTEM





Modified from "Classification of Wetlands and Deep-Water Habitats of the United States", Fish and Wildlife Service, U.S. Department of Interior, October 1977.

SEDIMENTS OF THE NECANICUM ESTUARY

The intent of this portion of the report is to determine the major distribution pattern for the various size sediments in the estuary. All the data were collected during the week of August 28, 1978, and any conclusions must be limited to the conditions prevalent at that time.

The techniques employed were recommended and explained by Gary Muhlberg[1]. The results should be considered as starting points for future studies as the data are presented as general information. However, the expenditures required to obtain precise assessment were far beyond the nature and scope of this study.

Technique and Sampling Method

Sediments were collected by boat for most of the stations with a grabbing device. Each productive grab produced approximately 100 milliliters of sediments which were placed in plastic bags. Using the following sieves: 1 millimeter (very coarse sand); .5 millimeter (coarse sand); .25 millimeter (medium sand); .125 millimeter (fine sand); and .063 millimeter (very fine sand); plus a collecting basin for the sediments smaller than .063 (silt and clay fraction) the sediments were separated. The actual technique involved measuring a sample which varied between 6 and 10 milliliters wet volume then washing it through the piled sieves with the aid of a spray bottle. Once completely sieved, the sediments were washed into a 10 milliliter graduated cylinder, one screen at a time, with data being recorded as the volume accumulated from each screen. The Wentworth scale[2] (Strahler, pg. 374)* was used to classify the sediments into various sand and silt-clay categories. In all, twenty samples were collected and sieved (see map for locations), ten from the Necanicum, seven from the Neawanna Creek and three from Neacoxie Creek.

*picture of scale included

[1]Muhlberg, Gary, Instructor of Oceanography, Clatsop Community College. Personal conversation, August 14, 1978.

[2]Strahler, Arthur, The Earth Sciences, New York, Harper & Row, 1971. pg. 374 (1967)

Realm of Deposition

In surveying the literature, it does not appear to me that an absolute or uniform method of naming and defining various portions of the river exists. However, Kulm & Byrne[3] have used a system in an estuarine environment which I consider somewhat similar to the Necanicum to define components. Basically, three units -- marine, marine fluviatile and fluviatile were identified. In their work, grain size and mineral content were used to make the separation; lacking the mineral assessment makes our boundary more arbitrary.

The marine zone is described as one having vigorous tidal action, normal marine salinity, fine to medium sand grain size and sediments similar to that of the adjacent beaches and dunes.

The fluviatile zone is that area which lies between the freshwater head of estuary and a point where sediment intrusion are last felt, brackish water conditions prevail, and poorly sorted sediments ranging from silt to coarse sand in grain size are found.

The marine fluviatile comprises that which lies between the marine and fluviatile zones. Normal marine to brackish water conditions are found, a wide scope of sediments are found ranging from well to poorly sorted which vary from silt to medium size sand grains.

By referring to the Necanicum Estuary map and the percent of sand charts, one can see that boundaries have been established which roughly delineate each of the three environments. Using a study done by Twenhofel[4] (pgs. 42, 43) the arbitrary boundary that I have drawn between marine and marine fluviatile zones on the Necanicum corresponds very well with that defined by Kulm & Byrne[5].

[3]Kulm, L.D. & John V. Byrne, Estuaries (Sediments) of Yaquina Bay, Oregon, Washington D.C., American Association for the Advancement of Science, Publication #83.

[4]Twenhofel, W.H., Mineralogical & Physical Composition of the Sands Oregon Coast from Coos Bay to Mouth of Columbia River, Department of Geology & Mineral Industries, State of Oregon, Bulletin No. 30.

[5]Kulm, Estuaries (Sediments) of Yaquina Bay, Oregon.

It is important to point out that the present Seaside Sewer System outfall appears to lie within the marine zone. In my estimation, affluent particulate matter from the overloaded system pumped into the marine zone under low tide, low river runoff conditions coupled with the principle of flocculation could have a devastating effect on the overall stable productive capacity of the entire estuary.

The principle of flocculation is explained by Barnes[6] as follows and applies primarily to fresh water entering an estuarine environment: silt particles (less than .063 millimeters in size) are transported in suspension in the lower reaches of most rivers and are discharged into adjacent estuaries. On contact with a medium containing high concentrations of cation (sodium from the salt, sodium chloride) these silt particles tend to flocculate -- clump together and sink more speedily. Flocculation and fall velocities of the particles are affected by temperature and the amount of organic and inorganic matter in suspension in addition to salinity.

Although the floccules tend to sink they may be carried into outflowing fresh water by the circulation system upon which they will deflocculate and a flocculation/deflocculation cycle can result. Some will reach and adhere to the substratum; however, many will be resuspended by current action at ebb tide and if the concentration of sinking floccules is very high (10 grams silt per .1 liter of water) liquid mud may form which will flow as a layer near the bottom. Although the rate of sediment deposition has not been established for the Necanicum system, in most estuaries net deposition exceeds erosion so that there is an overall accumulation of mud. Generally, some 2 millimeters of mud accumulate per year[7].

It appears to me that such factors as temperature of the streams, marine and sewer effluent, as well as suspended silt load of the river system, amount of organic sewage discharge, accumulation rate of mud in the marine fluviatile, and salinity cycles need further study. I have been prompted to mention this because of the very noxious smelling sediments taken from Station 6 on the Necanicum.

[6] Barnes, R.S.K., Estuarine Biology, London, Edward Arnold Limited, 1974.

[7] Twenhofel, Mineralogical & Physical Composition of the Sands. pg. 7

In establishing the three zones on the Neawanna River system it becomes more apparent why this method of classification must be flexible and arbitrary rather than precise. The marine zone on the Neawanna extends much further inland than on the Necanicum. Although it hasn't been factually documented in this paper, the tidal velocity during the ebb and flood are much higher on the Neawanna than on the Necanicum or Neacoxie.

The factors which influence this are (1) the angle of entry from sea to estuary; (2) the constriction on the Neawanna versus the widening on the Necanicum as one proceeds upriver; and (3) underlying erosional resistive rock structure.

Referring to the Tideland Map of the Necanicum River, you will note that the Necanicum widens at a point which corresponds with the point where the marine zone ends and the marine fluviatile zone begins. Specimen indicators further establish this as the transition area. Viewing the Neawanna one finds a very much different situation. Here the waterway becomes smaller thus confining the volume and thereby increasing the velocity.

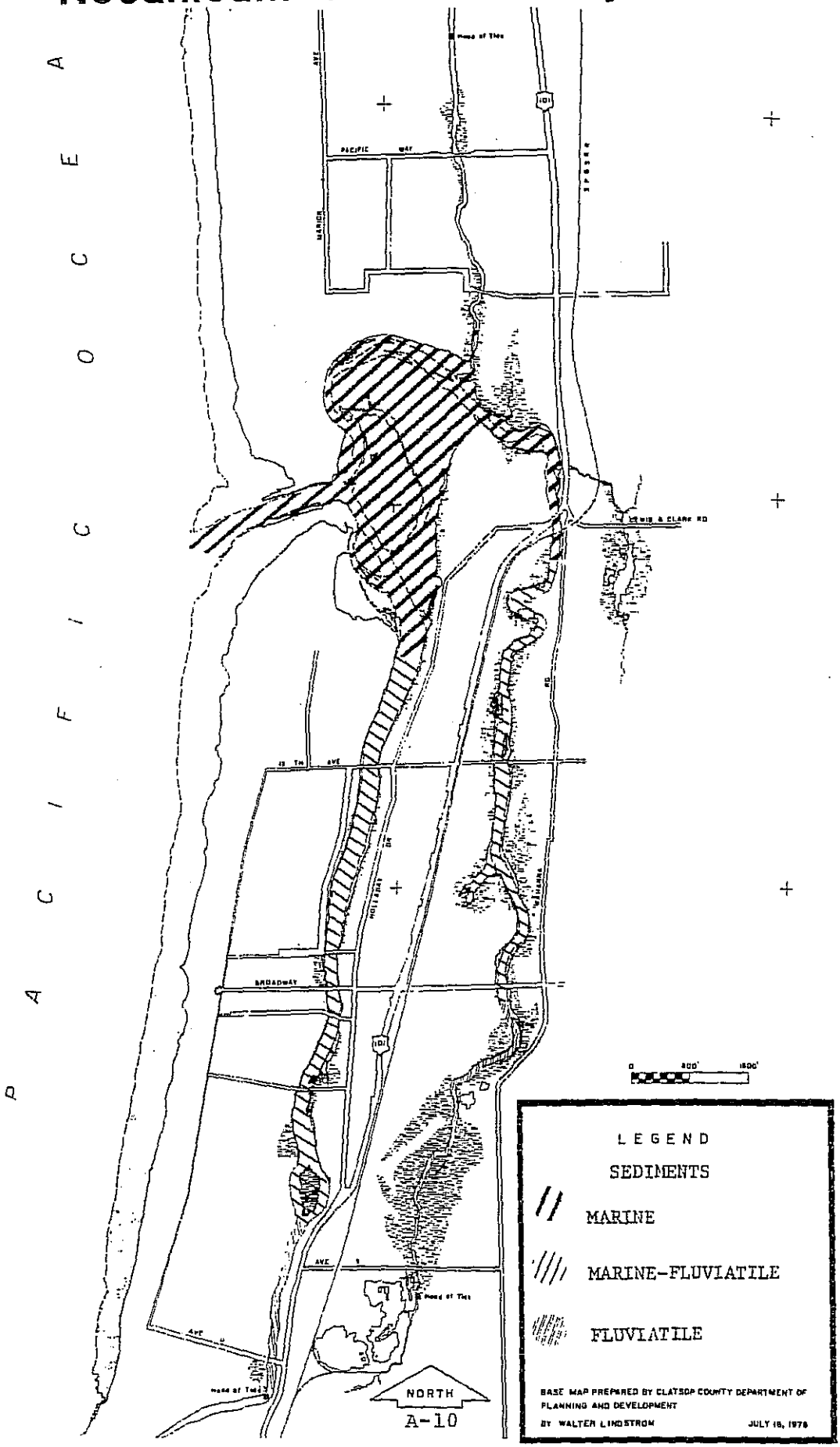
Based on the angle of entry it appears that the Neawanna system at its mouth would receive its water at a slightly higher initial velocity than the Necanicum. Proceeding upstream on the Neawanna, this water is further funnelled, allowing the velocity to be maintained. Near the 101 Bridge a large boulder outcropping reduces the scouring action, enabling the stream to maintain a shallow depth. This boulder outcropping apparently runs underneath the railroad tracks through Seaside and crosses under the Necanicum just above Station 10. In fact, this boulder structure separates the marine fluviatile from the fluviatile on the Necanicum. I am somewhat amazed to find this marine environment extending beyond a point somewhere between the school district bus barn and the 12th Avenue Bridge. However, this contention is supported by specimen indicators and sediment sampling.

Station 7 located off the Broadway Park dock provided the highest percent of very coarse sediment for any point in the estuary. It would be of interest if this source could be more clearly identified. Certainly, the erosion rates have been greatly accelerated in recent years due to intensified building projects primarily east of the river. The effect this has on biomass capacity of this system should be monitored.

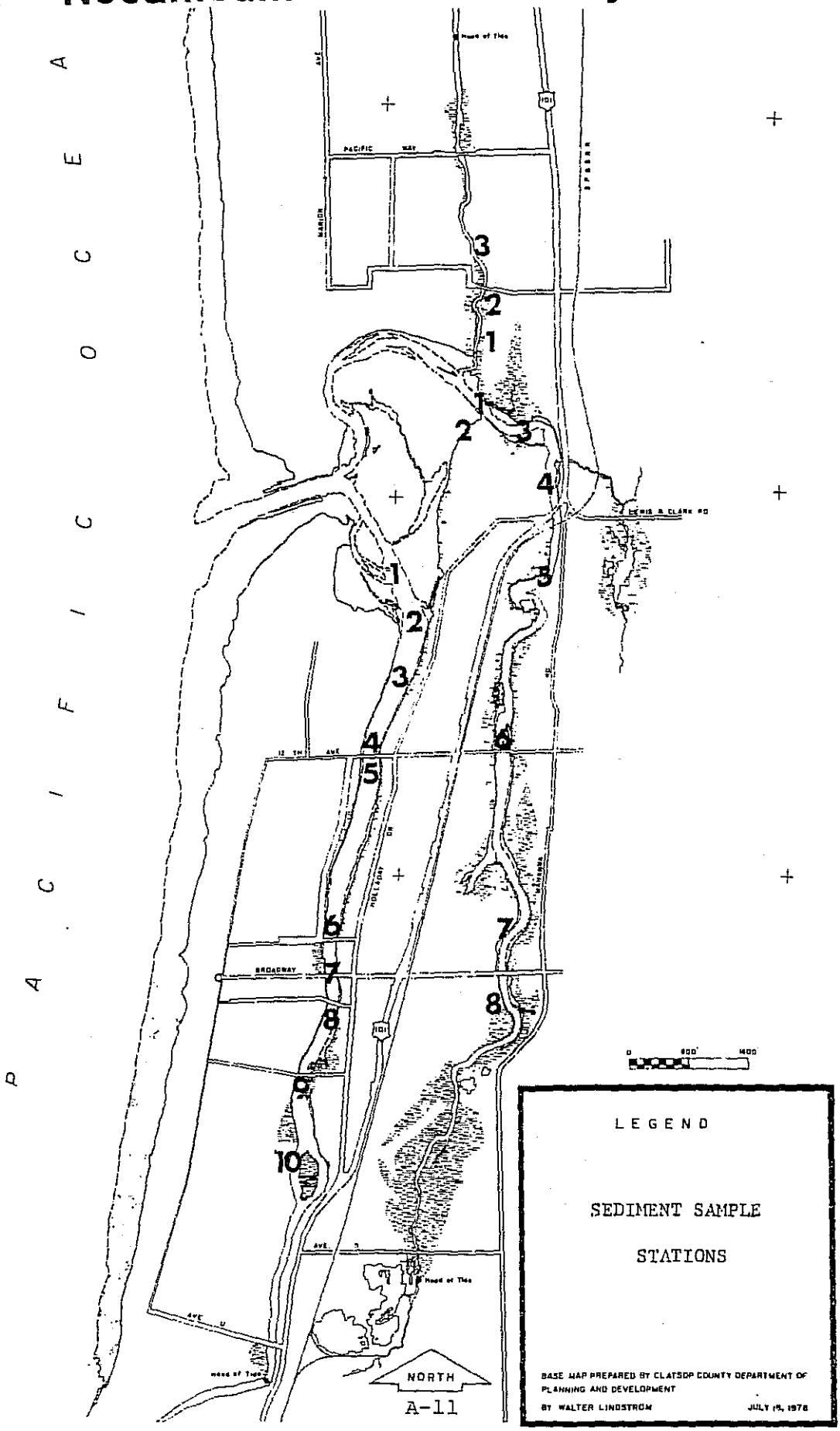
The third and final tributary, Neacoxie Creek, is an excellent example of what happens in a system when man-made constrictions are imposed. Initially, this creek must be considered a marine fluviatile which makes it the only water source in the estuary that lacks a marine zone. This projection is based on particle

size of the sediments; however, a marine algae has been identified which would make this marine fluviatile assessment questionable. Finally, the culvert located at the north end of Gearhart certainly has inhibited normal marine intrusion. When one views the sediment analysis from the south as compared with the north side of the culvert, it becomes obvious what this constriction has done. Minimally, the silt-clay component has doubled over that found to the south. Potentially, this drastic change has and will continue to have an adverse effect on this system.

Necanicum River Estuary



Necanicum River Estuary



CLIMATE

The climate of the Seaside-Necanicum Estuary is strongly related to a number of aspects of the local wind patterns, latitude, and ocean shore conditions. Not only is the weather pattern related to the activities of the residents but also has a significant effect on the salinity of the estuary from freshwater runoff during winter storms, the effect of tidal influences during storms, the movement of fish upstream during fall rains, the local ocean temperature, and the amount of local fog that will be hanging over the area.

Atmospheric Conditions

The correlation between the atmospheric circulation and ocean circulation is high and operates to a degree as a single unit. The pattern in the winter would see persistent winds from the southwest bringing with it a substantial amount of rain. The winter weather pattern often originates in the Gulf of Alaska with a counter-clockwise direction and determines the basic weather pattern during the winter months. The summer weather pattern is characterized by clockwise circulation around a high pressure center that brings winds from the north and the west, moderate temperatures, little rain and much fog. These conditions are variable and can change, bringing atypical weather during anytime of the year.

Davidson and California Currents, Coastal Upwelling

Although the relationship to the major currents, winds, and upwelling are not well understood at this time, they will be described briefly here.

Davidson Current:

In winter and early spring the cold waters near the coast are shifted north as a warmer northward current develops near shore. This is a fairly strong current of up to one half mile per hour.

California Current:

This generally only applies to principal southward surface current that occurs in the summer months, although it does extend to great depths in some areas off shore.

Coastal Upwelling:

Because the surface water of the ocean does not move directly before the wind, but slips off at an angle of as much as 45° to the right, thus the prevailing northwest winds that blow parallel to our coast push the surface waters away from the land. To replace the water that is shifting seaward, cold nutrient laden water moves to the surface (Chart 1 and 2). This upwelling process is very important to the productivity of the nearshore areas as biological cycles begin with the utilization of the nutrients. This process can also provide cold nutrient water to become available to move into the estuary.

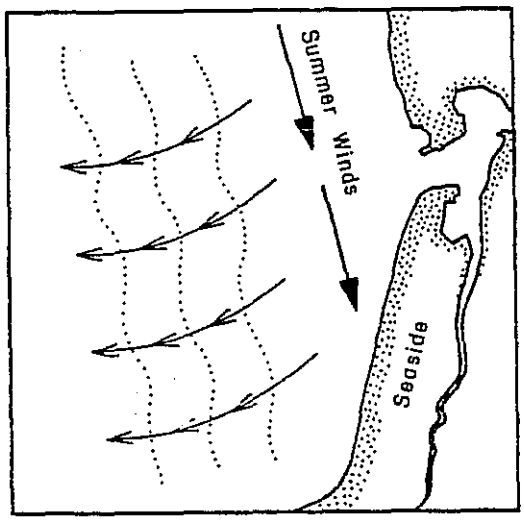


Chart 1. Upswelling–Surface View

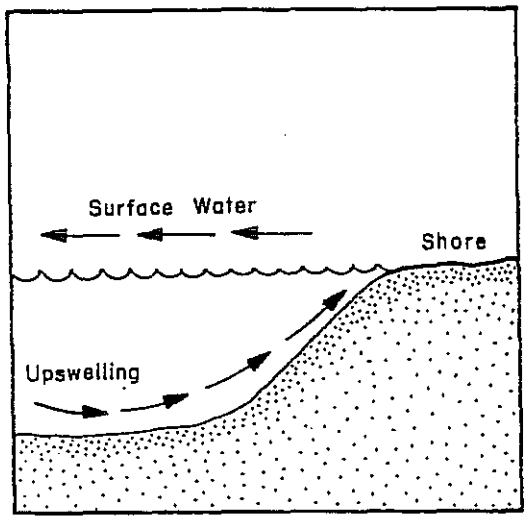


Chart 2. Upswelling in Crossection

Weather Related Hazards

An in-depth study of flood condition and tidal correlation has been done by Soil Conservation Service, Flood Hazard Analysis, March 1976 and the U.S. Department of Housing and Urban Development, Flood Insurance Study, January 1978. These materials should be referred to for information flood hazard conditions in the Necanicum Estuary and related tributaries.

Monthly Climatic Data

From 1953 to Date
For Seaside Area

Month	Mean Precipitation Inches	Mean Temperature	Wind Speed mph	Wind Direction
Jan	11.26	41.3	9.3	E
Feb	7.66	43.9	8.9	ESE
Mar	7.51	44.4	9.0	SE
Apr	4.77	47.4	8.6	WNW
May	2.76	52.1	8.4	NW
Jun	2.53	56.6	8.3	NW
Jul	1.13	59.9	8.3	NW
Aug	1.54	60.6	7.8	NW
Sep	2.96	58.3	7.3	SE
Oct	6.56	52.5	7.4	SE
Nov	10.11	46.7	8.4	SE
Dec	11.74	43.0	9.2	ESE
Mean	70.73	50.6	8.4	

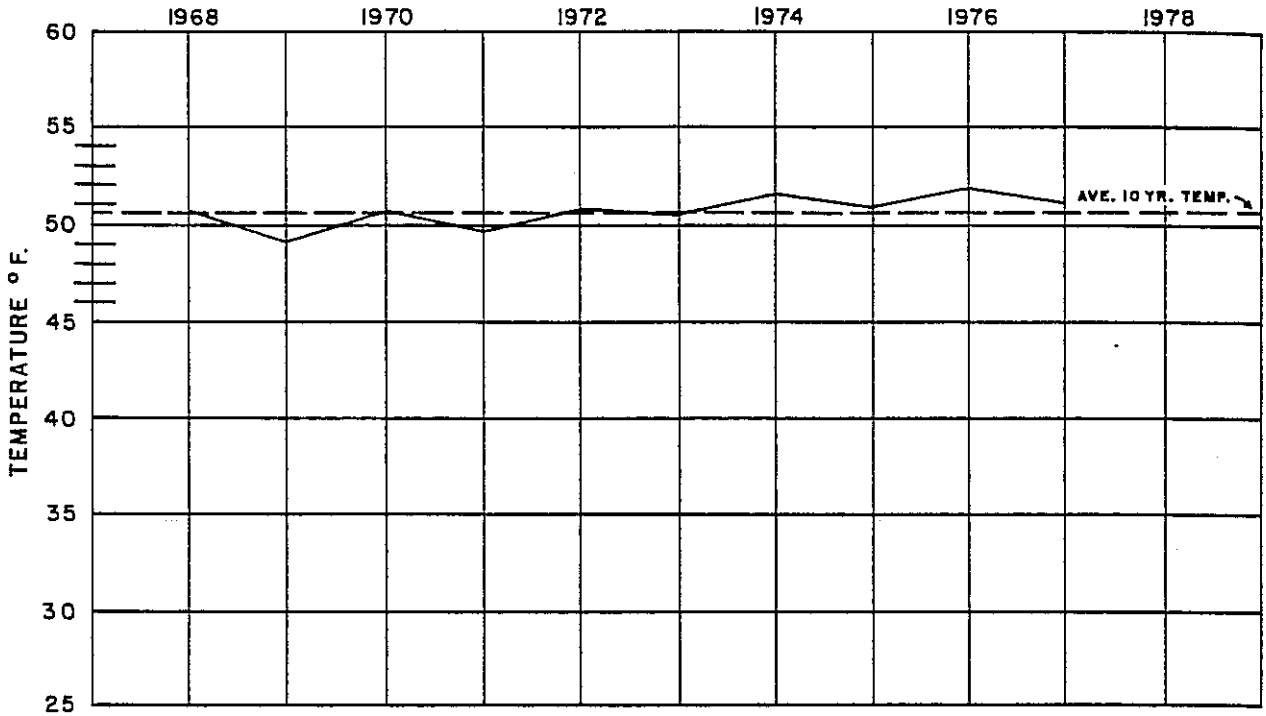
Extremes

Temperature High 101 F., July 1942
Rainfall 36.07 inches, December 1933
Rainfall 24 hour 6.98 inches, January 1919
Low Temperature 6 F., December 1972
Snow Fall 26.3 inches, January 1969
Snow Fall 24 hour 10.8 inches, January 1971

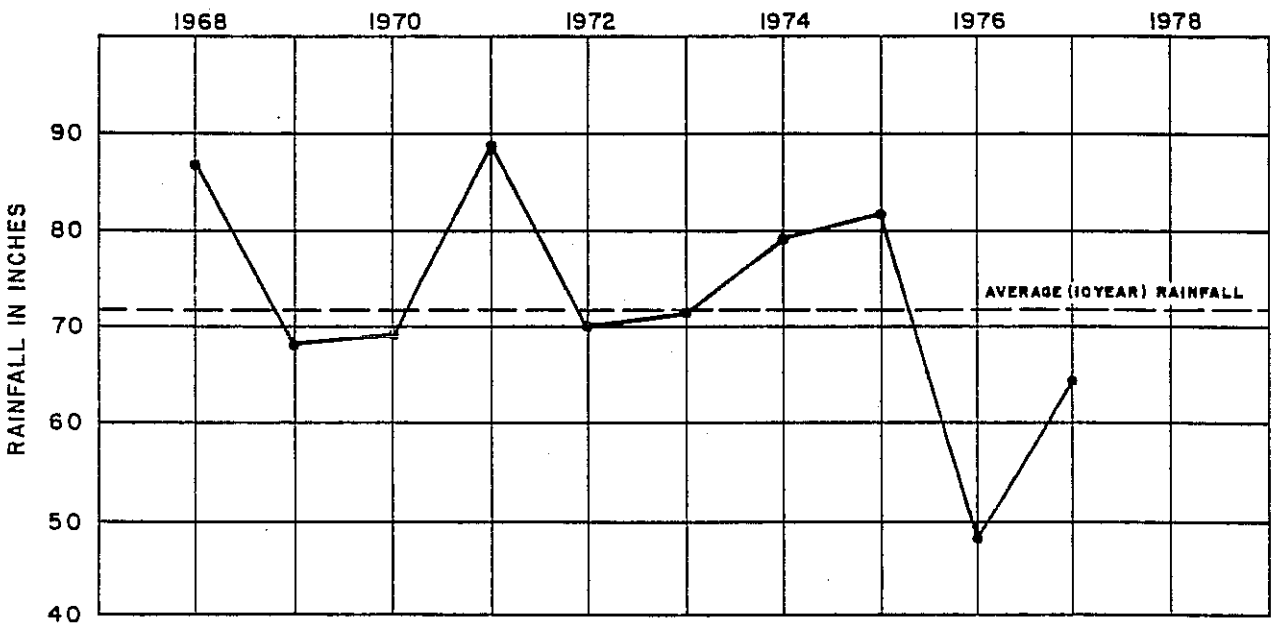
From: U.S. Department of Commerce, Local Climatological Data 1977.

TEMPERATURE AND RAINFALL—SEASIDE AREA

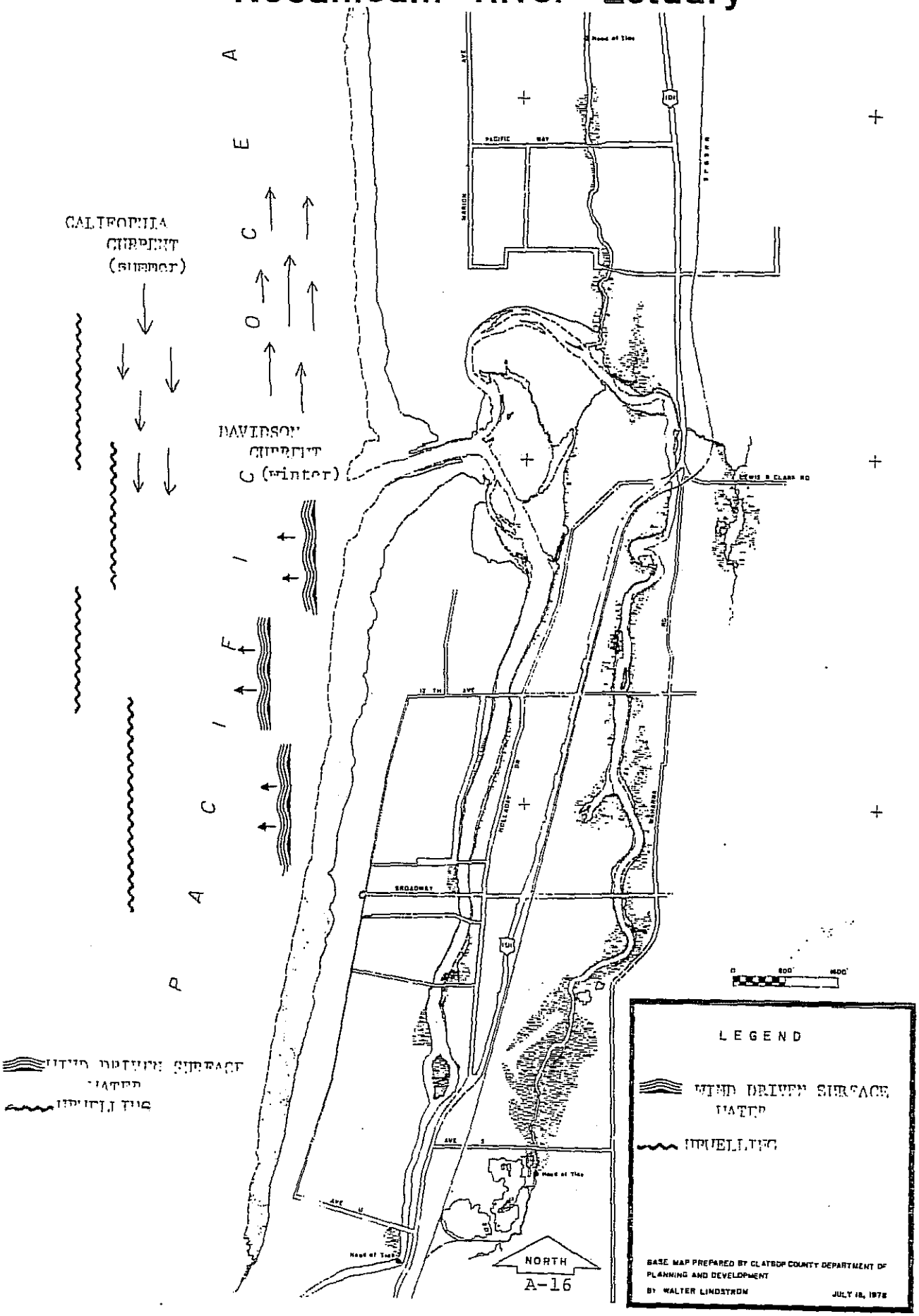
TEMPERATURE



RAINFALL



Necanicum River Estuary



Tidal Action (Necanicum Estuary)

One of the most obvious physical phenomenon in the estuary is the daily cycles of tidal action. Each lunar day generates two high waters and two low waters, one of the high waters being higher than the other (HHW) and one of the low waters being lower than the other (LLW).

This action produces the unique conditions of bringing ocean water into the estuary and significantly changing the water level in the environment every 6 hours and 12 minutes as the tide cycles from low to high water. This particular event causes a series of sequential events that are significant to the condition of the estuary. In addition to bringing about a daily environment that allows a unique group of organisms to survive, it also brings about a predictable series of physical events. These are best described in an engineering report by John Locket on the Necanicum estuary.

> "The significant point to recognize in the tidal pattern is the characteristic of the falling tide between the times of higher high water and lower low water which creates the maximum range of ebb flow conditions during the tidal cycle. The entire tidal prism, defined in the following paragraph, is discharged from the estuary in this long ebb run-out period. This results in the maximum velocities in the estuary which may be attributed to the tidal exchange phenomenon.
>
> Flow Attributable to the Tidal Phenomenon--The tidal prism of an estuary is defined as the net volume of water which would flow into the estuary from the ocean during an average floodtide period with no upland inflow. The Necanicum River, as it emerges into the open estuary opposite the Seaside High School, has an average width of about 700 feet. Considering that the mean range of tide at this point in the river is about eight feet and that the lower four miles of the river are subject to tidal influence, the tidal prism of the Necanicum River may be visualized as a wedge of water having average dimensions of 700 feet (average) in width and eight feet in height at its base (opposite the Seaside High School), which dimensions gradually decrease in height to zero at a point four miles upstream. Reducing this to mathematics, the tidal prism of the Necanicum River (P_t), may be expressed as follows:

$P_t = \frac{w\ r_t\ l}{2}$, where:

w = average width opposite Seaside High School (700 feet)

r_t = mean range of tide (8 feet)

l = length of tidal influence (4 miles)

or,

$$P_t = \frac{700 \times 8 \times 4 \times 5{,}280}{2} = 59{,}136{,}000 \text{ Cubic Feet}$$

Dividing this number by the number of cubic feet in an acre-foot (43,560), P_t becomes

$$P_t = \frac{59{,}136{,}000}{43{,}560} = 1{,}350 \text{ AF}$$ (acre-feet), which closely checks the volume of the tidal prism reported above.

As this average volume of water is discharged from the Necanicum River opposite the Seaside High School during the period of 6.21 hours in which the tide recedes from the higher high to the lower low levels, the average flow attributable to the tidal phenomenon, Q_t, becomes:

$$Q_t = \frac{59{,}136{,}000}{6.21 \times 3600} = 2{,}650 \text{ CFS}$$ (Cubic Feet per Second)

River Flow--Although, as indicated above, there are no field measurements of the fresh water discharge of the Necanicum River, it is possible, knowing the mean annual precipitation over the river basin, to arrive at a reasonable estimate of the magnitude of peak river discharges. The Portland District, Corps of Engineers, reports that the mean annual precipitation over the Necanicum River basin amounts to about 100 inches of rainfall annually. Applying this, the total river length of 21 miles, together with average stream surface slope of 65 feet per mile, the Portland District, by use of the regional frequency approach, has estimated peak flows of the Necanicum River as follows:

FLOOD	PEAK DISCHARGE
2-year Frequency	6,000 C.F.S.
5-year Frequency	7,900 C.F.S.
10-year Frequency	9,000 C.F.S.
25-year Frequency	10,300 C.F.S.
50-year Frequency	11,200 C.F.S.
100-year Frequency	12,000 C.F.S.

Tidal Datum Plane

Because of the legal and planning significance based on the tidal datum (sea level datum) it is important that it be understood in relationship to the effect it has on the Necanicum Estuary.

Of the two daily high waters, one is a higher high water and the average height of higher high water over a considerable period of time in any locality is designated as mean higher high water (MHHW). Likewise, the lowest of the low waters is considered the sea level datum plane for the Pacific coast of the United States. Based on this data the National Ocean Survey of the National Oceanic and Atmospheric Administration has made approximate determinations of the elevation of MHHW, with respect to MLLW at several selected localities along the northern Oregon coast which range from +7.5 feet at the Columbia River entrance, +8.3 feet at Point Adams, +7.8 feet at Nehalem, and +7.5 feet at Barview.

In an effort to determine the precise elevation of MHW in the Necanicum Estuary, the Portland District Corps of Engineers, with assistance of the National Ocean Survey, in the fall of 1971 installed two temporary tide gauging stations in the Necanicum River at Seaside.

Data Collected 1971

Datum Plane	Elevation of Datum Plane (feet)		
	Seaside[1]		Indian Beach[2]
	Sewage Plant	12th St.Bridge	
MHHW	4.9	5.3	4.1
MHW	4.2	4.6	3.4
SLD	0.0	0.0	0.0
MLW			-2.6
MLLW			-3.9

MHHW = Mean Higher High Water
MHW = Mean High Water
SLD = Sea Level Datum
MLW = Mean Low Water
MLLW = Mean Lower Low Water

[1] Two months of observation, November and December 1971.
[2] 31 high and low waters, observed from 27 January to 14 February, 1972.

As the data indicates, it can be seen what the choking effect caused by the mouth of the river has on the full impact of the tidal fluctuations in the near ocean and the estuary. This is of extreme importance when MHHW is used to set boundaries and determine planning procedures for the estuary.

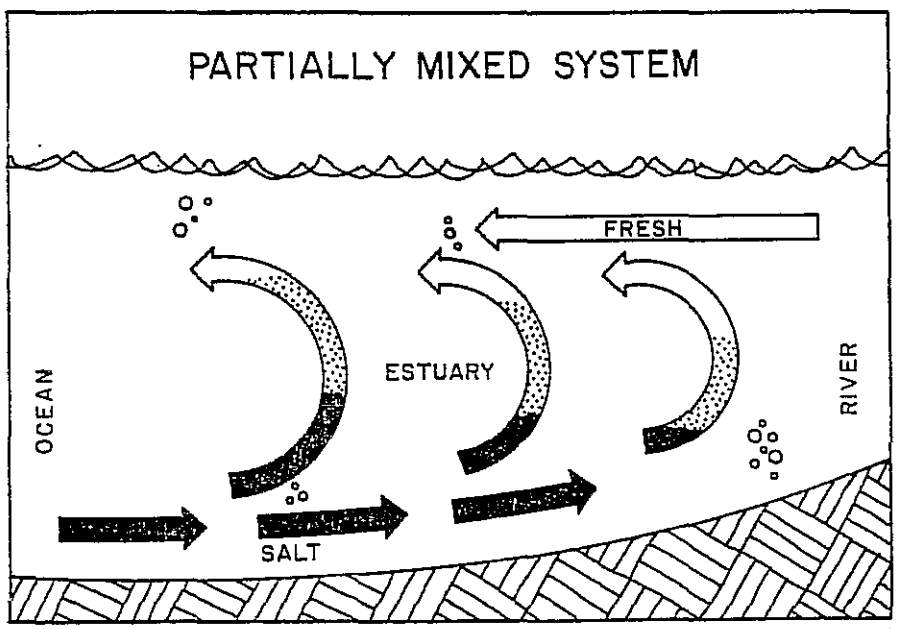
SALINITY

Mixing Classification: Mixing refers to the dilution of salt water and fresh water in the estuary. Salt water is brought in by the tides and fresh water flows in from the rivers and streams. Because of a number of physical factors, such as magnitude of fresh water inflows and the shape of the estuary, the proportions of fresh to salt water can vary widely. (Estuarine Resources OCCDC)

The Necanicum Estuary appears to fall into OCCDC classification of a partially mixed system which they have described in the following way.

The partially mixed system has a difference between the salinity of surface and bottom waters, but without a sharp interface. Relatively moderate to strong tides contribute the energy required to bring about moderate mixing between the surface fresh water and the bottom salt water. Moderate runoff also leads to greater mixing as a sharp interface is not maintained. The estuary has a moderate depth to width ratio which enhances mixing. The difference between the surface salinity and the bottom salinity is 4 percent to 19 percent.

This classification is based on the mixing type with predominates the estuary circulation through the year. Additional data collected during the balance of the year will provide background information for final classification of the Necanicum Estuary.



Salinity Factors

The nature of the salinity intrusion into the estuary is significant beyond the effect of influencing the water level. Because of the nature of marine water and its saline condition, the way that it interacts with the freshwater and its eventual release for the estuary entrapment, it should be well understood before any modification of influence is brought to bear upon this delicate system.

Because of the increased density of the marine water it can be visualized as a wedge of water moving in under the freshwater system of the estuary and under low flow conditions spending a significant amount of time in the estuary (in some cases beyond the complete tide cycle). This intruded water lays on the bottom and carries with it any material that has been added (such as effluent from sewage outfalls) and in addition provides habitat for marine organisms in top layer freshwater environment.

This condition is particularly true in the Necanicum estuary. (See page A-18) Data collected demonstrates that even on extreme low water cycles it was common to find almost marine conditions in the bottom water at sampling stations up to station No. 4 with a 1/3 meter layer of Necanicum River water running over the top of the dense marine water.

Sampling of this water demonstrated the presence of marine plankton and marine fishes on a continuous basis during low flow conditions.

In contrast, during high flow conditions resulting from heavy rainfall periods, there were more homogenous conditions with freshwater being the dominant condition. Heavy rainfall caused a great deal of mixing in the estuary, making short term barriers of freshwater conditions common.

Saline Conditions of Tributaries

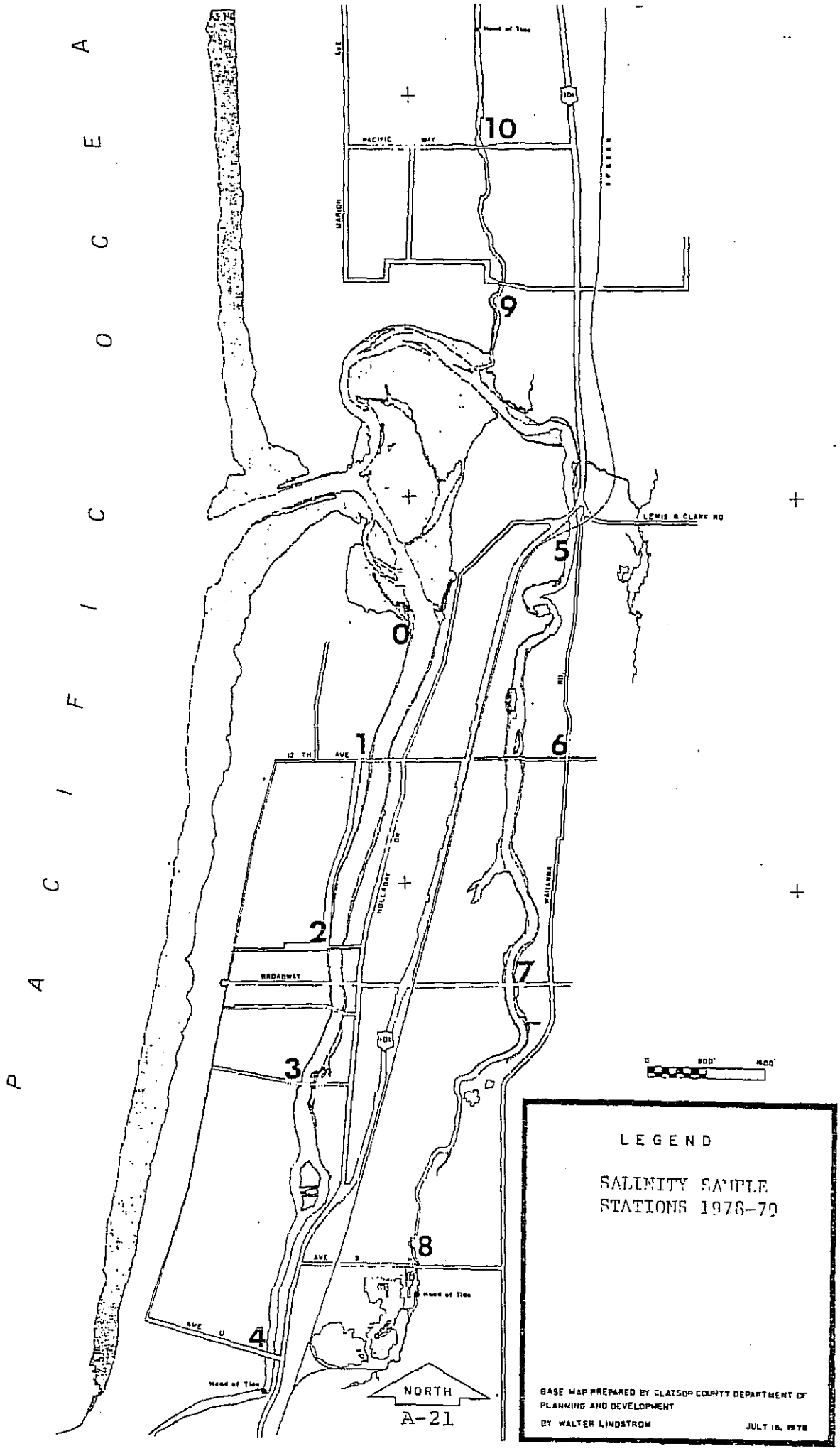
Necanicum--Because of the degree of freshwater contributed by the Necanicum, the overall salinity is somewhat reduced with most of the estuarine organisms being found only in the very lowest part of the river.

Neawanna--The angle of entry of marine water and low flow conditions allow the overall salinity to be somewhat higher than the Necanicum with a good population of saline demanding organisms in this part of the estuary. (significant eelgrass beds, ghost shrimp, obelia, fucus)

Neacoxie--Because of the presence of marine (estuary adapted) organisms up to the first culvert, the saline conditions demonstrate that they are adequate to support these organisms. Culverts on this tributary reduce the marine intrusion into the upper estuary.

SALINITY PATTERNS
NECANICUM ESTUARY

DATE	RUN OFF	STATION NO.	SAMPLING TIME	TIDE & TIME	SALINITY %		WATER TEMP.
Aug 21	Low	#1 Necanicum	9:35 a.m.	9:31 a.m. -0.6 (LW)	TOP BOT.	17.1 29.5	15.6 15.3
Aug 21	Low	#2 Necanicum	9:45 a.m.	9:31 a.m. -0.6 (LW)	TOP BOT.	25.5 30.2	15.5 14.8
Aug 21	Low	#3 Necanicum	9:55 a.m.	9:31 a.m. -0.6 (LW)	TOP BOT.	4.3 30.2	15.4 14.8
Aug 21	Low	#4 Necanicum	10:05 a.m.	9:31 a.m. -0.6 (LW)	TOP BOT.	0.4 24.5	15.3 15.6
Aug 21	Low	#1 Necanicum	4:45 p.m.	3:41 p.m. 8.4 (HW)	TOP BOT.	9.7 30.6	17.3 15.5
Aug 21	Low	#2 Necanicum	4:30 p.m.	3.41 p.m. 8.4 (HW)	TOP BOT.	5.0 30.0	16.9 15.5
Aug 21	Low	#3 Necanicum	4:15 p.m.	3:41 p.m. 8.4 (HW)	TOP BOT.	3.2 29.4	16.5 15.5
Aug 21	Low	#4 Necanicum	4:11 p.m.	3:41 p.m. 8.4 (HW)	TOP BOT.	0.7 23.8	16.1 16.9
Nov 19	High	#5 Neawanna Railroad Tr.	3:30 p.m.	2:46 p.m. 7.8 (HW)	TOP BOT.	1.4 1.7	7.0 6.9
Nov 19	High	#1	3:15 p.m.	2:46 p.m. 7.8 (HW)	TOP BOT.	0.4 0.4	6.6 7.0
Nov 19	High	#3	3:00 p.m.	2:46 p.m. 7.8 (HW)	TOP BOT.	0.3 0.3	-- 6.5
Jan 14	Low	#0 Necanicum Sewage Plant	2:45 p.m.	1:24 p.m. 7.5 (HW)	TOP BOT.	21.2 30.0	6.6 7.0
Jan 14	Low	#3 Necanicum	3:15 p.m.	1:24 p.m. 7.5 (HW)	TOP BOT.	2.2 26.9	6.6 6.8
Aug 25	Low	#10	3:10 p.m.	(LW)		6.1	18.6


PACIFIC OCEAN
PACIFIC WAY
MARION AVE
SPRUCE
LEWIS & CLARK RD
12 TH AVE
HOLLAWAY DR
WALLANDA
BROADWAY
AVE 9
AVE U
Head of Tide
101
0
1
2
3
4
5
6
7
8
9
10
NORTH
A-21
LEGEND
SALINITY SAMPLE
STATIONS 1978-79
BASE MAP PREPARED BY CLATSOP COUNTY DEPARTMENT OF
PLANNING AND DEVELOPMENT
BY WALTER LINDSTROM
JULY 18, 1978

Temperature

Temperature variation in the Necanicum system covers a wide range and needs to be considered in reference to the effect on plant and animal populations and the eventual effect on dissolved oxygen (D.O.).

Temperature ranged from a high of 21.3 c. down to a low of 4.8 c. The variation conformed to seasonal patterns, to terrestrial temperatures, the temperature of the watershed runoff and ocean water intrusion temperature. Because of the shallow depth of the Necanicum estuary and its contained state, a great amount of energy is absorbed and stored in these waters, allowing for extreme temperatures in the summer during maximum solar radiation. This is important because of the lost oxygen holding capacity during high temperatures. Variations exist in temperature from top to bottom waters with temperature difference of from 1 to 3 c. between water (see chart).

Crisis conditions could occur during summer periods when maximum amounts of effluent are being processed (as populations peak in summer months) and released in the estuary. Temperatures climb to above 20 c. and D.O. levels dip dangerously low. This combination of events could produce lethal conditions for estuary organisms and planning should be done with these maximums in mind.

Sample Temperatures (c.)

August		November		January		June	
Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
20.6	16.7	7.0	6.9	6.6	7.0	20.2	18.8
15.6	15.3	6.1	7.2	4.8	6.6	21.9	18.9
21.3	18.0	6.6	7.4			17.8	16.0

SECTION B

(Biological)

PLANKTON

This group of organisms includes those that are weak swimmers and are at the mercy of the water movement (other than vertical movement), floating organisms, and drifting life. This group would include the bacterioplankton (bacteria), phytoplankton (plants), and zooplankton (animals).

Plankton plays an important role in the food web of the Necanicum estuary and during specific times of the year marine plankton becomes the major component of the estuary plankton. This section will deal with only the zooplankton and phytoplankton. The variables that effect the growth and reproduction are extensive and are beyond the scope of this inventory. It can be pointed out that physical and biological factors are vital to the success of these organisms in maintaining a viable ecological setting for maintenance of estuary life. Alterations of any of the physical and biological constituents should be given major consideration in developing an estuary management policy.

Phytoplankton

Phytoplankton is that part of the planktoners represented by diatoms (single celled plants), dinoplagellates, and planktonic algae. Phytoplankton represents what some call the "hidden flora" because it is so inconspicuous in our environment. In the Necanicum estuary this is particularly true. In fact, without the aid of the microscope this important plant group would go totally unnoticed. Yet it makes up one of the most significant parts of the energy conversion units of the estuary. It is almost impossible to collect either a sand, mud, or water sample and not find hundreds of diatoms after the sample is prepared for microscopic observation.

Phytoplankton in its production of stored chemical energy, utilizes nitrogen, phosphate, and carbon dioxide. In addition, the diatoms population needs silicate to be used in the formation of a glass-like cast that surrounds its cell structure. Because of the plant qualities of these organisms they need light to carry on the life process and, therefore, are confined to the surface waters and water that will allow light transmission (water with low turbidity).

Factors Affecting Phytoplankton Growth:

Light, as has been mentioned, becomes a limiting factor and should be considered with the following aspects in mind. The means by which phytoplankton cells use the radiant energy; the intensity of the incident light, the way it is affected as it passes through the water. The availability of base nutrients

is another important factor. These factors are of particular importance when you consider our latitude in Clatsop County, the amount of cloud cover we have during the year and the amount of silt that moves into our river from the terrestrial environment. One of the most obvious reactions to the light intensity change is the tremendous phytoplankton blooms that occur in the early spring along the coast. Great brownish masses, appearing somewhat like an oil spill are blown on the local shores and are obvious in the surf line. Examination shows that they are blooms of phytoplankton by the millions that are responding, by reproducing, to the increased light duration and intensity.

Because of the low flow conditions and relative high saline conditions of the Necanicum estuary during July, August and September (see Chart S1) a nearly marine condition exists on a continuous basis, which allows for many marine species to maintain a healthy population in the estuary. Plankton tows in late July and early August were producing almost totally marine populations of diatoms.

The filamentous diatom Melosira is dominant enough in the estuary to identify it within a community structure. One of the obvious communities in the Neawanna is the zoestra-melosira community. Melosira is also dominant in the substrate sample and algae mats. A number of the diatoms that normally grow as a part of the benthic community become dislodged from tidal action and become a part of the planktonic group. As a result these organisms contribute to the available food supply for zooplankton and filter feeders.

Note: For some reasons not yet determined the Neawanna tributary demonstrates a tremendous diatom bloom in the spring not observed in the Necanicum and Neacoxie tributaries.

Partial Species Lists of Phytoplankton in the Necanicum Estuary:

Bacillaria sp.
Rhizosolenia sp.
Coscinodiscus centralis
Chaetoceros sp.
Thalassionema nitzchiodes
Asterionella japonica
Chaetoceros debilis
Thalassiosira decipiens
Ditylum sp.
Skeletonema sp.
Biddulphia longicruris
Nitzschia closterium
Melosira moniliformis

DINOPLAGELLATES

Noctiluca sp.
Peridinium sp.

Net tows were made at high and low water cycles for comparison of populations present. (see Chart P1 for tow stations)

Chart Explanation:

The density of phytoplankton to the water volume will be rated only as high, medium, and low relative to the water sampled. Sample density is related to the relative density of the individuals within the sample.

(D) Dominant -- organism makes up the major portions of the sample (there may be more than one species in this category).

(M) Many -- a number of individual organisms, but not the dominant organism.

(I) Individuals -- isolated species present in the sample.

PHYTOPLANKTON INVENTORY

	July	August	January	March
Plankton Density	High	Medium	Low	Very High
SPECIES				
Bacillaria sp.	I	I	-	-
Rhizosolenia sp.	I	I	-	I
Chaetoceros sp.	D	M	-	D
Thalassionema nitzchiodes	I	I	I	M
Asterionella japonica	M	M	-	M
Chaetoceros debilis	M	M	M	M
Thalassisira decipiens	D	M	I	I
Ditylum sp.	I	-	-	I
Skeletonema sp.	I	I	-	-
Biddulphia sp.	M	I	I	M
Nitzschia closterium	I	-	-	I
Melosira moniliformis	D	D	-	I
Coscinodiscus centralis	I	I	I	I
Dinoflagellates				
Noctiluca sp.	I	-	-	-
Peridinium sp.	-	I	-	I

Macro Algae:

In general the macro-algae population of the Necanicum estuary is low and includes few species. One of the most conspicuous limiting factors is the lack of substrate for holdfast attachment of the larger algae. In those areas where there is adequate substrate (rocks, logs, and rip-rap) a good population of algae takes hold. There are only a few rock outcroppings with the rest of the substrate being sand and mud in the lower estuary.

The algae populations for the most part are confined to the Neawanna and Neacoxie.

Species List for the Necanicum Estuary

Ulva lactuca
Fucus distichus
Enteromorpha sp. (2)
Cladophora gracilis
Polysiphonia pacifica

Eel Grass:

Shallow water eel grass small populations in the Neawanna tributary of the Necanicum estuary. The total area is less than one acre and confined to the 1 to 2 ft. shore areas. The eel grass population is quite variable as to success from year to year.

Zostra marine, which is one of the rare members of the spermatophyte plants that grows in aquatic saline conditions, is normally submerged by water on a continuous basis. Because of its tolerance for saline waters and the need to be protected from wave shock it is normally found in estuarine waters.

Eel grass is an important part of the estuarine ecosystem because it provides large amounts of detritus. It provides a hiding and breeding place for many fishes and invertebrates. And a large number of polycheate worms and crustaceans are found among its rhizomes. It also provides substrate and habitat for diatoms, algae, and crustaceans.

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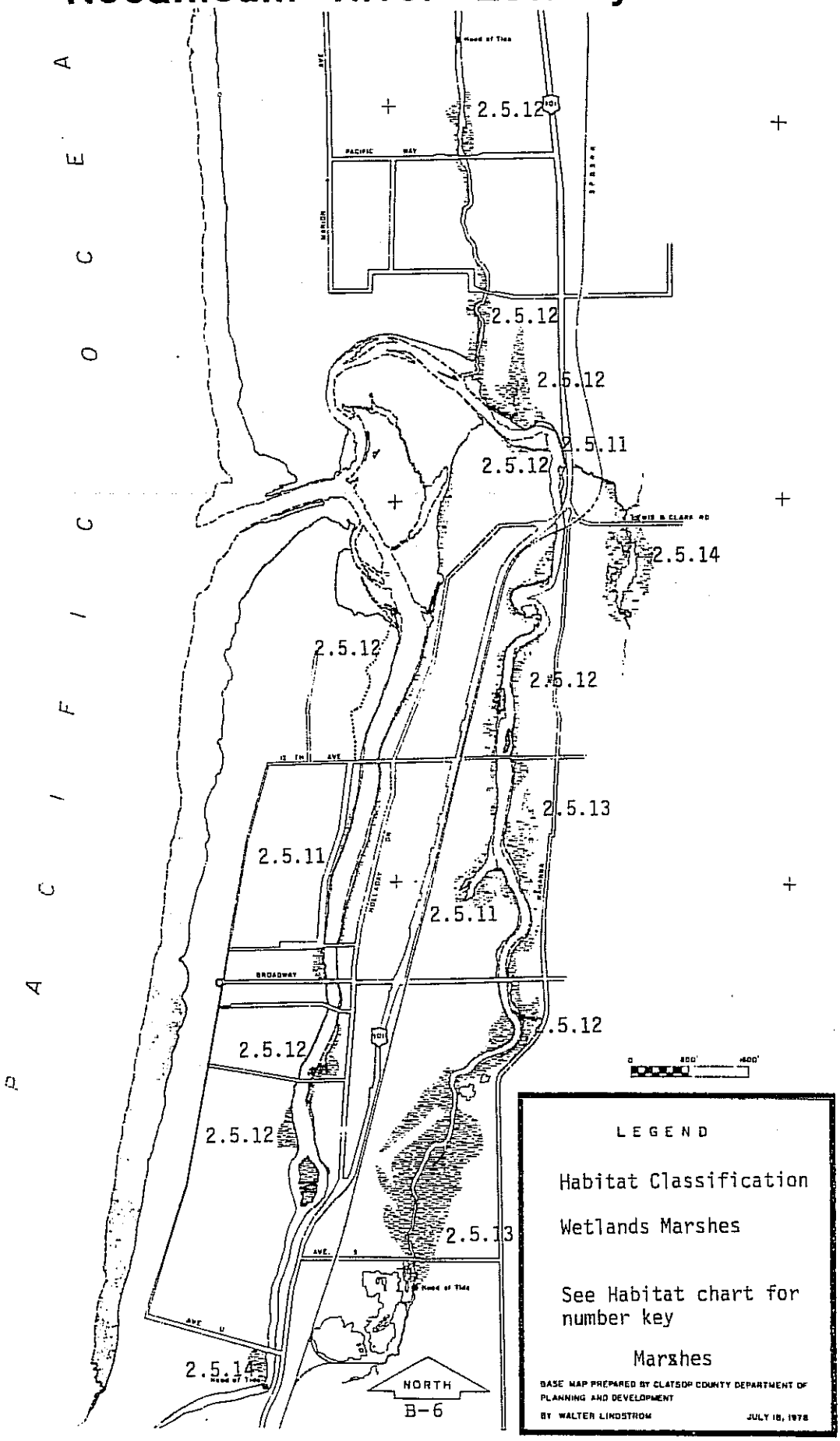
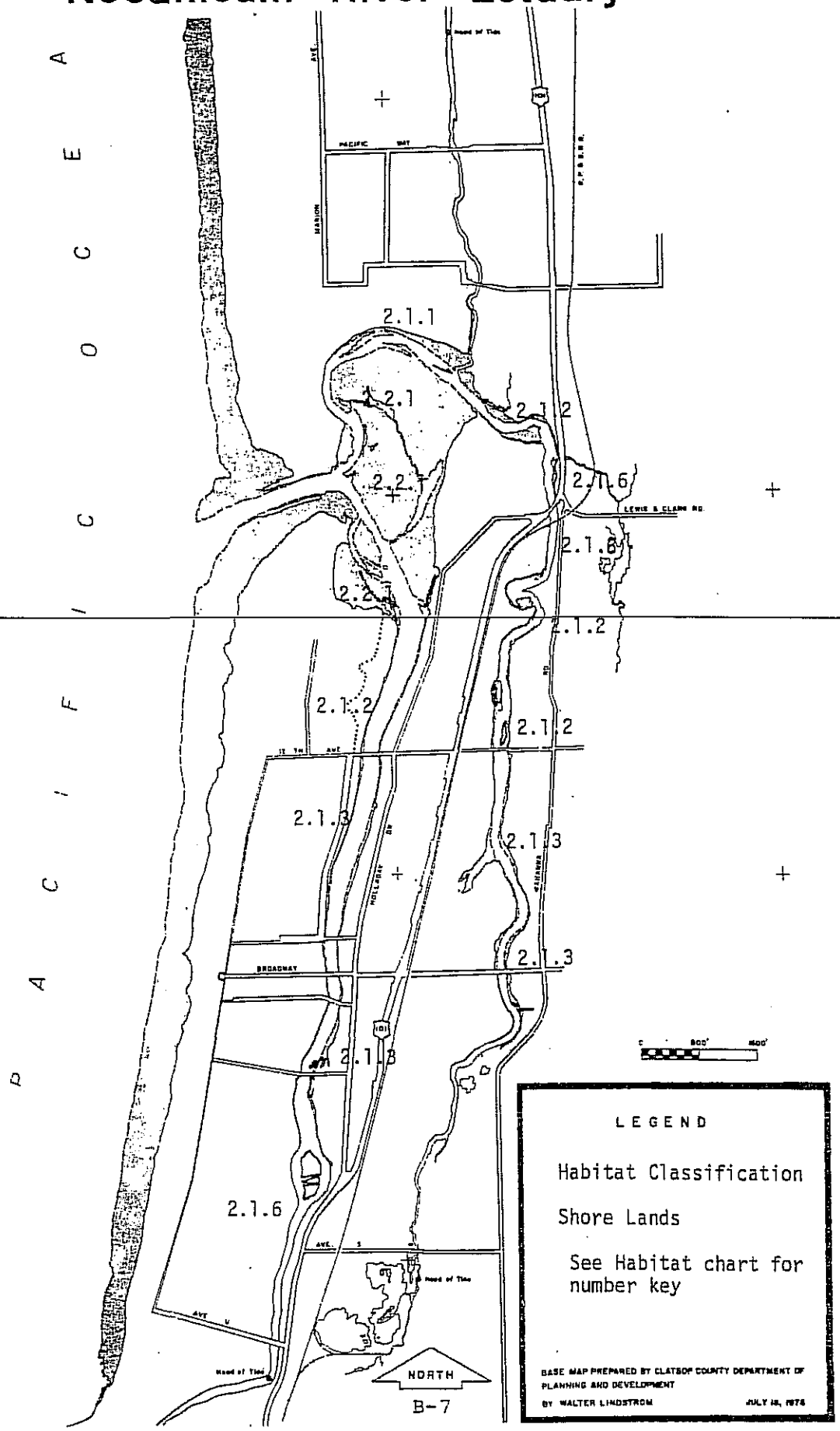
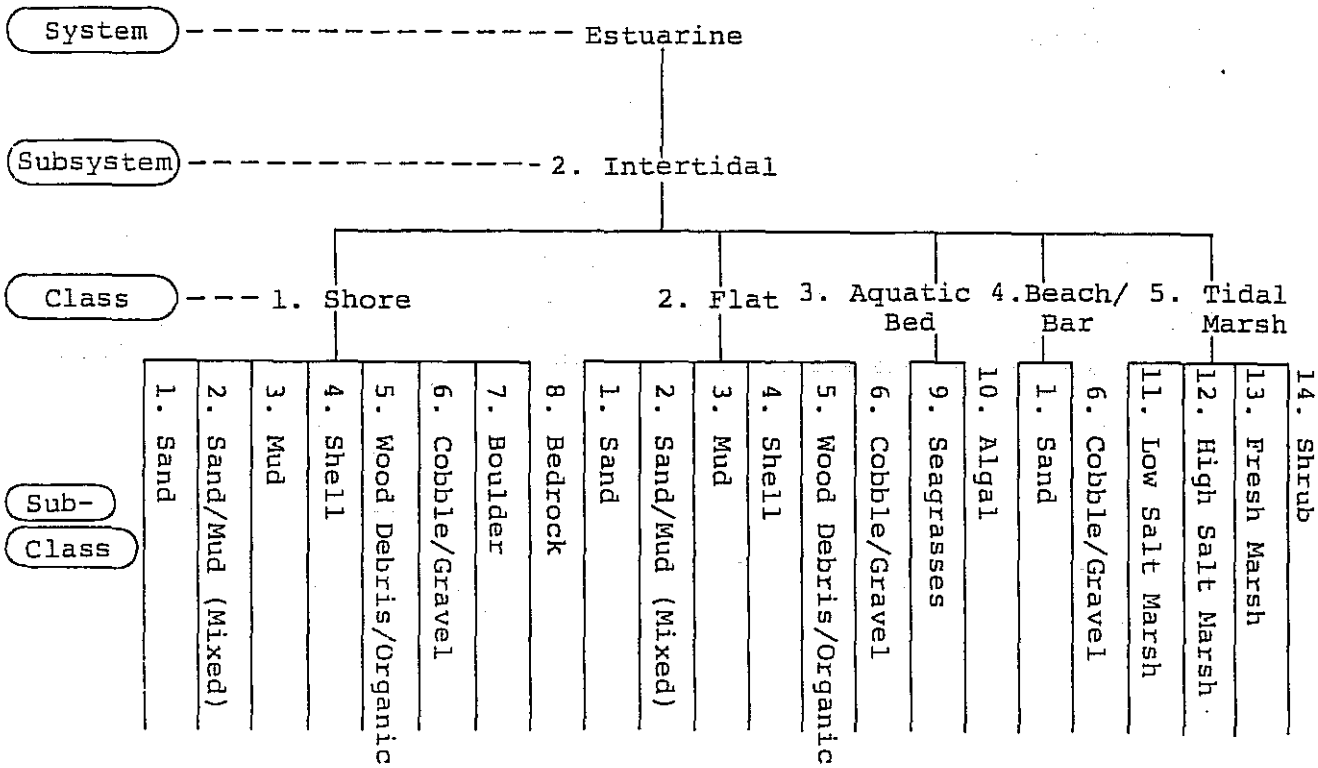
Necanicum River Estuary

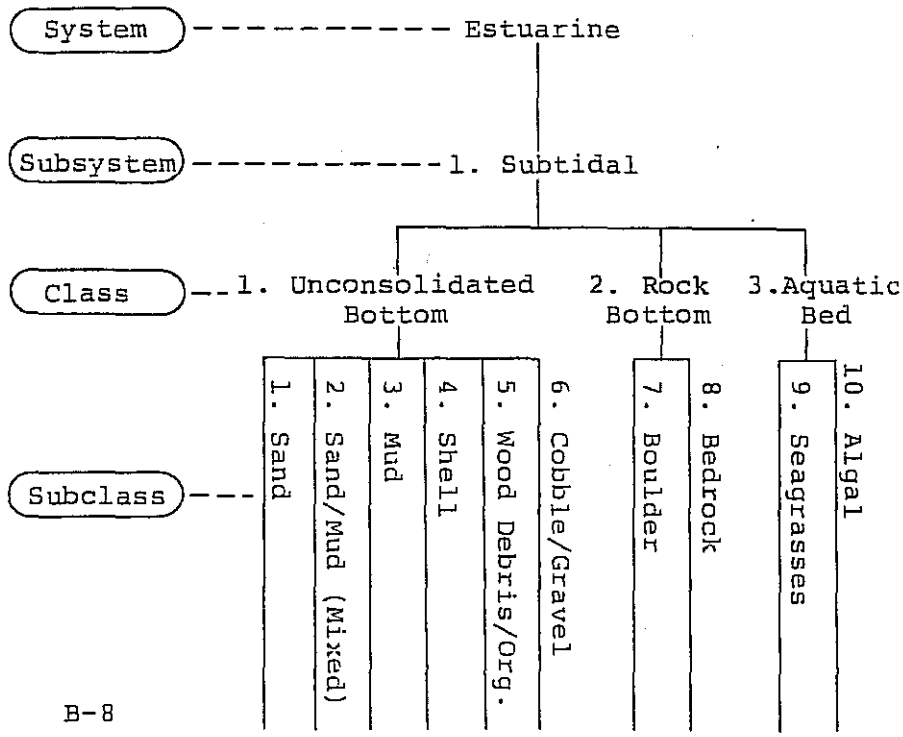


Necanicum River Estuary



ESTUARINE HABITAT CLASSIFICATION SYSTEM





Modified from "Classification of Wetlands and Deep-Water Habitats of the United States", Fish and Wildlife Service, U.S. Department of Interior, October 1977.

ESTUARINE MARSHES

The marshes of the Necanicum River Estuary include those marshes, tidelands and shallow waters associated with tidal influence that produce a unique habitat that can be identified by the invasions of particular kinds of marsh plants. In the Necanicum River Estuary, of the 278 acres of estuary, approximately 150 acres fall into this description. Although there are no vast expanses of marshes, there are still enough small isolated units to possibly maintain the vitality of the estuary. The marshes of the Necanicum Estuary run 4.5 kl in the Necanicum system, 6 kl in the Neawanna, and 2 kl in the Neacoxie system.

Using the following definition (O.C.C. & D.C. 1974) for tidal marsh wetlands, "The tidal marsh wetland type is composed of those communities of vascular aquatic and semi-aquatic vegetation rooted in poorly-drained, poorly aerated soil, which may contain varying concentrations of salt occurring from lower high water inland to the line of non-aquatic vegetation." The following topics will be considered in this section: (1) Role of Tidal Marshes in Estuary Dynamics, (2) Biological Systems, (3) Formation of Marshes and Their Succession, and (4) Marsh Inventory of the Necanicum Estuary.

The vital role that estuary wetlands play in the natural cycle of the estuary has only been recently realized to the degree that management programs have been instituted to protect this resource. With estuaries being far more productive than most other types of habitats (Chart M1) and that productivity being of direct benefit to man, serious consideration should be given to their protection. Confirming studies are just now being done on the west coast, as they have on the east coast a number of years ago, to demonstrate the specifics of that productivity and its benefit.

TABLE M1
General Orders of Magnitude of Gross Primary Productivity
In Terms of Dry Weight of Organic Matter Fixed Annually

Ecosystem	gms/M^2/year (grams/square meters/year)	lbs/acre/year
Land deserts, deep oceans	Tens	Hundreds
Grasslands, forests, eutrophic lakes, ordinary agriculture	Hundreds	Thousands
Estuaries, deltas, coral reefs, intensive agriculture (sugar cane, rice)	Thousands	Ten-Thousands

(From: The Conservationist 1971, The Role of Tidal Marshes, Dr. Eugene Odum)

BIOLOGICAL SYSTEMS

The most vital link in the food chain in this aquatic environment is the marsh plants as they process solar energy in the presence of chlorophyll, carbon dioxide and water to produce carbon compounds. In this process the marsh plants assimilate and convert phosphorous and nitrogen into compounds that are necessary for many of the estuary organisms. The success of these photosynthetic plants in converting sunlight into stored chemical energy will determine the productivity of the estuary marshes and the eventual productivity of the whole estuary.

As opposed to the terrestrial (dryland) environment where much of the green plant is consumed and put into the energy cycle when it is alive, the marsh plant serves the greatest importance in the system as it dies and forms the base of the food chain as decaying plant matter (detritus). Also important in this discussion is the fact that the nutrient fertilizers are cost free as products from the tidal action and freshwater runoff, as opposed to high yield agricultural crops which demand a huge investment of petroleum based nutrient fertilizers for an energy return.

The organic debris resulting from this plant decay is maintained within the estuary and becomes the foundation for the energy cycle. (i.e. In an intertidal salt marsh, less than 10 percent of living plant material is consumed by herbivores and 90 percent goes the way of the detritus-feeders and decomposers [Teal, 1962]). The decay is a result of bacteria colonization which significantly increases the protein content of the original particle. In addition the detritus may be consumed directly by a host of estuary animals such as amphipods, clams, shrimp, and worms as well as other forms. In turn these organisms become food for organisms higher in the food chain, such as fish, birds and ultimately man.

The storage aspect of the estuarine marshes are not to be overlooked in this cycle. The marshes play an important role in the storage of nutrients that become a buffer against heavy stress on seasonal shortage (e.g. winter). As described by Clark (1974): marsh grass in its entirety--roots, leaves, flowers, stems--provide storage upon which the regularity of nutrient supply to the estuarine food chain depends.

This brief description in no way describes the intricacies of food cycles in estuaries. It is used here only to demonstrate the role of the marsh plants and their significance as the base of the food pyramid as decaying organic matter.

In addition the marshes contribute to the productivity of the estuary by providing favorable conditions for the increased growth of algae by reducing the turbidity of the water and by decreasing velocity of the water during heavy runoff. Because of this unique environment, associated mud flats become biological gardens for the growth of diatoms (single-celled algae) and other algae.

Fish and Wildlife Habitat

The role of the marshes, in addition to the energy factors, is significant in providing habitat for a number of associated animals. Although the total acreage is low in the Necanicum River Estuary, it still provides important habitat for raccoons, mink, otter and a number of other small mammals. Because of the urbanization of much of the associated marshes, animal movement is restricted to the more open areas.

One of the most critical and least obvious to the layman is the role that marshes play during the high tide cycle in providing habitat for the fishes. This is especially true of the anadromous fishes, such as coho salmon and steelhead during their downstream migration. As the salmon spend a period of time in the estuary before their migration to the sea, the daily flood of large areas of low marsh is critical to their survival. The marsh fringes provide protection and an important food in the form of small aquatic animals that are plentiful in the marshes because of the detritus cycle.

Marsh habitats are important to both migrant and resident birds. Not only does the marsh provide habitat for the nesting cycle, but is important as a food supply to many local and migrant species. Census counts show particularly heavy use by migrating birds and ongoing use of the high marsh by resident birds.

Some of the uses of the marsh are very subtle and for the most part go unnoticed. An example is the role that the sedges play in the life cycle of the lady bug beetle. In July and early August the beetle larva can be seen moving up the sedge plants very near the water's edge and within a few days thousands of lady bug adults can be observed emerging from the sedge marshes. The most accessible location for observation is near the Broadway bridge on the east side of the Neawanna. The marshes as breeding and hatching habitat for insects takes on new meaning when we consider the importance of the insects in maintaining important ecological balance, as in the case of the lady bug beetle who is a predator and preys upon aphids.

Marshes-Control Erosion and Store Water

Wetland vegetation can play an important role in providing stability to shorelands by protecting them from the erosive forces of heavy winter runoff and storm driven tides. At the same time they help control the rate of runoff by reducing the velocity of the runoff. Because of the nature of the marsh substrate they are also critical in storing water during low water periods.

Water Quality Control

Within certain limits, wetlands and associated marsh plants can play an important role as natural purifying agents of water. As long as the surface area of marshes are maintained they have a tremendous potential for absorbing nitrogen and phosphorous from sewage. Each wetland has a limited capacity and to exceed that would deplete the oxygen needed for a balanced ecological system. Coastal rivers already carry a large supply of oxygen depleting nutrients; therefore, the use potential of the marshes as water purifying agents must be balanced with their ability to handle the peak loads. In the case of the Necanicum Estuary almost 50% of the marsh area has been covered over with fill, thereby reducing the potential for water quality functions.

Because the shallow estuary waters trap and hold heat which reduces the impact of cold ocean waters and mountain water this may have important impact on growth cycles and reproduction rates of marsh plants.

Recreation Value

Marshes can withstand limited impact and do not recover well from inappropriate use. They have recreational value to the hunter, the fisherman, the nature enthusiast and photographers. In considering uses of marsh area serious consideration should be given to the nature of the recreation use that it does not cause irreversible damage to the marsh and wetlands.

In addition the marsh serves an intrinsic aesthetic function as open space and as an expected associated part of an estuary system. This function is difficult to measure but should be considered in the decision making process for local planning.

FORMATION OF MARSHES AND THEIR SUCCESSION

The marshes and marsh potential area are generally going through some type of progressional change to build the site to a more complex community. In the early formation of marshes the substrate is invaded by one of the early colonizers (in the Necanicum they would normally be woody glasswort or salt grass) which acts as a substrate binder. As the colonization continues and the area traps more substrate, other talophytes begin to establish themselves. In the Necanicum we could expect seaside arrow grass, seaside plantain, and Jaumea to become part of the understory. This stabilized environment would cause a rise in elevation resulting in a vegetation pattern of Lyngbyes' sedge, tufted hairgrass, salt rush, and Pacific silverweed. There are a number of variations from this pattern but this represents a sequence that could be expected. This process may involve a period of years to occur and will be influenced by the nature of the substrate (sand or silt) and by the major water influence (salt or fresh).

Marshes appear to constantly be in a stage of advancing to the next higher form with little likelihood of regressing to a previous condition. At this time there are only a few isolated sites where marsh formation, in the earliest stages, is occurring in the Necanicum River Estuary. Most of this activity is in the lower part of the Neawanna system. In general the marshes of the Necanicum system are in the immature high marsh condition advancing to the mature high marsh environment.

Tidal Marsh Classification

Marsh Class:

Higher intertidal land forms that are predominantly covered more than 30% by erect, rooted herbaceous or woody hydrophytes. The tidal marsh generally occurs from lower high tide inland to the line of non-aquatic vegetation.

Description:

Water often moves through marshes in non-vegetated channels. The tidal marshes are a main source of primary production for the bay. Oregon tidal marsh plants are persistent, that is they are dominated by species that normally remain standing at least until the next growing season. Like flats, marshes tend to be either in equilibrium or increasing in elevation and expanding onto adjacent flats. Seldom under natural conditions would a marsh revert to a flat or a high marsh to a low marsh.

Subclasses of Tidal Marshes:

(1) Low Salt Marsh. Low Salt Marshes are entirely flooded by most high tides and, therefore, are capable of adding to the estuarine food supply on a daily basis. Tidal runoff is generally diffuse rather than contained in deep ditches. Five Oregon Low Salt Marsh categories are currently used: Low Sand Marsh, Low Silt Marsh, and Sedge Marshes in more saline areas; and Bullrush and Sedge Marshes, and Gravel Marshes in areas subject to lower salinities.

(2) High Salt Marsh. High Salt Marshes usually rise abruptly 30 cm to 1 meter above the adjacent flat, shore or low marsh. The substrate is typically high in organics -- often as an organic mat over clay. The marsh surface is just covered by most higher high tides. Tidal runoff follows well defined channels. The marsh surface is relatively level. Two main High Salt Marsh categories are currently used: Immature, being somewhat lower with less defined channels and a greater variety of plant species; and Mature, with well defined features and vegetated mainly by grasses, rushes and forbes.

(3) Fresh Marsh. Fresh Marsh occurs inland of salt marsh where the substrate is non-saline, or as the surgeplain marsh in the upstream portion of the estuary where fresh water under tidal influence periodically inundates the marsh. Vegetation is herbaceous with sedge, bullrush and cattails usually dominating.

(4) Shrub. Shrub wetlands may occur as the inland extent of the estuary. In Oregon, willow is the primary semi-aquatic woody plant that is likely to occur. Willow, however, does not tolerate salt and so is associated with estuarine Fresh Marsh rather than Salt Marsh. Some trees may be found in these areas.

MARSH INVENTORY OF THE NECANICUM ESTUARY

(1) This marsh represents one of the largest marsh areas of the Necanicum system that is still basically in its original condition. It is bordered on the river's edge by a low salt marsh that grades to a high salt marsh. The low salt marsh is characterized by woody glasswort, salt grass, Jaumea and seaside plantain.

With a change in elevation the area demonstrates plant characteristics of a high marsh with tufted hairgrass, and salt grass. Increased elevation sees the vegetation type moving to Pacific silverweed, creeping bent grass, tufted hairgrass and salt rush. The deeply carved channels are bordered with Lyngbyes' sedge.

Because of the sand dune like nature of some of the area, plants that are more representative of sand dunes can be found, such as large headed sedge beach pea and American dune grass. At the very south end of the identified marsh a sedge marsh can be found.

(2) Although most of the identified section of the estuary is filled on the west side, there are small patches of sedge marsh on the west side and a slightly large border on the east shore also of sedge marsh and tufted hairgrass.

(3) A small low salt marsh only a block long between the Oceanway Bridge and Broadway Bridge. A sedge marsh is located on both sides of the estuary and grades to a high marsh environment of Pacific silverweed, tufted hairgrass, and seaside dock on the west side.

(4) A small island that has become a high marsh environment of tufted hairgrass and Pacific silverweed. An associated sedge marsh on the east shore grading to a high marsh of tufted hairgrass, Pacific silverweed and Seaside Dock

(5) This marsh area is a portion of what is left of a large land fill. This particular site is a good example of a mature high marsh with a wide variety of marsh plants. The dominant plants being represented by tufted hairgrass, and Pacific silverweed.

(6) Two large islands located in the middle of the estuary. Bordered by sedge marsh and grading to a high marsh of tufted hairgrass, Pacific silverweed and Lyngbyes' sedge. A part of the southern island has gone through a successional process to now be supporting a small stand of willow and a few spruce.

(7) This area is high in the estuary system and is characterized by a number of freshwater plants and should be considered as a fresh marsh even though it is not above the line of salt water intrusion. The plant species are represented by freshwater sedge, cattail and Pacific silverweed.

Neawanna System

(8) A small marsh of the Neawanna that is left from a diking and filling project. A low salt marsh is just starting to build in this area and is being colonized by woody glasswort and salt grass. The shore section is a high salt marsh represented by woody glasswort, salt grass, Jaumea, fox tail grass, seaside plantain and American dune grass in the higher elevations.

(9 & 10) High salt marshes bordering the Neawanna. These marshes have similar elevations and common plant structures. They are border marshes that run parallel with the shoreline. The plant population is made up of woody glasswort, Hordium, salt grass, salt bush, Jaumea, tufted hairgrass, salt rush, Pacific silverweed, and American dune grass.

(11) This site represents the largest sedge marshes of the Necanicum Estuary. It is flooded by most high tides. The Lyngbyes' sedge surrounds a large mud flat that drains this area. A recent fill has covered some of the high marsh environment that surrounds this sedge marsh. This marsh may well represent the source for much of the organic debris that moves into this part of the estuary system.

(12) A shore border high marsh with much the same character as marsh 9 & 10 with the addition of two stands of great American bullrush and a Lyngbyes' sedge marsh on the near shore of this high marsh. Large populations of lady bugs have been observed hatching in this particular sedge area. The beetles use the sedge to move onto during their larval stage before turning into the flying adults.

(13) This marsh is high in the Neawanna estuary and is demonstrating a transition from a salt marsh environment to the fresh marsh condition. This is the single largest marsh area in the system. The plant population is represented by tufted hairgrass, Pacific silverweed, salt grass and a scirpus species found in fresh marshes.

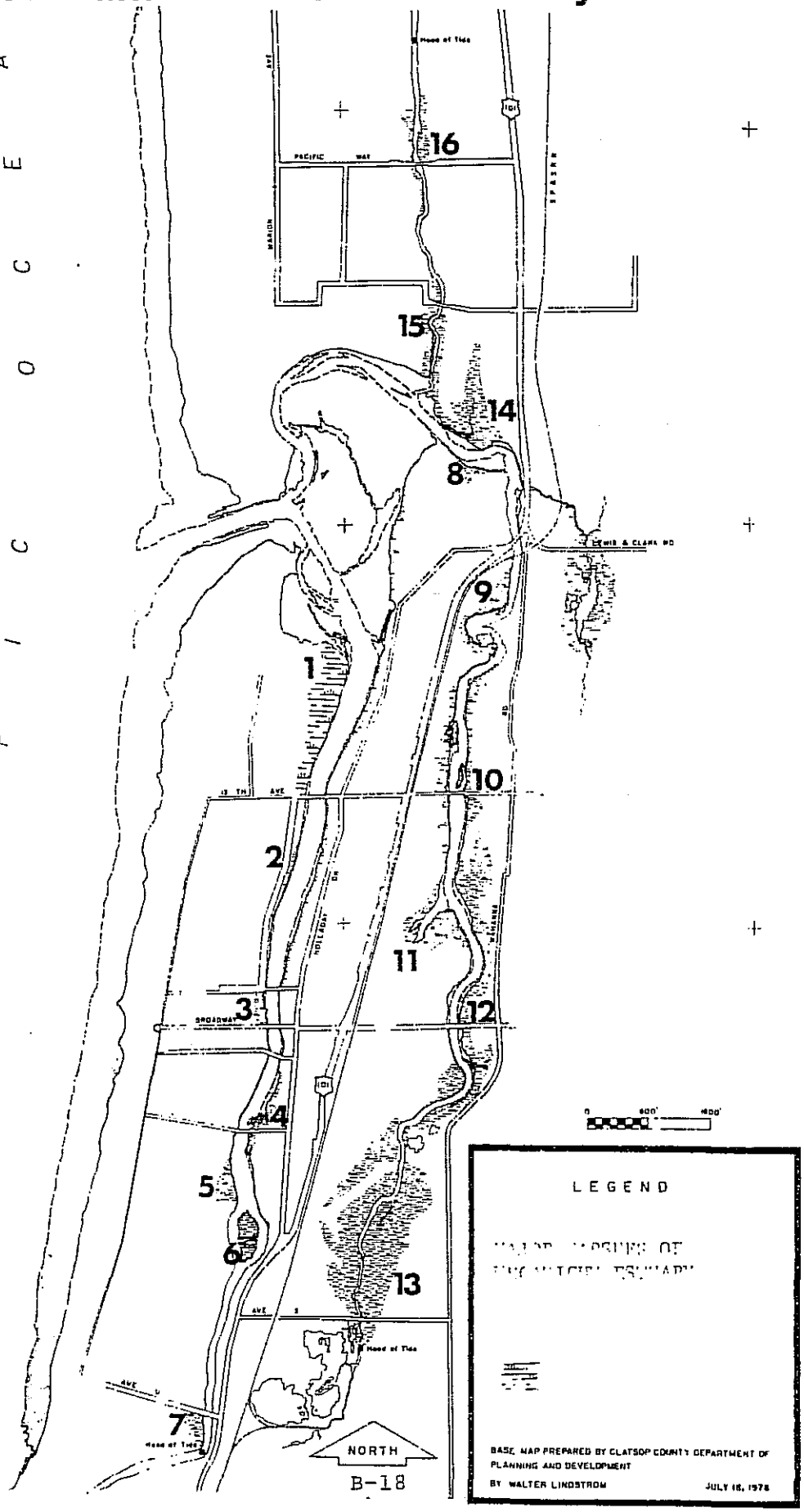
Neacoxie System

(14) A large open space marsh area at the confluence of the Neacoxie and Neawanna. A broad flat high marsh that grades into a shrub marsh on the Northern end. The shoreline plants are a typical cover of woody glasswort, Jaumea, and salt grass. The upper reaches of the marsh are dominated by American dune grass. This marsh represents the largest salt marsh in the estuary and should have specific protection.

(15) The Neacoxie tributary of the estuary has a continuous wetland along its shores to the head of tide. This is a narrow marsh and is characterized as a high marsh with near shore populations of Jaumea and salt grass. The elevated parts of the marsh consist of creeping bent grass, Pacific silverweed, salt bush, sea milkwort, salt rush and seaside arrow grass. A culvert below this marsh limits the tide movement.

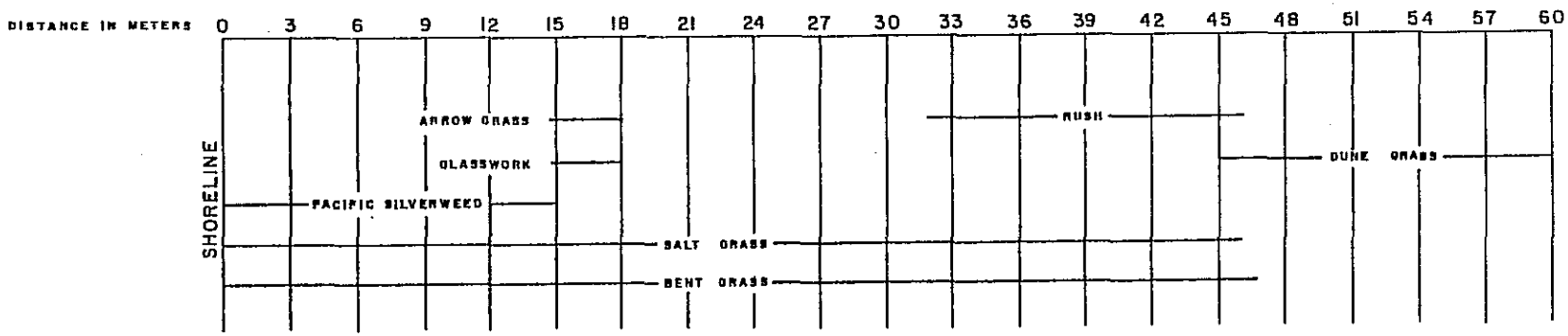
(16) This marsh environment is near the identified head of tide and is also limited by a second culvert. The marsh would fall into the high marsh class and is invaded by spike rush, triglochin, Pacific silverweed and Lyngbyes' sedge.

Necanicum River Estuary



MARSH PLANT DISTRIBUTION—NECANICUM ESTUARY

MARSH NO. 1



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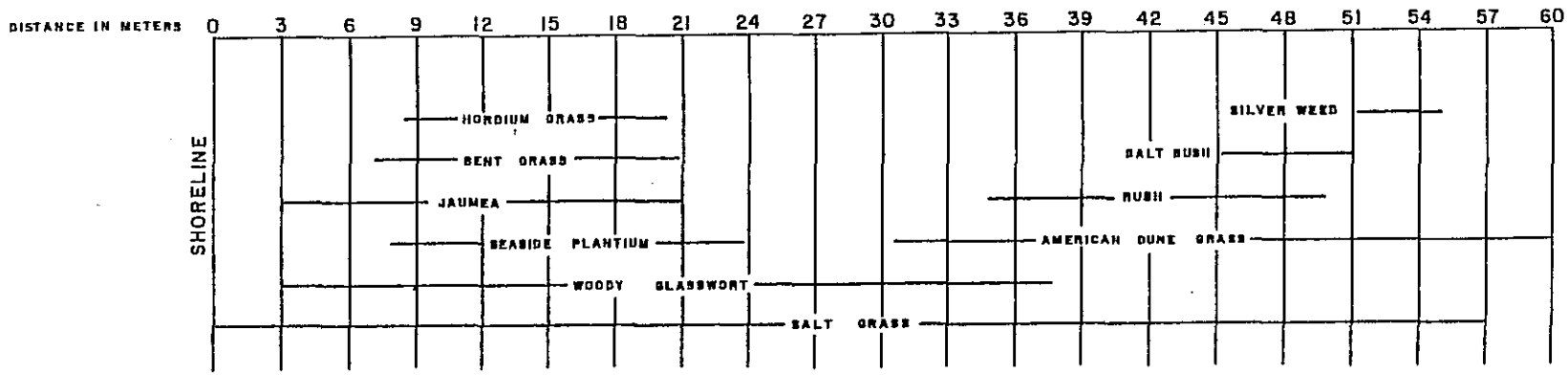
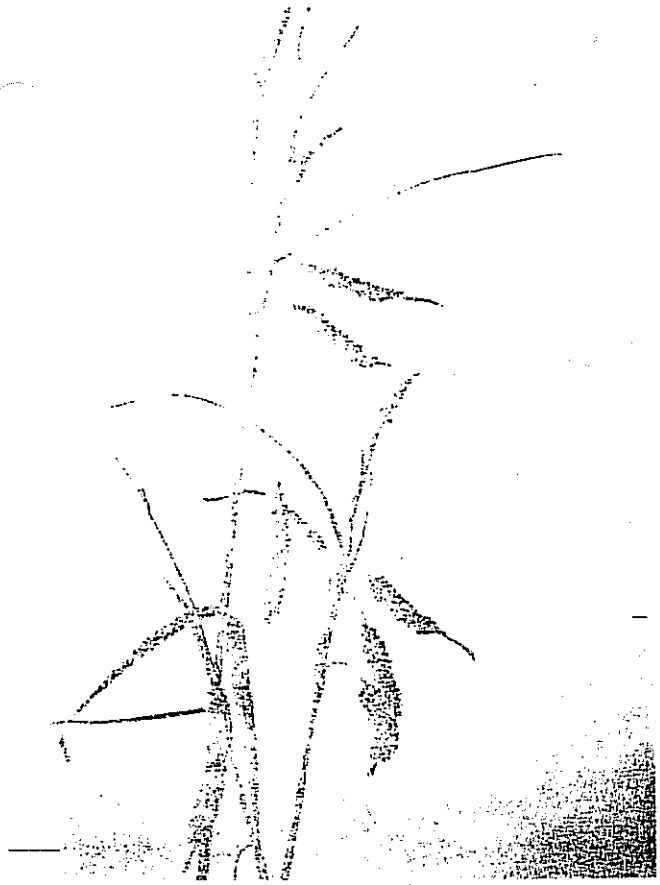


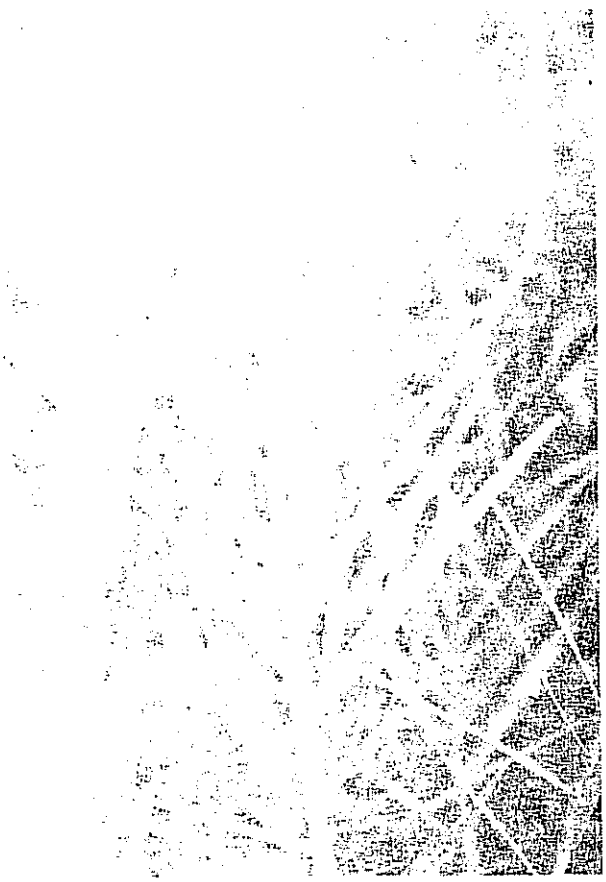
Marsh Plants



[illegible] SEDGE

GLASSWORT

PACIFIC SILVER WEED



[illegible] GRASS

TUFTED HAIRGRASS

Checklist of Necanicum Estuary
Marsh Plants

Common Name	Scientific Name
European Beach Grass	*Ammophila arenaria*
Thrift	*Armeria maritima*
Bent Grass	*Arostis alba*
Salt Bush	*Atriplex patula*
Slough Sedge	*Carex obunupta*
Large-Headed Sedge	*Carex macrocephala*
Lyngbyes' Sedge	*Carex lyngbyei*
Salt Marsh Dodder	*Cuscuta salina*
Tufted Hairgrass	*Dischampaia caepitosa*
Salt Grass	*Distichlis spicata*
Spike Rush	*Eleocharis sp.*
American Dune Grass	*Elymus mollis*
Tall Fescue	*Festuca sp.*
Sea Milkwort	*Glaux sp.*
Fox Tail	*Hordeum sp.*
None	*Jaumea carnosa*
Baltic Rush	*Juncus balticus*
Beach Pea	*Lathyrus japonicus*
Seaside Plantain	*Plantago maritima*
Pacific Silverweed	*Potentilla pacifica*
Seaside Dock	*Rumex sp.*
Ditch-grass	*Puppia sp.*
Woody Glasswort	*Salicornia virginica*
None	*Scirpus macrocarpus* (freshwater)
Three Square Grass	*Scirpus maritimus*
Seaside Arrow Grass	*Triglochin maritima*

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Zooplankton

The zooplankton-phytoplankton interrelationship is an important factor in the dynamics of the estuary system. The phytoplankton makes up the food supply consumed by the zooplankton and it is dependent upon an ample supply. As a result the zooplankton functions as a first order consumer in the estuary food cycle. In turn the zooplankton becomes the basis of a chain of predator prey cycles in the estuary that leads to success of a major part of the food web in the estuary.

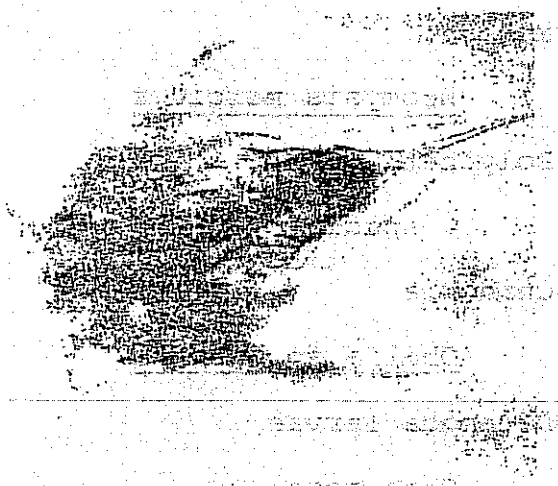
Zooplankton cycles and population changes are a characteristic factor of this group. As salinity and freshwater vary through the year, the shift in individual zooplankton and their numbers responds accordingly. Just how populations change in the Necanicum estuary will not be known until studies have been completed.

Zooplankton is not a homogenous group but is made of many individuals that are passing through a plankton stage of their life cycle (in the Necanicum estuary the nauplius stage of the barnacle is one of the most obvious parts of the plankton, page photo). Other examples would include the fish eggs and larva, benthic worm larva, and many of the crustacean and echinoderms. Other parts of the zooplankton population include forms that spend their entire life as plankton, such as the copepods and cladocerns. Most of the major phyla of organisms show up as plankton at some point in their life cycle. A number of these examples can be found on page .

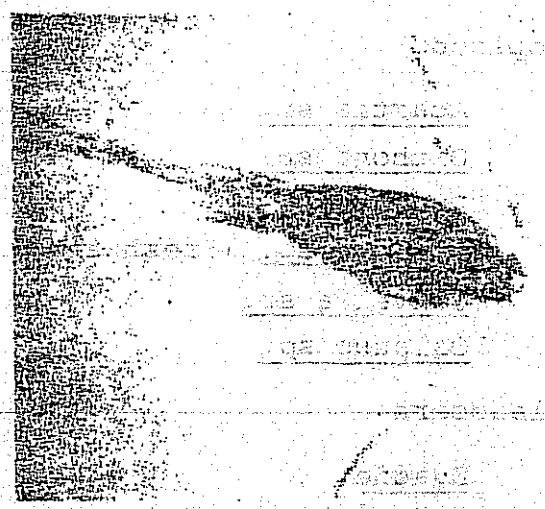
Because no definitive studies have been done on the ecological aspects of the zooplankton, the assessment must remain as a generalized view of plankton in estuaries and an inventory species list which will display the general populations during the year. Very few of the organisms are permanent residents of the estuary but are tidal in nature and come to this estuary as a part of the marine tidal population. A few individuals originate from the Neacoxie, Mill Creek, Neawanna and the Necanicum tributaries.

Inventory studies conducted during the summer of 1978 show an almost total marine condition owing to the high salinity of the estuary in the summer.

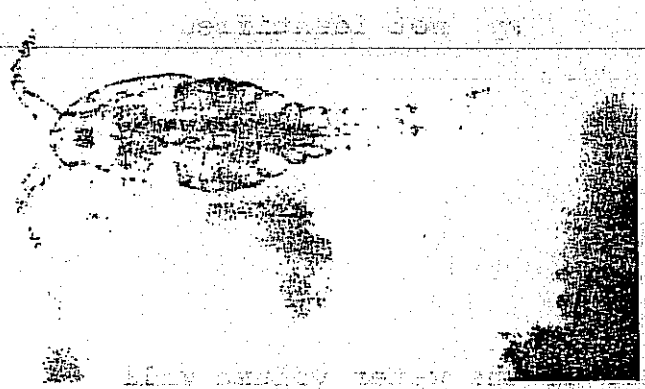
Plankton



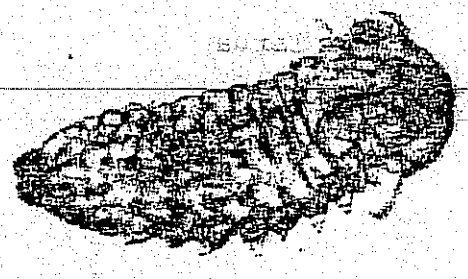
BARNACLE LARVA



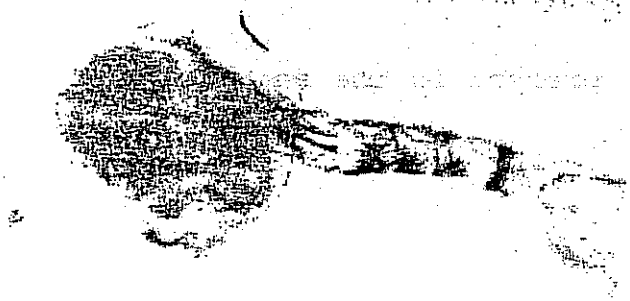
COPEPOD



CYCLOPS-COPEPOD



POLYCHETA LARVA



CRAB LARVA(zoea)

MEDUSA-OBELIA

Necanicum Estuary Zooplankton

Copepoda

- *Acartia sp.*
- *Oithona sp.*
- *Eurytemora sp.*
- *Cyclops sp.* (Freshwater)
- *Canvella sp.*
- *Calanus sp.*

Cladocern

- *Evadne*

Ctenophores

- *Pleurobrachia sp.* (Spring)

Gastropoda

- Clam larva

Mysids

- *Neomysis mercidis*

Polycheta larvae

- 2 species

Cnidaria

- *Obelia sp. medusa*

Decapoda larvae

- *Crab zoea*

Cirripedia

- *Barnacle nauplius*

Fish Eggs

- sp. not identified

Chart Explanation

The density of zooplankton relative to the water volume will be rated only as high, medium and low. Sample density is related to the relative density of the individuals within the sample.

(D) Dominant--makes up the major portions of the sample (there may be more than one species in this category),

(M) Many--a number of individuals, but not the dominant organism,

(I) Individuals--isolated species present in the sample.

ZOOPLANKTON INVENTORY

	July	August	January	March
Zooplankton Density	High	Medium	Low	Low
SPECIES				
Copepod				
Acartia sp.	D	D	M	I
Oithona sp.	M	M	M	-
Eurytemora sp.	I	I	-	-
Canuella sp.	I	I	-	-
Calanus sp.	I	I	-	-
Cyclops sp.	I	I	-	-
Harpacticoid	-	-	I	M
Evadne	I	I	-	-
Ostracoda	-	I	-	M
Pleurobranchia sp.	-	-	-	I
Clam larva	I	I	-	-
Neopysis mercidis	M	M	-	-
Polycheta larva	I	I	I	M
Medusa (sp)	M	-	-	I
Crab larva	I	-	-	I
Barnacle larva	D	D	-	M
Fish Eggs	I	-	-	-

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NECANICUM ESTUARY
BENTHIC ANIMALS

The bottom sediments of the Necanicum Estuary system provide habitat for a large group of animals that make up the benthos. These organisms range in size from microscopic plants and animals to large animals such as clams and ghost shrimp. Much of the population found in the infauna (organisms that live within the sediments) is microscopic. The epifauna is made up of those organisms that live on or just above the sediment surface.

Organisms of the benthos may range in size from those that could be considered microscopic, such as bacteria, protozoa, fungi, algae and diatoms. Each of these organisms plays an important role in the stability of the estuary with the bacteria being of particular importance in the decomposition cycle. Nematode worms and hargacticoid copepods make up an intermediate group of organisms that are less than 1 mm in size and are normally restricted to the top few centimeters of sediment.

The larger more conspicuous organisms that can be seen with the unaided eye make up the balance of the fauna of the benthos. Crab, shrimp, clams, polychaete worms, barnacles and mussels make up the typical examples of this group.

The larger organisms can be divided into three feeding types: selective particle feeders, deposit feeders and filter feeders. Selective particle feeders may be scavengers, predators or herbivores, feeding on whole organisms they capture or fragments of plants or animals. Fishes, crabs, and some worms and other mobile species fall into this category. The food is primarily organic material and broken down by mechanical and chemical processes. Wastes are combined with mucous and often form distinctive fecal pellets which may make up a significant percentage of the bottom sediments.

Deposit feeders include worms that move through the sediment ingesting and utilizing what organic material is contained therein and discarding the remains as feces. Other deposit feeders bury themselves in the sediment. Using siphons or other extensions they suck up detritus that has recently fallen to the bottom. These animals are unselective in what they feed upon, but they often have efficient sorting mechanisms. The feces of these deposit feeders may contain a high percentage of inorganic material.

Filter feeders draw in water and particulate matter. Most clams and mussels use tiny hair-like cilia to create currents of water over a mucous network which traps particles. Others, such as

tube-dwelling worms, may force water through their borrows by body movements.

The feeding habits of benthic animals can have a significant effect on the sediments and overlying waters. Deposit feeders turn over huge quantities of sediments and bring oxygen to deeper layers. Filter feeders and some deposit feeders remove detrital and particulate material from the water and sediment surface. These animals play an important role in partially breaking down organic matter for the microorganisms which complete the mineralization.

Of particular importance is the interrelationship of a number of the benthic invertebrates in being utilized as the major food supply for the estuarine fishes, in particular the downstream migrating salmon juveniles that spend an important part of their life cycles in this habitat.

ECOLOGICAL CONCERNS: that mud and sand flat areas must be maintained at all cost as habitat for benthic organisms and that release of juvenile fishes be controlled in relationship to the productive potential of the Necanicum Estuary.

Management policies should speak to this topic in relation to fish release by the state agencies and those that are released by private hatcheries.

Special consideration is given to the ghost shrimp (Callianassa californiensis) because of the dense population in the lower estuary and its role in the substrate.

> *Callianassa is considerably elongated, which is possibly a direct response to its method of living, and is rather brightly colored, even though always hidden in the mud. Adult individuals average from two to three inches in length and vary from a whitish yellow to orange-red. Their one outstanding feature is the possession of an exceedingly large cheliped, which may be either the right or left.
>
> Callianassa is found most abundantly in tidal regions of from zero to plus one foot and restricted to bottoms of mixed sand and mud of a sufficiently tenacious consistency to allow the construction of burrows of a rather permanent nature. Neither very loose sand nor very soft mud will serve.

*Description by G.E. MacGinitie from "The American Midland Naturalist".

The animal is occupied almost constantly in extending or adding new tunnels to its burrows, which often connect with those of other individuals.

Callianassa feeds by sifting the sand for its contained detritus. As in burrowing, the sand is drawn in from the face of the tunnel; but unlike the actual burrowing, the sand is sifted by the hairs on the dactyls of the second and third legs and scraped off by the hairs of the third maxillipeds. From these, by a series of movements of the mouth parts, it finds its way to the oesophagus.

A sifted load of sand for an average-sized Callianassa will approximate one-half to one cubic centimeter, the amount of material deposited around one entrance between low tides. At this rate the soil would be turned over in 240 days to a depth of thirty inches, which is the approximate limit of depth to which the animals burrow.

Egg laden females may be found at any time throughout the year but are more numerous during the latter part of June and July. The eggs are carried by the female until the embryos have reached the zoea stage, when hatching takes place. They subsequently pass through a larval stage and at the next molt become like the adult and settle to the bottom.

Dungeness crab populations reach high levels at various times during the year. During low runoff periods cancer crabs may be found in the estuary on a continuous basis because of the saline conditions of the water. As winter runoff increases they tend to move in and out with the tide cycles.

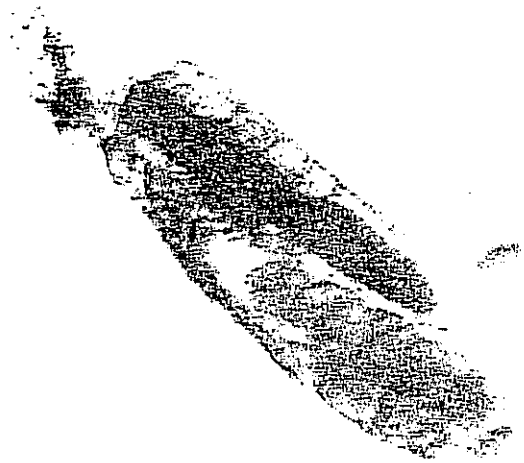
Crabs that were caught and marked by number in the Neawanna during August demonstrated that the population was generally on the move. Crabs were trapped in pots and numbered on the shell and released. Of the 75 marked only 5 were recaptured during a one week study.

Extensive crabbing by sportsmen occurs in the July and August seasons throughout the estuary. As many as 25 crab rings have been observed at 12th Avenue Bridge with additional fishermen in boats working crab rings. Success on legal adults is generally fair with hundreds of immature crabs being caught and released each day.

Crabbing would be considered the second most popular recreation use of the estuary behind fishing.

Benthic Organisms

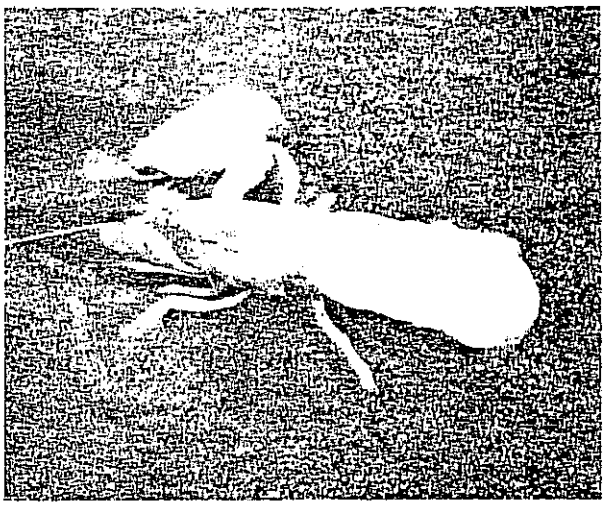
CLAM LARVA



HARPACTICOID-COPEPOD

NEMATODE WORM

DIATOMS



GHOST SHRIMP

COROPHIUM

SPECIES LIST
(incomplete)

Hydrozan
- *Obelia sp.*

Annelida
- *Nemertea*, 2 species
- *Oligochaeta*
- one species unidentified

Polychaeta
- *Hobsonia florida*
- *Nephyts sp.*
- *Sternaspidae* (family)
- Unidentified species--2

Bivalvia
- *Mytilus edulis* (mussel)
- *Mya arenaria* (softshell clam)
- *Tellina salmonea* (pink clam)
- *Tellina sp.* (white clam)

Crustacea
- *Corophium salmonis*
- *Amphithoe sp.*
- *Gammaridea*
- *Eohaustorium estuaris*
- *Callinassa californiensis* (ghost shrimp)
- *Balanus glandula* (barnacle)
- *Cancer magister* (dungeness crab)

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FISHES OF THE NECANICUM RIVER ESTUARY

The Necanicum River Estuary provides habitat for a number of fishes of which almost all could be considered marine species. Because a number of species are migratory, the estuary is used as an intermediate transfer habitat for the anadromous fishes who move through the estuary to freshwater. Other species could be considered tidal as they move in and out with the tidal exchange or remain in the estuary during high salinity periods.

The fishes of the Necanicum system have no direct commercial value but are fishes that may spawn and spend their juvenile stages in the estuary system and become important in the off-shore ocean fishery (e.g. flounders, salmon and perch).

During the high tide cycle the estuary condition in the Necanicum system approaches the marine quality and produces no fresh-water barriers to marine fish during low flow periods. The conditions that must be considered seriously are the low water cycle in which the anadromous (migrating to freshwater) fish may find barriers in water quality during low flow and low tides for adults and juveniles. Not only must the water quality in the ocean meet particular standards, but the tributary waters and the impounded estuarine water must maintain a level of quality that it provides a transfer area for these fishes.

With the exception of the Pacific Staghorn Sculpin and the Shiner Percn most of the fish species use the estuary during specific times of the year and with some relationship to their reproductive cycle. In the case of the anadromous fish, there is an upstream migration in the fall and a subsequent downstream migration of the juveniles in the spring. The adult time in the estuary is relatively short while the juveniles spend longer (weeks) periods of time in the estuary feeding before the eventual migration to the ocean.

Because some of these fish move through the estuary during the lowest flow periods and high temperature periods this has the potential for a low oxygen condition to exist in the estuary and associated water. Any significant effect on these factors would have a serious effect on these fish and their survival.

Steelhead (Salmo gairdneri gairdneri):

A small native population and a Fish and Wildlife managed stocking program makes the Necanicum system very productive for steelhead, with spawning escapement of approximately 2300 fish. In recent years the fishing pressure on this species has increased in the estuary part of the Necanicum system.

The fish has high water quality demands for its success, not only in moving through the estuary but for the downstream migrants that spend an important period of time in the estuarine water, feeding and growing before their migration to the ocean.

Tidal Fishes

This group of fish (shiner perch, striped perch, pile perch, walleye perch, starry flounder, staghorn sculpin, surf smelt, anchovy, herring, and pipe fish) for the most part move into the estuary during the tidal cycle and move out again within a fairly short period of time (from a single tidal cycle to a period of weeks). During low flow conditions in July, August, and September the estuary reaches nearly marine conditions in respect to the salinity and is not a serious limiting factor for marine fishes. The use of the estuary includes spawning, feeding, protection and as a nursery for young.

Fish Description

Coho (Silver) Salmon (Oncorhynchus kisutch):

Silver salmon runs are limited to the Necanicum, Neawanna, and Mill Creek tributaries of this system. A spawning escapement of approximately 1200 silvers has been estimated by the Fish and Wildlife Department for the Necanicum system. A small population of undetermined numbers runs in the Neawanna drainage.

Silver salmon move into the estuary in early September and move upstream into the freshwater system with the early fall rains. The spawning cycle begins in early November and continues into January. These fish are utilized by the recreation fishermen to a moderate degree in the estuary and at a low level in the river. After the spawing cycle in the upper tributaries the hatching fry spend the next year in the river feeding and growing until the spring downstream migration into the estuary for another period of feeding and growth.

Chum Salmon (Oncorhynchus keta):

There is a small run of Chum salmon that occurs sporadically and reaches a few hundred fish on peak years. This fish has no recreational fishing potential and enters the Necanicum system almost unnoticed.

Cutthroat Trout (Salmo clarki clarki):

This fish is represented by a good run in the Necanicum (approximately 5000) that enter the river from the ocean in July and run until October. This fish is eagerly sought after by the

recreational fisherman in the estuary and in the Necanicum River. This fish spawns in January and February with fingerlings moving into the estuary in the spring and then moving to the open ocean.

Active management programs by the Oregon Department of Fish and Wildlife have been ongoing in the Necanicum system for sometime. Steelhead trout have been planted on a yearly basis for the last 10+ years with the average spring plant of about 50,000 fish. The utilization of the steelhead has been very extensive by the resident and out of area recreation fisherman.

The following data presents the stocking program for salmon species in the Necanicum system.

1976 -	6,000	Coho smolts
	39,000	Fall Chinook smolts
	630	Coho adults
1977 -	75,000	Coho smolts
1978 -	103,000	Coho smolts
	98,000	Fall Chinook smolts

The full impact of this stocking program will not be known for some time. At this writing a few 3 year Fall Chinook have returned to the Necanicum.

Seining Results, August 1978

Results include numbers of fish caught with a 100' beach seine. There were 5 sets with the following total catch.

Necanicum (1 kl from mouth) 3 sets	Neawanna (2 kl from mouth) 2 sets
Shiner Perch	Striped Perch
Adults 51	Juveniles 16
Juveniles 1,993	Shiner Perch
Starry Flounder 19	Juveniles 162
Staghorn Sculpin 36	Pile Perch
Surf Smelt 23	Juveniles 38
Salmon	Staghorn Scuplin 14
Juvenile Chinook 2	Three Spine Stickleback 1
	Bay Pipe Fish 1

Spawning and Nursery Role of Estuary

The Necanicum River Estuary, like the rest of the estuaries on the Oregon coast, plays an important role as a nursery for many organisms. Because of the protected waters, abundant food supply and lack of ocean predators, the perch, starry flounder and salmon spend an important amount of time in this estuary system.

The feeding surface area is almost doubled each day as the tide floods across mud flats and into the marshes. Because of this factor the carrying capacity of the estuary is much greater than appears to the casual observer. In addition the tide brings with it a certain amount of usable energy from the ocean system and the offshore upwelling.

A Starry Flounder tagging program in the Necanicum has demonstrated this role to a degree with flounder tags being returned from commercial draggers as far away as Ocean Shores, Washington in 35 fathoms of water.

NECANICUM RIVER ESTUARY
FISH SPECIES LIST

Common Name	Scientific Name
Coho salmon	Oncorhynchus kisutch
Chum salmon	Oncorhynchus keta
Chinook salmon	Onchorhynchos tschawytscha
Steelhead	Salmo gairdneri gairdneri
Cutthroat trout	Salmo clarki clarki
Shinner perch	Cymatogaster aggregata
Striped perch	Embiotoca lateralis
Pile perch	Rhacochilus vacca
Walleye perch	Hyperprosopon argenteum
Redtail perch	Amphistichus rhodoterus
Starry flounder	Platichthys stellatus
Pacific staghorn sculpin	Leptocottus armatus
Surf smelt	Hypomesus pretiosus
Northern anchovy	Engraulis mordax
Pacific herring	Clupea herengus pallasi
Bay pipe fish	Syngnathus griseolineatus
Carp	Cyprinus carpio
Three spine stickleback	Gasterosteus aculeatus
Pacific lamprey	Entosphenus tridentatus
Sturgeon (green)	Acipenser medirostris

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WATERBIRDS OBSERVED
IN NECANICUM ESTUARY

Species	Habitat
Canada Goose	sand flats (migration)
Brant	sand flats (migration)
Snow Goose	sand flats (migration)
White Fronted Goose	
Mallard	bays and marshes
Pintail	most fresh water marshes
Cinnamon Teal	marshes
Woodduck	backwaters of rivers and streams
Canvasback	open marshes
Lesser Scaup	salt marshes, estuaries (in winter)
Greater Scaup	on the coast (in winter)
Common Goldeneye	lakes and bogs in coniferous forests
Barrow's Goldeneye	on bays along coast (in winter)
Bufflehead	forest with small ponds, open water near forest
Surf Scoter	coastal waters (during winter)
Common Merganser	open water
Red Breasted Merganser	lakes and rivers (winters on saltwater)
Hooded Merganser	on coasts (in winter)
Pelican (80 individuals 1976)	
Horned Grebe	coastal bays, oceans (in winter)
Eared Grebe	lakes and sloughs
Western Grebe	open water, bays and lakes
Pied-billed Grebe	open water of any size (in winter on migration)
American Coot	marshes and vegetated ponds
Harlequin Duck	near rushing water (nesting) rocky seashores (winter)
Greenwinged Teal	marshes and lakes
American Wigeon	open marshy areas
White Winged Scoter	seacoasts (in winter)

Species	Habitat
Common Loon	bays and coves along coast (in winter)
Arctic Loon	seacoast (in winter)
Red Throated Loon	seacoast (in winter)
Brandt's Cormorant	bays and estuaries
Pelagic Cormorant	coastal waters, bays
Double Crested Cormorant	freshwater lakes, rivers and the sea
Caspian Tern	sand flats, coastal water
Common Tern	sand flats, open water

Although the Necanicum River Estuary is not a large area it does serve as an important site for a number of waterbird species. The estuary provides feeding and resting sites for migrating birds in season, but does not provide important habitat for nesting of migratory birds.

Of particular importance are the haul out areas on the west side in the lower estuary. Many of the water associated species use this area during the fall and winter. The open sand flats are also important as rest areas and overnight stations for migrating birds. Harry Nehls, author of Shorebirds of Oregon has the following to say about the Necanicum River Estuary. "The Necanicum River Estuary has long been considered an important section of the Northern Oregon Coast for migrant birds. It is used primarily as a safety stop if sudden changes in the weather catches migrants between Tillamook Head and the mouth of the Columbia River. It is also a secondary feeding and resting area. Waterbird populations are extremely high most of the year just offshore and on the flats from Tillamook Head northward to north of Brays Harbor, so it is important to have emergency stopping places all along this area."

Species	Habitat
Long-legged Wading Birds	
Great Blue Heron	shoreline
Green Heron	shoreline
American Bittern	marsh, grassland
Snowy Egret (single sighting)	

Species	Habitat
Raptors	
Red Tailed Hawk	woodlands
Bald Eagle (rare visitor)	water edge
Marsh Hawk	marsh, grassland
Rough-legged Hawk	Open marshes
American Kestrel	open country
Shorebirds and Gulls	
Semipalmated Plover	saltwater, mudflats
Killdeer	inland beaches and coastal fields
Whimbrel	mudflats and dunes
Lesser Yellow Legs	mudflats
Northern Phalarope	open water
Spotted Sandpiper	any body of water that is surrounded by vegetation and woods
Least Sandpiper	tidal mudflats
Western Sandpiper	seacoast (in winter)
Dunlin	seacoast (in winter)
Sanderling	sandy beaches (migration and through winter)
Black-bellied Plover	seashores and mudflats (in winter)
Snowy Plover	sandy or alkaline shores
Short Billed Dowitcher	mudflats
Black Turnstone	shores of Pacific coast (in fall and winter)
Glaucous-winged Gull	bays and estuaries
Western Gull	bays, estuaries and rivers
California Gull	bays and rivers
Mew Gull	bays and estuaries
Herring Gull	coastal areas (in winter)
Thayer's Gull	among other gulls on the Pacific coast (in winter)
Ring-billed Gull	mostly on seacoast (in winter)
Bonaparte's Gull	bays and estuaries
Heerman's Gull	open water

Species	Habitat
Other Birds of the Estuary Shoreline and Forest	
Rufous Hummingbird	conifers, edges
Belted Kingfisher	rivers, streams, ponds and seashore
Red Shafted Flicker	open forest
Hairy Woodpecker	coniferous stands, deciduous trees
Downy Woodpecker	tree willow, alder
Violet-green Swallow	breeds in forests, wooded foothills
Barn Swallow	open country, near water
Steller's Jay	conifers, tree willow
Common raven	grasslands
Common Crow	tide flats, open country
Black-capped Chickadee	woodlands
Bushtit	deciduous growth, in coastal forest
Wrentit	alder stands
Bewick's Wren	tree willow
American Robin	wooded habitat, meadows
Waried Thrush	conifers and deciduous forest
Ruby-crowned Kinglet	conifers
Cedar Waxwing	conifers
Starling	urban areas
Yellow Warbler	shrub willow, scotch broom
Yellowthroat	marsh edges, tree willows
House Sparrow	urban areas, farms
Golden-crowned Sparrow	coastal brushland (winter)
Western Meadowlark	grassland, meadows
Brown-headed Cowbird	fields, willow
Brewer's Blackbird	fields
House Finch	trees, urban areas
American Goldfinch	tree willow, brushy areas

Species	Habitat
Rufous-sided Towhee	forest edges, thicks, woodlands
White-crowned Sparrow	forest edges, clearings
Fox Sparrow	thickets, edges of conifers
Western Tanager	conifers
Red Winged Blackbird	marsh, willow
Savannah Sparrow	open grassland, savannas, salt marshes
Junco	openings and edges of conifers and mixed woods
Song Sparrow	forest edges, clearings, thickets, and marshes with open grassy feeding areas
Ring Neck Pheasant	dune grass and associated scrub land

REFERENCES

Bayer, R., Birds of Lincoln County, Oregon. Sea Grant Marine Advisory Program, Oregon State University Marine Science Center, Newport, Oregon, 1977.

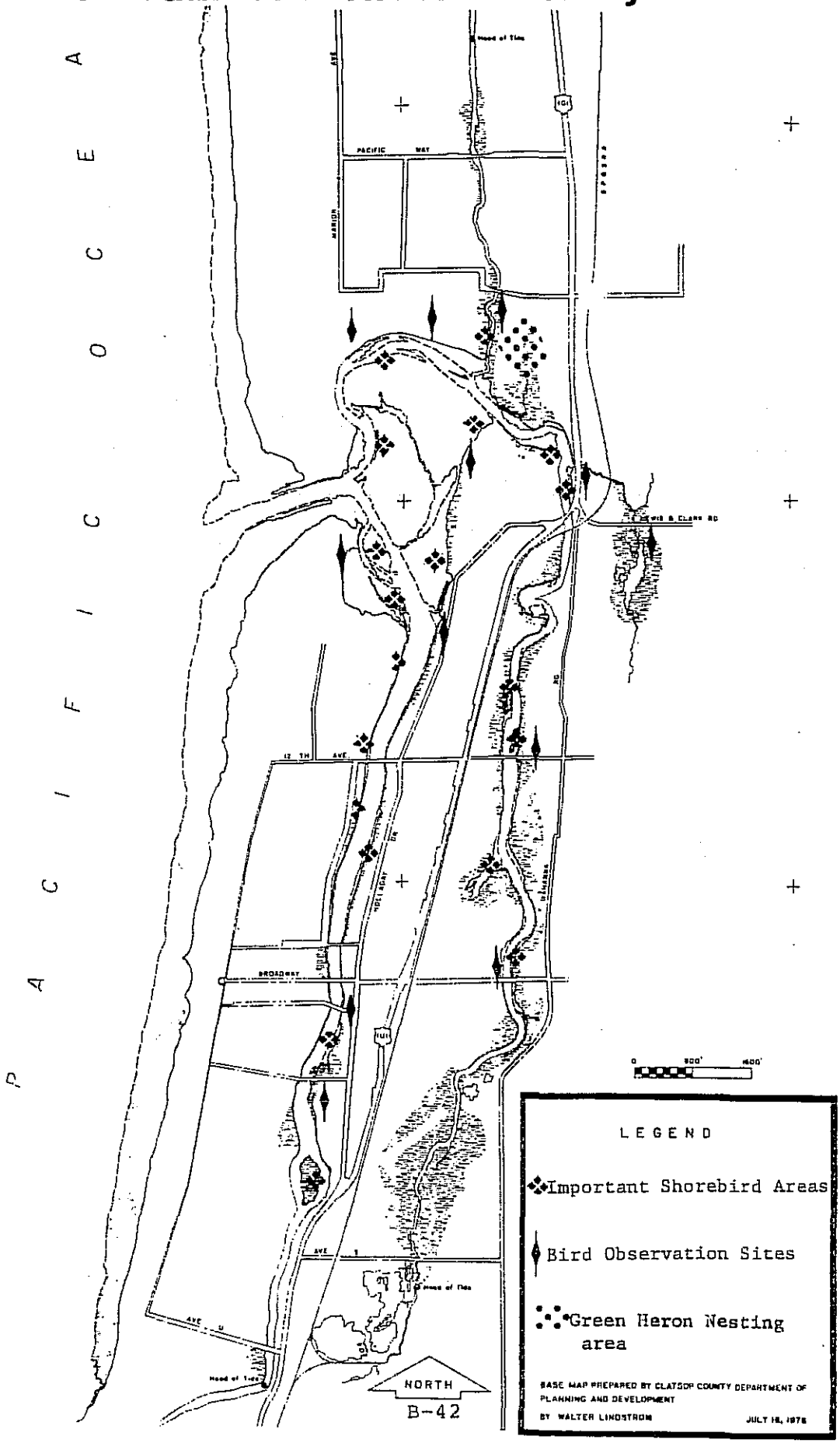
Miklos, D.F., The Audubon Society Field Guide to North American Birds. Alfred A. Knopf, Inc., New York, New York, 1977.

Nehls, H., Shorebirds of Oregon.

Robbins, C.S., B. Bruun, and H.S. Zim, Birds of North America. Western Publishing Co., Racine, Wisconsin, 1966.

Seaman, Margaret H., ed., Columbia River Estuary Inventory of Physical, Biological and Cultural Characteristics. Columbia River Estuary Study Taskforce, 1978.

Necanicum River Estuary



ANIMALS OF THE NECANICUM ESTUARY

Large Mammals

Because of the extensive development around much of the estuary, large mammals are not in great abundance. Only two species are identified for this report. The Blacktailed deer and the Roosevelt Elk find their way into the undeveloped high marshes and adjacent forest during the winter months when they move to lower areas to feed.

Small Mammals

The aquatic mammals in the estuary area include the river otter, mink, beaver, and muskrat. Although the Necanicum estuary does not provide a great deal of habitat for these furbearers there are small populations in the upper estuary. Because of the small populations these animals are not trapped extensively.

Terrestrial animals found in association with the estuary include raccoons, opossums, coyotes, striped skunk, longtailed weasel, and other less obvious species (listed in Table A1). As with many terrestrial animals the water "edge environment" from the wetlands to willow and forest areas plays an important role in the feeding and breeding cycle of these animals.

Each of the various habitats associated with the estuary contain a variety of small animals such as shrews, mice, squirrels, chipmunks, and various other small animals.

Reptiles and Amphibians

Frogs, salamanders, and snakes are most representative of this group and are found more in association with small streams and wet lands adjacent to the estuary.

Marine Mammals

On rare occasions individual Harbor Seals will migrate into the Necanicum estuary during high tidal cycles.

ANIMAL INVENTORY
OF NECANICUM ESTUARY

Table A1

This inventory includes only those that have been live trapped or observed by the author.

Large Mammals

Roosevelt Elk (Cervus canadensis)
Black Tail Deer (Odocoileus hemionus)

Small Mammals

River Otter (Lutra canadensis)
Muskrat (ondatra zibethica)
Mink (Mustela vison)
Raccoon (Procyon lotor)
Beaver (castor canadensis)
Longtailed Weasel (Mustela frenata)
Striped Skunk (Mephitis mephitis)
Coyote (Canis latrans)
Norway Rat
Pacific Jumping Mouse (Zapus princeps)
Brush Rabbit (Sylvilagus bachmani)
Chickaree (Tamiascurus douglasii)
Townsend Chipmunk (Eutamias townsendi)
Western Gray Squirrel (Sciurus grieseus)
Vagrant Shrew (Sorux bendirei)
Townsend Mole (Scapanus townsendi)
Opossum

Marine Mammals

Harbor Seal (Phoca vitulina)

REFERENCES

Larrison, Earl J., Mammals of the Northwest. Seattle Audubon Society, Seattle, Washington, 1976.

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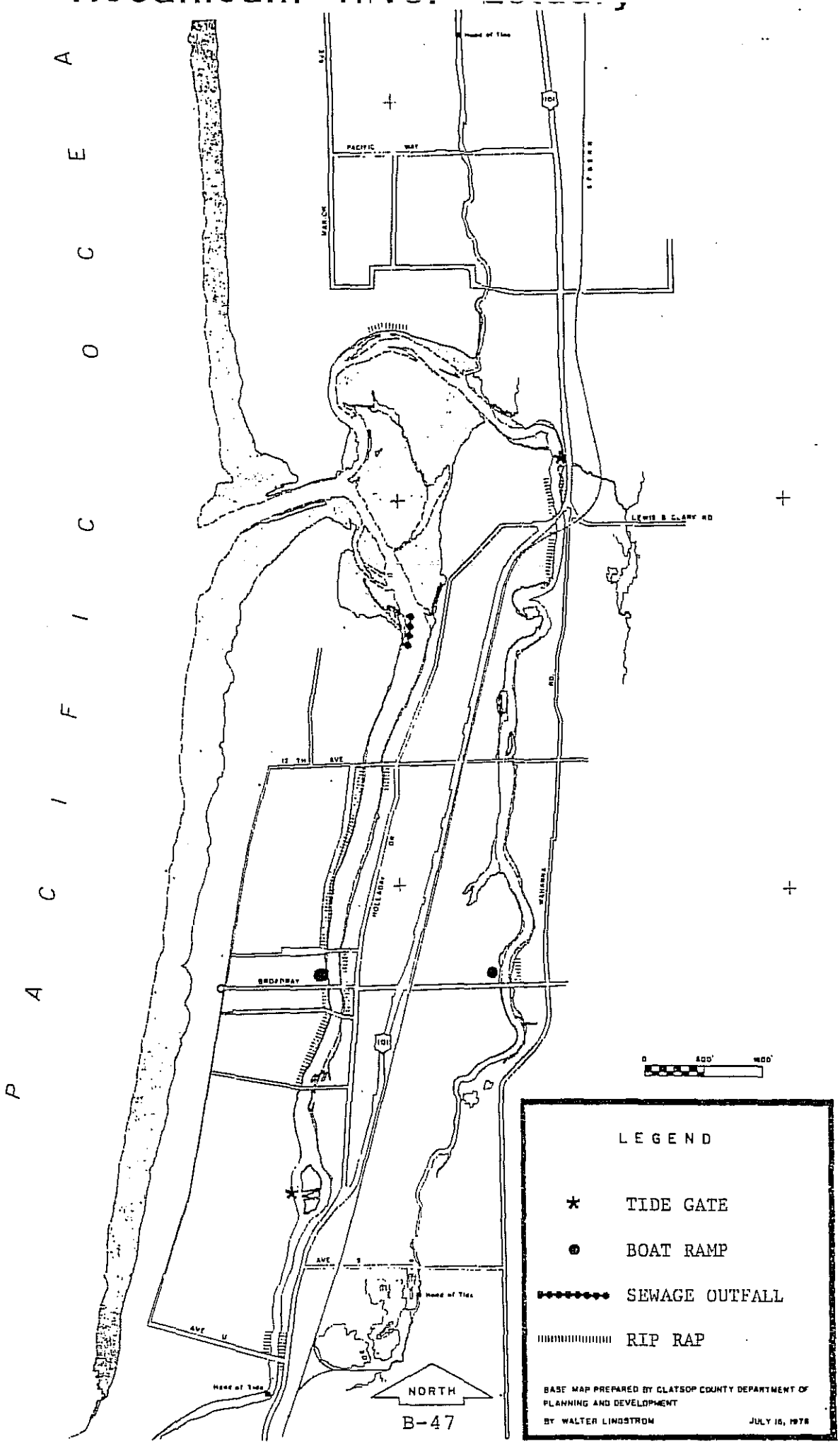
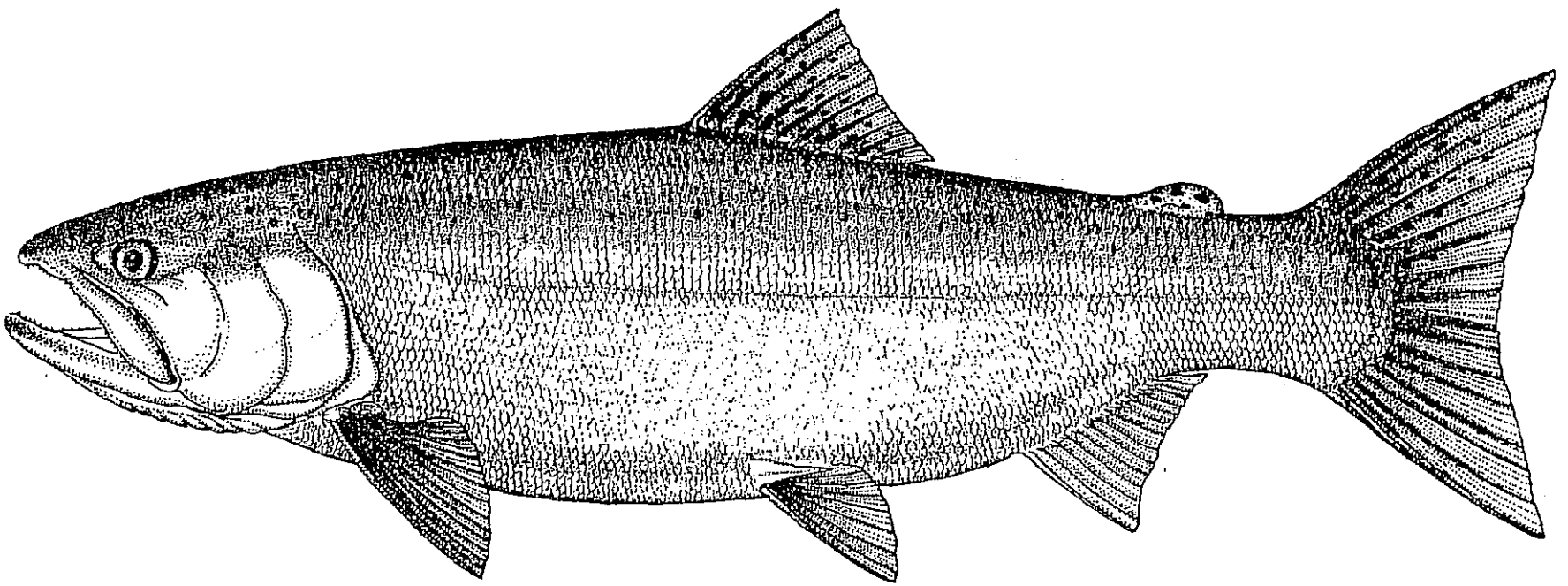
Yocom, C. and R. Dasmann, The Pacific Coastal Wildlife Region. Naturegraph Co., Healdsburg, California, 1965.

SECTION C

(Urban Impacts)

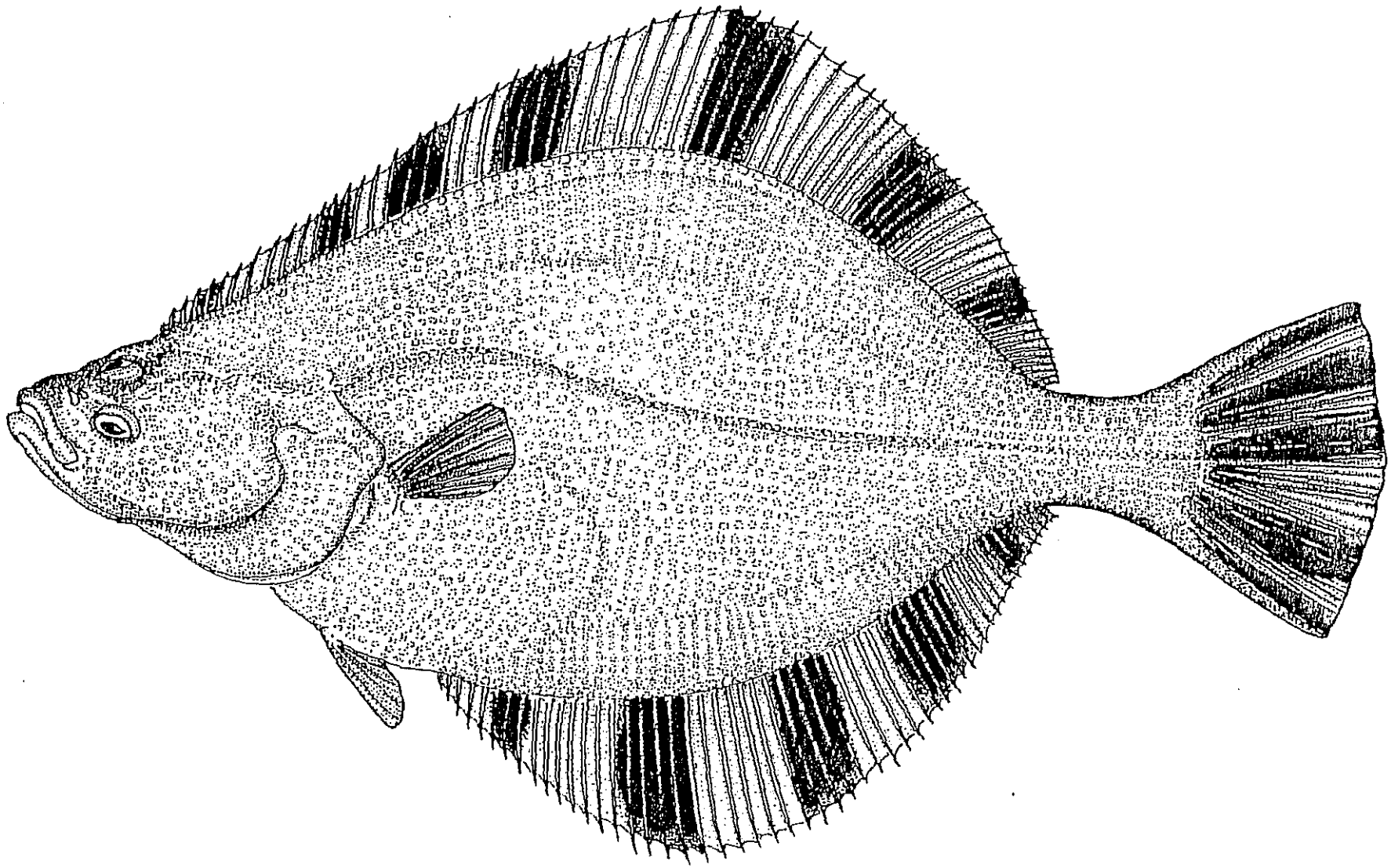
Existing Uses
(to be included later)


PACIFIC OCEAN
PACIFIC WAY
MARION
SPRUCE
101
LEWIS & CLARK RD
12TH AVE
HOLLADAY DR
WAHANNA RD.
BROADWAY
AVE S
AVE U
Head of Tide
0
500'
1000'
LEGEND
TIDE GATE
BOAT RAMP
SEWAGE OUTFALL
RIP RAP
BASE MAP PREPARED BY CLATSOP COUNTY DEPARTMENT OF PLANNING AND DEVELOPMENT
BY WALTER LINDSTROM
JULY 15, 1978
NORTH

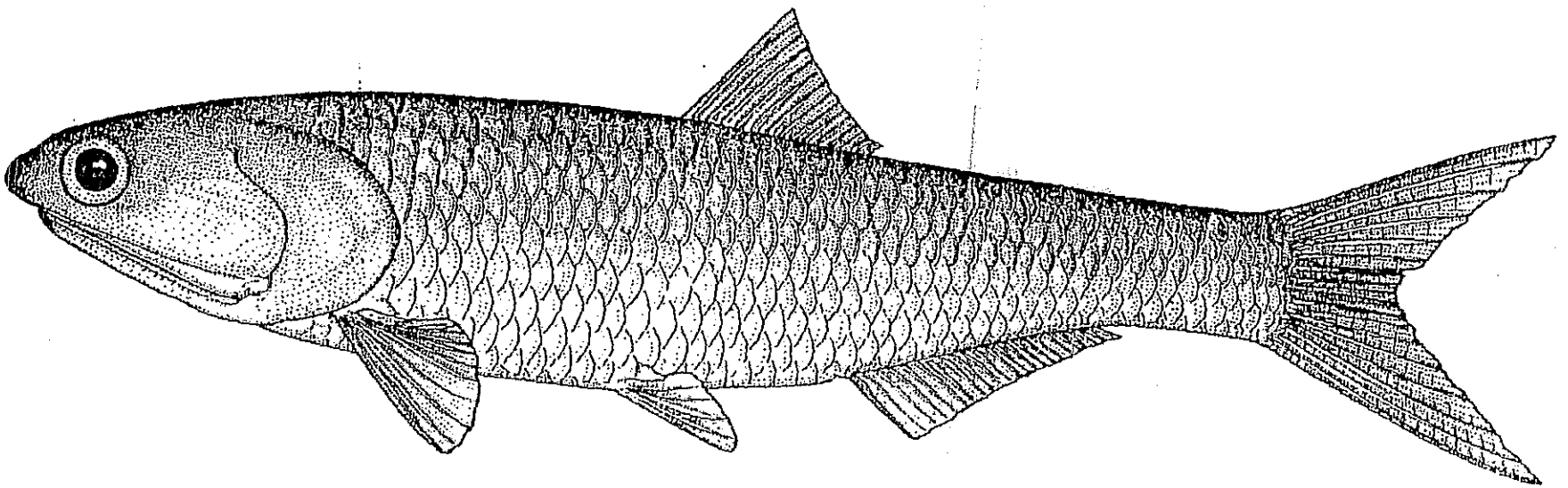


Oncorhynchus kisutch Coho Salmon

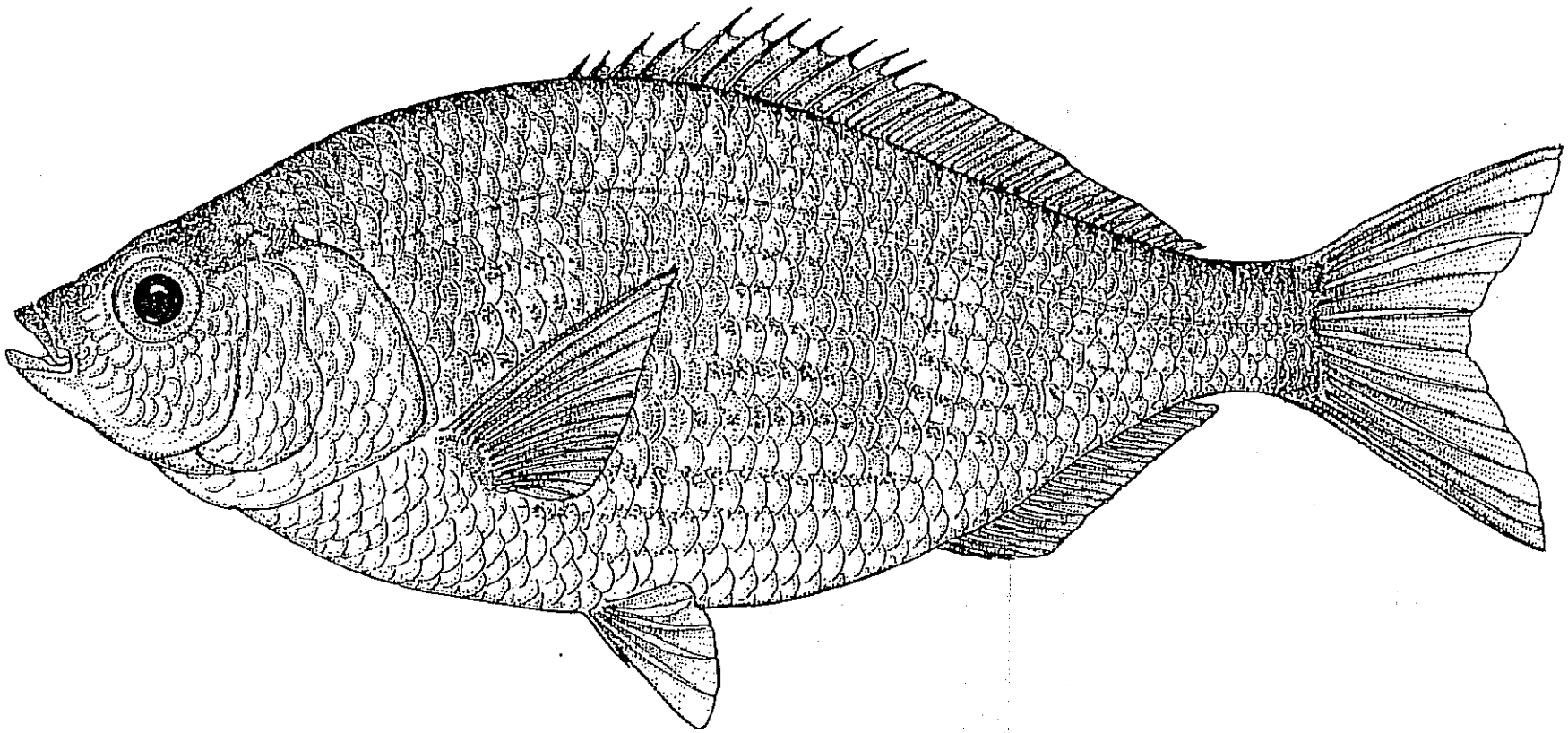
Syngnathus griseolineatus Bay Pipefish



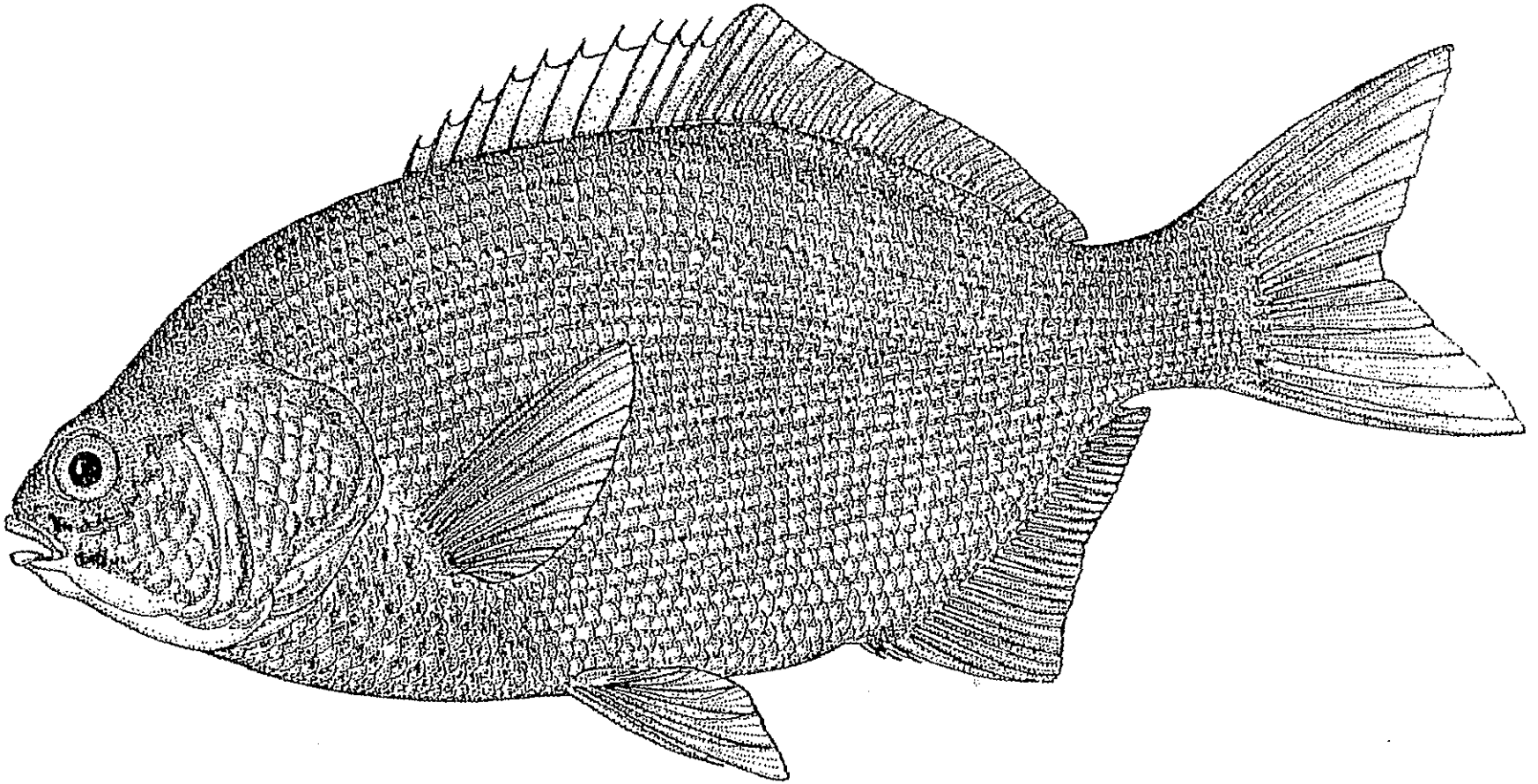
Paltichthys Stellalus Starry Flounder



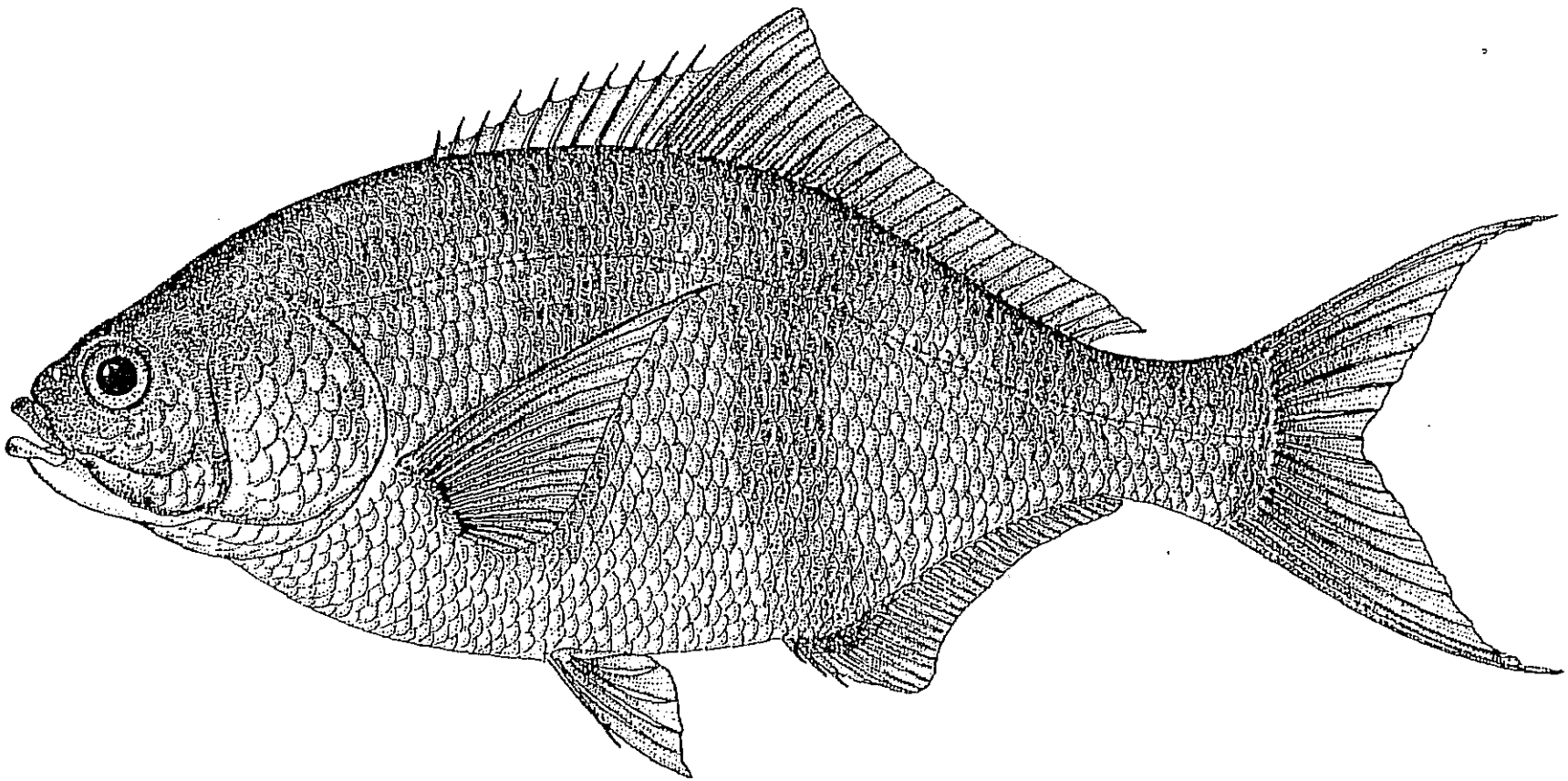
Engraulis Mordax Northern Anchovy



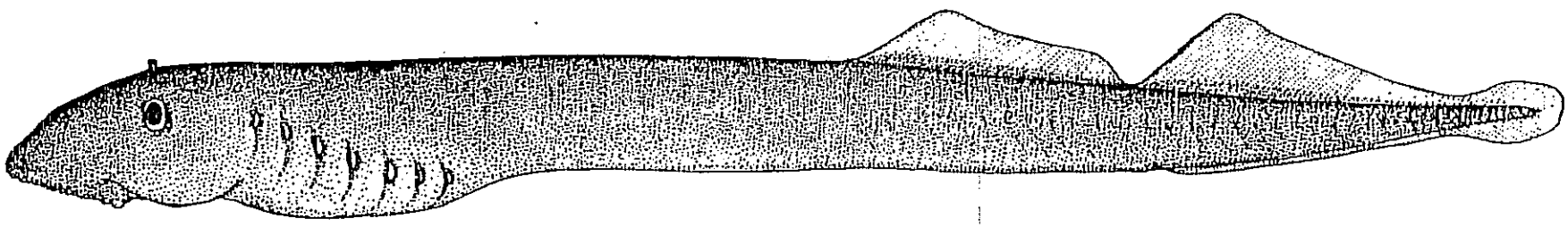
Cymatogaster aggregata Shiner Perch



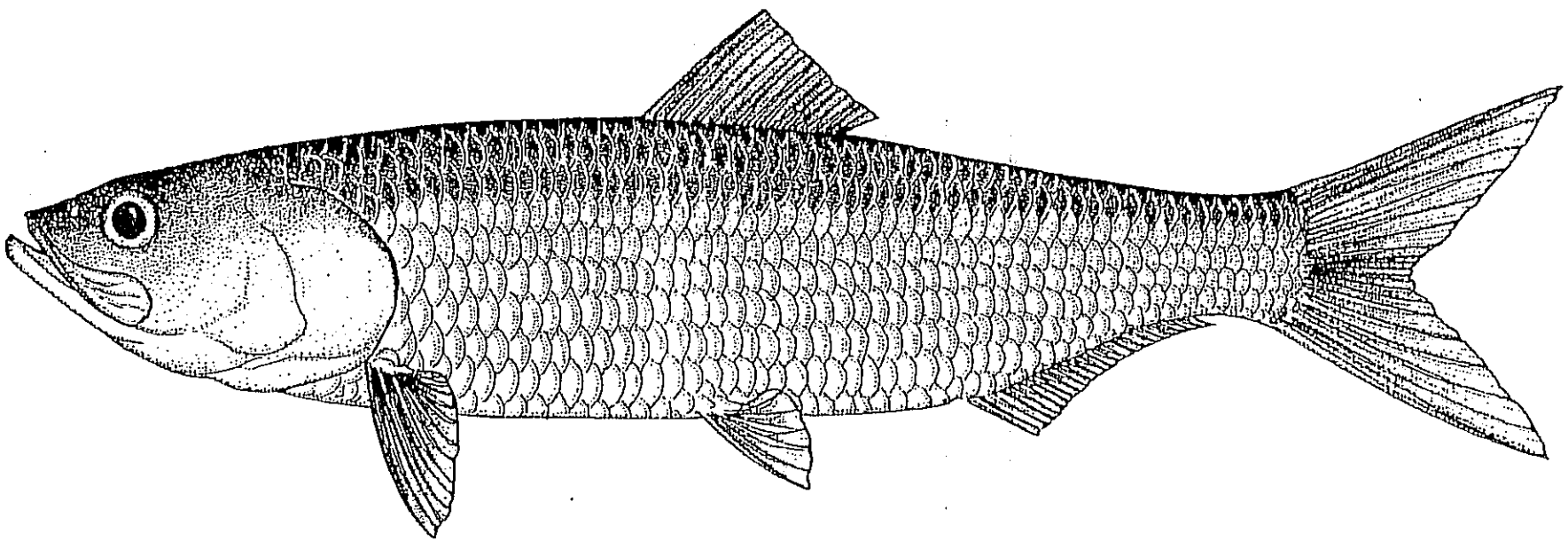
Embiotoca lateralis Striped Seaperch



Rhacochilus vacca Pile Perch



Entosphenus tridentatus Pacific Lamprey



Clupea harengus pallasi Pacific Herring

ECOLA CREEK ESTUARY AND SHORELANDS *

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* Ord. 92-5 , dated June 10, 1992

1. INTRODUCTION

The Ecola Creek Estuary and Coastal Shorelands Element is part of the Clatsop County Comprehensive Plan. This element fulfills the County's Comprehensive Planning needs for the Ecola Creek Estuary under Statewide Planning Goals 16 and 17.

The inventory information contained within this element has been derived from several sources: the Cannon Beach Urban Growth Boundary Plan, Cannon Beach Wastewater Treatment Plan, and from a memo written by Rainmar Bartl and Duncan Thomas for Clatsop County. This plan element was originally developed in 1983. It was updated in 1992.

An exception has been adopted by the County (1985) to allow Cannon Beach to expand its wastewater treatment plant into Ecola Creek Estuary wetlands. The area covered by the exception has since been added into the Urban Growth Boundary.

2. PLANNING REQUIREMENTS

Statewide Planning Goals 16 and 17 are addressed in this plan element as they pertain to the Ecola Creek Estuary. Statewide Planning Goal 16, Estuarine Resources, establishes the following specific goals:

To recognize and protect the unique environmental, economic, and social values of each estuary and associated wetlands; and

To protect, maintain, where appropriate develop, and where appropriate restore the long-term environmental, economic, and social values, diversity and benefits of Oregon's estuaries.

Statewide Planing Goal 17, Coastal Shorelands, establishes the following specific goals:

To conserve, protect, where appropriate, develop and where appropriate restore the resources and benefits of all coastal shorelands, recognizing their value for protection and maintenance of water quality, fish and wildlife habitat, water-dependent uses, economic resources and recreation and aesthetics. The management of these shoreland areas shall be compatible with the characteristics of the adjacent coastal waters; and

To reduce the hazard to human life and property, and the adverse effects upon water quality and fish and wildlife habitat, resulting from the use and enjoyment of Oregon's coastal shorelands.

The planning requirements performed by the County under these goals are outlined below, and carried out in the rest of this plan element, and in the County's Land and Water Development and Use Ordinance.

Goal 16 Inventory Requirements: information on the nature, location and extent of physical, biological, social and economic resources.

Goal 16 Comprehensive Plan Requirements:

- Identify each estuarine area;

- Describe and maintain the diversity of important and unique environmental, economic and social features within the estuary;

- Classify the estuary into management units;

- Establish policies and use priorities for each management unit using the standards and procedures set forth below.

- Consider and describe in the plan the potential cumulative impacts of the alterations and development activities envisioned. Such a description may be general but shall be based on the best available information and projections.

Goal 16 Implementation Requirements:

- Impact Assessment

- Dredging and Filling Restrictions

- Existing State and Federal Programs

- Minimum Fresh-water Flow Rates

- Mitigation

- Dredged Material Disposal

- Single-purpose Docks

- Restoration Areas

- State Agency Planning Responsibilities

Goal 17 Inventory Requirements: information on the nature, location and extent of geologic and hydrologic hazards and shoreland values, including fish and wildlife habitat, water-dependent uses, economic resources, recreational uses, and aesthetics.

Goal 17 Comprehensive Plan Requirements:

- Identify coastal shorelands (which includes estuarine shorelands)

- Establish policies and uses of coastal shorelands

- Establish policies and uses of coastal shorelands in accordance with the Goal's standards.

Goal 17 Implementation Requirements:

- Forested Shorelands

- Mitigation Sites

- Dredged Material Disposal Sites

- Riparian Vegetation

- Erosion Protection

- Public Access

3. ECOLA CREEK ESTUARY INVENTORY

Ecola Creek is a well-mixed tidal creek having very low estuarine biological and moderate terrestrial values. The head of tide is between 250 and 350 feet upstream of the Highway 101 bridge. The estuarine portion of Ecola Creek (that is, the tidally-influenced portion) is slightly more than one-half mile long. The upstream limit of salt water intrusion is not known. Most of the estuary is in the Cannon Beach City Limits and UGB.

The Statewide Planning Goals define an estuary as:

A body of water semi-enclosed by land, connected with the open ocean, and within which salt water is usually diluted by freshwater derived form the land. The estuary includes: (a) estuarine water; (b) tidelands; (c) tidal marshes; and (d) submerged lands. Estuaries extend upstream to the head of tidewater.

Ecola Creek has no definable major tracts of salt marsh, tideflats, or seagrass or algae beds. According to the *Estuarine Resources of the Oregon Coast*, by the Oregon Coastal Conservation and Development Commission, 1974, Ecola Creek may qualify as a Type III or "Conservation Estuary" (areas to be designated for long-term uses of renewable resources and that do not require major alteration of the estuary, except for purposes of restoration). The report also states that due to the existence of minimal estuarine characteristics, Ecola Creek may also be considered a "drowned tidal creek". For these reasons, Ecola Creek was found not to warrant a natural designation. The entire tidal portion of the creek has been designated conservation. Ecola Creek has sediments of mixed sand, gravel, and mud. These sediment types combined with low salinity limit use of Ecola Creek to small anadromous fish runs of coho and steelhead trout. But for its size, Ecola Creek sustains a fairly large run of native searun cutthroat trout.

The land edge character upstream from the Highway 101 bridge is moderately diverse. The study, *Development and Evaluation of Wetlands/Marsh Wastewater Treatment System*, undertaken for the City of Cannon Beach, identified three habitat types: blackberry/alder, alder/sedge, and spruce/alder.

In 1983, the City of Cannon Beach proposed using approximately 15 acres of the 100 acre wetland area adjacent to the southern edge of Ecola Creek for a wetlands/marsh wastewater treatment system. Development of that system resulted in the filling of approximately .03 acres of estuarine area. The County adopted an Exception to the Estuarine Resources Goal and the Coastal Shorelands Goal to permit this development (see Exceptions, Appendix B). The area covered by the exception has since been added into the Urban Growth Boundary.

4. ECOLA CREEK ESTUARY SHORELANDS INVENTORY

The Estuary Coastal Shorelands Boundary around the Ecola Creek Estuary is 50 feet landward measured from the line of Mean Higher High Water (MHHW), or measured from the upper limit of aquatic vegetation when it is present. The Boundary extends further where wetlands adjacent to the estuary itself are included. The boundary is shown on the attached map.

5. ECOLA CREEK ESTUARY PLANNING GOALS

The Ecola Creek Estuary is classified as a *conservation* estuary. The Estuarine Resources Goal describes a conservation estuary or management unit as :

> *In all estuaries, except those in the overall Oregon Estuary classification which are classed for preservation, areas shall be designated for long-term uses of renewable resources that do not require major alteration of the estuary, except for the purpose of restoration. These areas shall be managed to conserve the natural resources and benefits. These shall include areas needed for maintenance and enhancement of biological productivity, recreational and aesthetic uses, and aquaculture. They shall include tracts of significant habitat smaller or of less biological importance than those in (1) above [natural areas], and recreational or commercial oyster and clam beds not included in (1) above [natural areas]. Areas that are partially altered and adjacent to existing development of moderate intensity which do not possess the resource characteristics of natural or development units shall also be included in this classification.*

The Estuarine Resources Goal 16 allows the following uses in Conservation Aquatic management units:

a. undeveloped low-intensity, water-dependent recreation;

b. research and education observations;

c. protection of habitat, nutrient, fish, wildlife and aesthetic resources;

d. passive restoration measures;

e. dredging necessary for on-site maintenance of existing functional tidegates and associated drainage channels and bridge crossing support structures;

f. riprap for protection of uses existing as of October 7, 1977, unique natural resources, historical and archeological values; and public facilities;

g. bridge crossings;

h. communication facilities;

i. active restoration of fish and wildlife habitat or water quality and estuarine enhancement;

j. pipelines, cables and utility crossings, including incidental dredging necessary for their installation;

k. installation and maintenance of tidegates in existing functional dikes;

l. bridge crossing support structures and dredging necessary for their installation;

m. active restoration for purposes other than those listed in (i); and

n. temporary alterations.

6. ECOLA CREEK ESTUARY SHORELANDS PLANNING GOALS

The Coastal Shorelands Goal identifies the following minimal extent of Coastal Shorelands:

1. Areas subject to ocean flooding and lands with 100 feet of the ocean shore or within 50 feet of an estuary or a coastal lake;

2. Adjacent areas of geologic instability where the geologic instability is related to or will impact a coastal water body;

3. Natural or man-made riparian resources, especially vegetation necessary to stabilize the shoreline and to maintain water quality and temperature necessary for the maintenance of fish habitat and spawning areas;

4. Areas of significant shoreland and wetland biological habitats whose habitat quality is primarily derived from or related to the association with coastal water areas;

5. Areas necessary for water-dependent and water-related uses, including areas of recreational importance which utilize coastal water or riparian resources, areas appropriate for navigation and port facilities, dredge material disposal and mitigation sites, and areas having characteristics suitable for aquaculture;

6. Areas of exceptional aesthetic or scenic quality, where the quality is primarily derived from or related to the association with coastal water areas; and

7. Coastal headlands.

The Ecola Creek Estuary shorelands include lands identified under number 1, above, as well as riparian zones (number 3), and wetlands (number 4).

7. ECOLA CREEK ESTUARY AND SHORELAND POLICIES

1. The Oregon Department of Fish and Wildlife considers Ecola Creek an important searun cutthroat trout stream. The Creek also contains a coho salmon and steelhead run. Activities which would further degrade the habitat value of the creek and its adjacent wetlands shall be prohibited.

2. Efforts to improve and protect the Ecola Creek wild run fishery are supported by Clatsop County.

3. Alterations to the shoreline of the Creek which would alter the flow of the stream are not permitted.

4. Riparian vegetation along Ecola Creek shall be protected, except where removal is permitted or when an Exception to the Coastal Shorelands Goal has been taken.

5. All activities in the Ecola Creek Estuary shall be coordinated with the City of Cannon Beach.

6. Adverse impacts to estuarine resources resulting from dredge or fill permitted in intertidal or tidal marsh areas shall be mitigated by creation, restoration or enhancement of estuarine areas. Such mitigation shall improve or maintain the functional characteristics and processes of the estuary, such as its natural biological productivity, habitats and species diversity, unique features and water quality. The cost of mitigation shall be included as part of project cost analysis.

7. Clatsop County will not require compensatory mitigation for actions in the Ecola Creek Estuary when exempt from the State of Oregon's mitigation requirements.

8. Clatsop County supports the development of the City of Cannon Beach's wetlands/marsh wastewater treatment system and has taken an Exception to the Estuarine Resources Goal and the Coastal Shoreland Goal to permit its development.

9. Filling of Ecola Creek or the adjacent wetlands shall be allowed only with permit approval from the Division of State Lands. Filling may require mitigation as prescribed by the Division of State Lands.

10. Dredging may be permitted only for:

a. Active restoration or estuarine enhancement;

b. Bridge crossing support structures;

c. Submerged cable, sewer line, water line, or other pipeline; or

d. Incidental dredging necessary for the construction of a through c above.

Dredging shall disturb the minimum area necessary for the project and shall be conducted so as to protect or enhance wetlands and other estuarine resources.

11. Proper management of existing streamside vegetation is the preferred method of shoreline stabilization, followed by planting of vegetation. Where vegetative protection is inappropriate (because of high erosion rate, the use of the site, or other factors), structural means such as riprap or bulkheading may be considered, if consistent with the restrictions in the estuarine zone.

12. Fill may be permitted only as part of the following uses and activities:

a. Maintenance and protection of man-made structures existing as of October 7, 1977;

b. Active restoration or estuarine enhancement;

c. Bridge crossing support structure;

d. In conjunction with a use for which an Exception has been taken.

13. The dredging and filling provided for in Policies 10 and 12 shall be allowed only:

a. If required for navigation or other water dependent uses that require an estuarine location or if specifically allowed by the applicable management unit requirements of the State Estuarine Resources Goal;

b. If a need (i.e., a substantial public benefit) is demonstrated and the use or alteration does not unreasonably interfere with public trust rights; and

c. If no feasible alternative upland locations exist; and

d. If adverse impacts are minimized.

Other uses and activities which could alter the estuary shall be allowed if the requirements in (b), (c), and (d) are met.

14. Where a use could potentially alter the estuarine ecosystem, the County shall require a clear presentation of the impacts of the proposed alteration .

15. As required by Statewide Planning Goal 16, Estuarine Resources, some development uses and activities in certain management zones must be consistent with the resource capabilities of the management zone or unit. A procedure for determining if a development is consistent with the resource capabilities of the zone is set forth in the County Development Code (Section 5.960 Resource Capability Determination).

The following uses must be shown to be consistent with the resource capabilities of the area and the purposes of the estuarine zone:

a. Riprap shoreline stabilization for purposes other than protection of uses existing as of October 7, 1977, unique natural resources, historical and archeological values, and public facilities;

b. Storm water and treated wastewater outfalls;

c. Active restoration for purposes other than restoration of fish and wildlife habitat or water quality and estuarine enhancement;

d. Bridge crossing support structures;

e. Dredge, fill or piling necessary for the installation of uses listed above.

16. Temporary alterations are permitted to the estuary so long as they:

a. Are of short term duration (generally less than 3 years.)

b. Are consistent with the resource capabilities of the area; and

c. Are such that the area and affected resources can be restored to their original condition, and

d. Are needed to facilitate a use allowed by the plan.

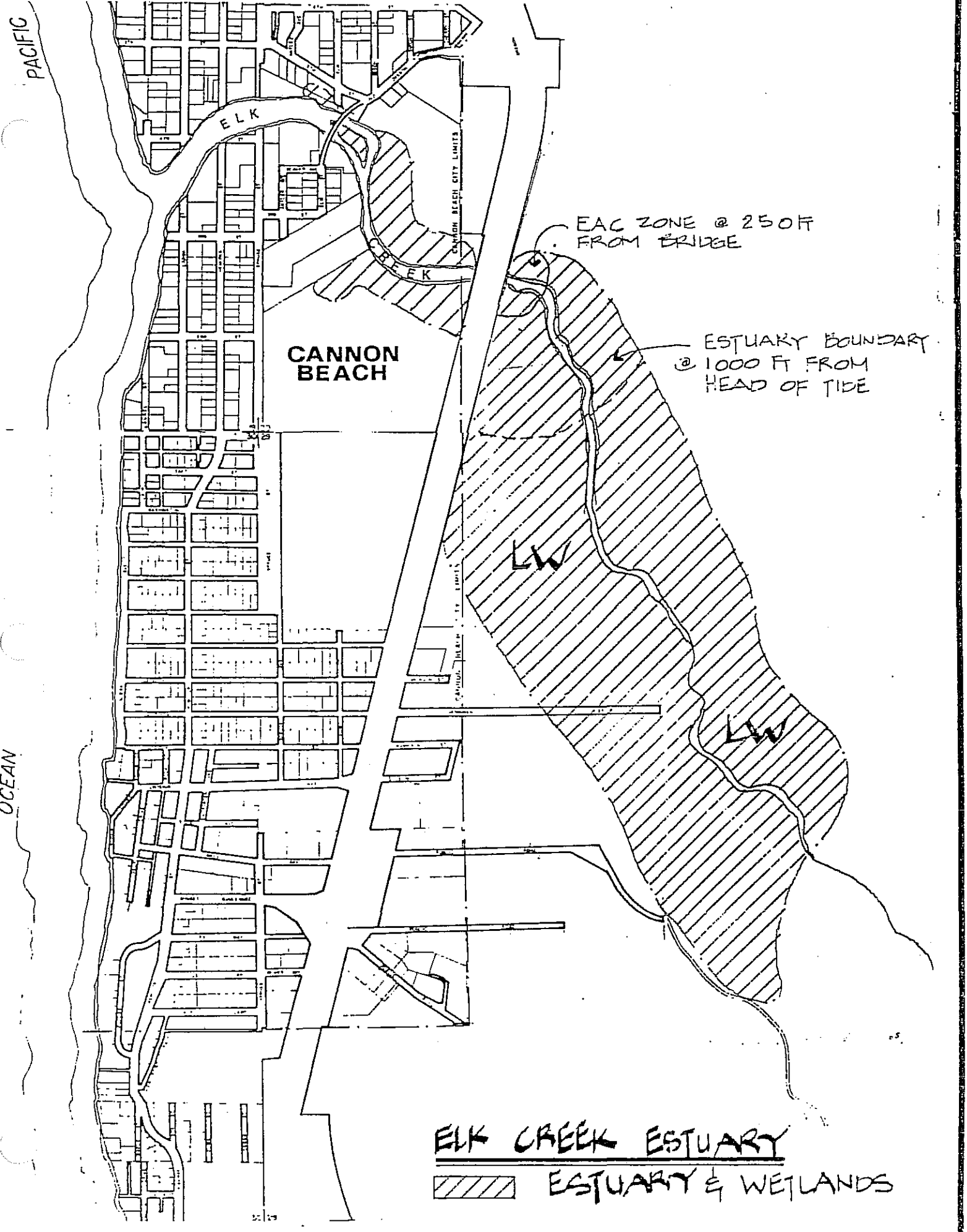
17. The County shall rely on the Oregon Department of Environmental Quality (DEQ), and the Oregon Department of Agriculture where applicable to assess the impacts of actions affecting water quality, including wastewater effluent and the use of chemicals.

THE ECOLA CREEK ESTUARY PLAN
PERMITTED USE ACTIVITY TABLE

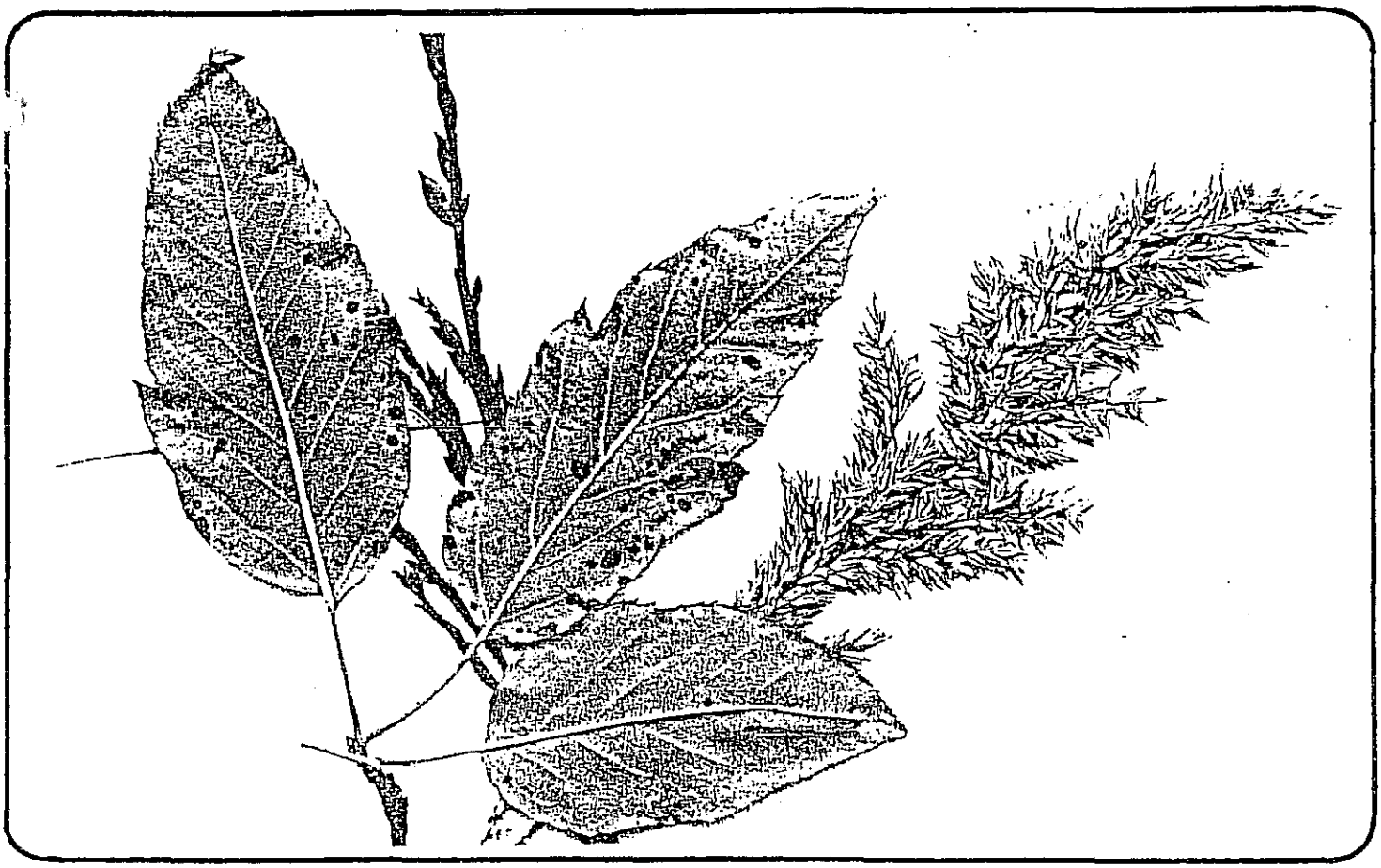
1. Bridge Crossing and Bridge Crossing Support Structure	C
2. Diking	
Maintenance and Repair of Dikes	P
Temporary Dike	P
Emergency Dike Repair	P
3. Dredging	C
4. Fill	C
5. Restoration	
Passive	P
Active	C
6. Research and Educational Observations	P
7. Non-motorized Boating, Individual	P
8. Piling	C
9. Shoreline Stabilization	
Vegetative	P
Riprap	C
10. Storm Water and Treated Wastewater Outfalls	C
11. Submerged Cable, Sewer Line, Water Line, or other Pipeline	C
12. Temporary Alterations	C
13. Estuarine Enhancement	C

P: Permitted uses and activities may be undertaken subject to the standards set forth in the zoning ordinance and applicable State and Federal regulations.

C: Conditional uses and activities may be undertaken subject to written findings, adopted after a public hearing, that the proposed use or activity is consistent with the policies of the comprehensive plan, appropriate zoning standards and, where required, that the use or activity is consistent with the resource capability of the area and the purpose of the estuary zone.


PACIFIC
OCEAN
ELK
CREEK
CANNON BEACH CITY LIMITS
CANNON BEACH
EAC ZONE @ 250 FT FROM BRIDGE
ESTUARY BOUNDARY @ 1000 FT FROM HEAD OF TIDE
LW
LW
ELK CREEK ESTUARY
ESTUARY & WETLANDS

Ocean and Coastal Lake Shorelands



Riparian Vegetation

9-16-83

V. OCEAN AND COASTAL LAKE SHORELANDS (Goal 17)

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V. OCEAN AND COASTAL LAKE SHORELANDS

1. INTRODUCTION

Clatsop County has ocean and coastal lake shorelands that extend from the mouth of the Columbia River Estuary to Cape Falcon, a linear distance of approximately 33 miles. In addition to this 33 mile length of ocean shorelands, Clatsop County shorelands also include lands contiguous to three estuaries, (discussed above, including tidally influenced portions of their tributary rivers and streams) and five coastal lakes. Careful planning of these ocean and coastal lake shoreland areas is necessary in order to maintain both the environmental and economic resources and benefits of coastal shorelands.

From an environmental perspective, ocean and coastal lake shoreland areas are important because of their direct and significant impact on coastal water bodies through the flow of runoff water from land drainage. The quality, volume and rate of this runoff is affected by the activities which occur in shoreland areas and associated coastal watersheds, and itself affects the quality of the aquatic habitat in adjacent coastal water bodies. Freshwater marshes and riparian vegetation in coastal shorelands purify runoff water by retarding water flows and thereby promoting settling of suspended solids and infiltration of runoff water through the soil. Freshwater marshes and riparian vegetation are also valuable wildlife and waterfowl habitat.

From an economic perspective, the ocean and coastal lake shorelands of Clatsop County are important because of the direct or indirect contribution of shoreland resources to two of Clatsop County's basic industries. A 1977 Input-Output Model for Clatsop County lists the basic industries of Clatsop County as:

1) timber and wood-processing;
2) fish and fish processing, and
3) recreation and tourism;

The forested lands within ocean and coastal lake shorelands contribute to the County's timber industries. The exceptional aesthetic and scenic qualities of Clatsop County's ocean and coastal lake shorelands serve to draw people to the area for recreation and tourism. The attractiveness of these shorelands as locations for vacation homes, or for primary residences, is indicated by the fact that most of Clatsop County's major population centers are adjacent to ocean or estuarine shorelands. Ocean and coastal lake shorelands contribute to the recreation and tourism industry.

Planning for ocean and coastal lake shoreland areas is necessary to obtain a balance between conservation of the environmental resources of shorelands and utilization of the economic resources and benefits of coastal shorelands. The planning process must consider both environmental and economic resources, as well as geologic and hydrologic hazards within coastal shorelands which could impact these resources. Examples of hazard areas include areas of coastal flooding or erosion, wind erosion, areas within the 100-year floodplain, and active and inactive landslide areas and other geologic hazards. Only careful planning will ensure that shoreland development is compatible with both the natural hazards of coastal shorelands and the values of adjacent coastal water bodies.

2. STATE PLANNING REQUIREMENTS FOR OCEAN AND COASTAL LAKE SHORELANDS

The objective of Goal 17, Coastal Shorelands is:

> "To conserve, protect, where appropriate develop and where appropriate restore the resources and benefits of all coastal shorelands, recognizing their value for protection and maintenance of water quality, fish and wildlife habitat, water-dependent uses, economic resources and recreation and aesthetics. The management of these shoreland areas shall be compatible with the characteristics of the adjacent coastal waters; and
>
> To reduce the hazard to human life and property, and the adverse effects upon water quality and fish and wildlife habitat, resulting from the use and enjoyment of Oregon's coastal shorelands."1

To accomplish this objective, Clatsop County is required to develop a comprehensive plan for coastal shorelands based on two sets of requirements: coastal shoreland boundary identification requirements and use and activity requirements. To provide base data for use in identification of a coastal shoreland boundary, Goal 17 requires that an inventory of geologic and hydrologic hazards, fish and wildlife habitat, water-dependent uses, economic resources, recreational uses and aesthetic resources be conducted within a "coastal shoreland planning area" which is defined as:

> "(1) All lands west of the Oregon Coast Highway as described in ORS 366.235, ... and
>
> (2) All lands within an area defined by a line measured horizontally:
>
> (a) 1000 feet from the shoreline of estuaries; and
> (b) 500 feet from the shoreline of coastal lakes."2

This inventory of features within the "coastal shoreland planning area" is used to establish the extent of coastal shorelands. Goal 17 requires that the extent of identified shorelands shall include at least:

> "(1) Lands which limit, control, or are directly affected by the hydraulic action of the coastal water body, including floodways;
>
> (2) Adjacent areas of geologic instability;

1A 1977 Input-Output Model for Clatsop County, Oregon State University Extension Service. 1978.

2L.C.D.C. Statewide Planning Goals and Guidelines, p. 18.

(3) Natural or man-made riparian resources, especially vegetation necessary to stabilize the shoreline and to maintain water quality and temperature necessary for the maintenance of fish habitat and spawning areas;

(4) Areas of significant shoreland and wetland biological habitats;

(5) Areas necessary for water-dependent and water-related uses, including areas of recreational importance which utilize coastal water or riparian resources, areas appropriate for navigation and port facilities, and areas having characteristics suitable for aquaculture;

(6) Areas of exceptional aesthetic or scenic quality, where the quality is primarily derived from or related to the association with coastal water areas; and

(7) Coastal headlands."[1]

Lands designated as coastal shorelands are subject to both general priorities for the overall use of coastal shorelands, as well as specific use priorities for certain special shoreland areas. Goal 17 establishes the following general priorities for coastal shoreland uses:

"General priorities for the overall use of coastal shorelands (from highest to lowest) shall be to:

(1) Promote uses which maintain the integrity of estuaries and coastal waters;

(2) Provide for water-dependent uses;

(3) Provide for water-related uses;

(4) Provide for non-dependent, non-related uses which retain flexibility of future use and do not prematurely or inalterably commit shorelands to more intensive uses;

(5) Provide for development, including non-dependent, non-related uses, in urban areas compatible with existing or committed uses;

(6) Permit non-dependent, non-related uses which cause a permanent or long-term change in the features of coastal shorelands only upon a demonstration of public need."[2]

---

[1]Ibid.
[2]L.C.D.C. Statewide Planning Goals and Guidelines, pp. 18-19.

Goal 17 also establishes the following specific use priorities for the following areas within coastal shorelands:

"(1) Major marshes, significant wildlife habitat, coastal headlands, exceptional aesthetic and archaeological sites shall be protected. Uses in these areas shall be consistent with protection of natural values. Such uses may include propagation and selective harvesting of forest products consistent with the Oregon Forest Practices Act, grazing, harvesting wild crops, and low-intensity water-dependent recreation.

(2) Shorelands in urban and urbanizable areas especially suited for water-dependent uses shall be protected for water-dependent recreational, commercial and industrial uses. Some factors which contribute to this special suitability are:

(a) deep water close to shore with supporting land transport facilities suitable for ship and barge facilities;
(b) potential for aquaculture;
(c) protected areas subject to scour which would require little dredging for use as marinas; and
(d) potential for recreational utilization of coastal water or riparian resources.

(3) Shorelands in rural areas other than those designated in (1) above shall be used as appropriate for:

(a) farm uses as provided in ORS Chapter 215;
(b) propagation and harvesting of forest products consistent with the Oregon Forest Practices Act;
(c) private and public water-dependent recreation developments;
(d) aquaculture;
(e) water-dependent commercial and industrial uses and water-related uses only upon a finding by the governing body of the county that such uses satisfy a need which cannot be accommodated on shorelands in urban and urbanizable areas;
(f) subdivisions, major and minor partitions and other uses only upon a finding by the governing body of the county that such uses satisfy a need which cannot be accommodated at other upland locations or in urban or urbanizable areas and are compatible -- with the objectives of this goal to protect riparian vegetation and wildlife habitat and

(g) a single family residence on existing lots, parcels or units of land when compatible with the objectives and implementation standards of this goal."[1]

In addition to the Comprehensive Plan requirements for coastal shoreland boundary identification and coastal shoreland uses and activities, Goal 17 also establishes six (five non-estuarine) implementation requirements dealing with the following areas or features within coastal shorelands:

(1) Forested lands - Implementation Requirement 1 requires the Oregon Department of Forestry to recognize the unique and special values of coastal shorelands, and to develop (in conjunction with other state and federal agencies) forest management practices and policies which protect and maintain these special shoreland values and forest uses.

(2) Floodplain areas - Implementation Requirement 2 requires that floodplain areas be managed to promote uses and development which is consistent with the hazards to life and property.

(3) Riparian vegetation - Implementation Requirement 5 requires that riparian vegetation be maintained, and where appropriate, restored and enhanced where consistent with water-dependent uses.

(4) Structural shoreline stabilization - Implementation Requirement 6 establishes a preference for land use management practices and non-structural solutions over structure-1 solutions to problems of erosion and flooding, and requires that structural solutions be designed to minimize adverse impacts on water currents and erosion and accretion patterns.

1L.C.D.C. Statewide Planning Goals and Guidelines, p. 18.

3. OCEAN AND COASTAL LAKE SHORELAND INVENTORY AND BOUNDARY

Methodology for Shoreland Inventory

The Clatsop County ocean and coastal lake shoreland boundary was established through an inventory of all areas within the "coastal shoreland planning area" defined by Goal 17 which are outside of the Urban Growth Boundary of an incorporated city.

The purpose of this inventory was to determine the location of the seven features which are required by Goal 17 to be included within coastal shorelands. The following section lists these seven features and briefly describes the methodology used to identify these areas.

1. Lands which limit, control or are directly affected by the hydraulic action of the coastal water body, including floodways.

   These areas include:

   All areas within the coastal shoreland planning area which lie within either the 100-year flood boundary or an area of 100-year flood coastal flood (as identified on the Flood Boundary and Floodway Map, Clatsop County, or (CH2M Hill, 1978) and

   See maps 3, 10 and 17, pages 40, 47, and 54.

2. Adjacent areas of geologic instability.

   The term "adjacent areas of geologic instability" is interpreted as geologic hazard areas which are caused by the action of a coastal water body, or have the potential to adversely impact a coastal water body. Geologic hazard areas which are caused by the action of a coastal water body include rapidly or slowly retrograding coastlines, and areas where wave erosion is undercutting headlands and terraces, causing shoreline retreat. Geologic hazard areas with potential to impact a coastal water body include active and inactive landslides and faults, and landslide topography.

   The Background Report and County-wide Element on Natural Hazards provides detailed landslide topography for the County. It notes that the Southwest Coastal Planning Area has a history of major landslides (Martin Ross, A Field Inventory of Geologic Hazards from Silver Point to Cove Beach, Clatsop County Oregon). Other coastal landslide topography areas are noted in Environmental Geology of the Coastal Region of Tillamook and Clatsop Counties, Oregon (Bulletin 74, State of Oregon Department of Geology and Mineral Industries, 1972) and through the Soil Conservation Service (SCS) detailed mapping of soils. SCS prepared in inventory of soils which became hazardous at certain slopes. See Table 2 in Natural Hazards Background Report. These three sources indicate that development of hillsides containing landslide topography could initiate landslides. For this reason landslide topography within 500 feet of coastal lakes and adjacent to other coastal waters has been considered as an area of geologic instability if the area contains an identified hazard or contains slopes in excess of 20% for Astoria silt loam, Svensen loam, Tolovana silt loam, Winema Silty clay,

Ecola silt loam; in excess of 50% for Klickitat stony loam; in excess of 60% Hembre silt loam, Kilchis silt loam; for Terrace Escarpment soils (Natural Hazards Background Report) and is in a zone with a minimum lot size of less than 20 acres.

In summary, adjacent areas of geologic instability include:

a) Areas of geologic hazards identified in A Field Inventory of Geologic Hazards from Silver Point to Cove Beach, Clatsop County, Oregon (Martin Ross, 1978);

b) The following areas of geologic instability within the coastal shoreland planning area, as identified in Environmental Geology of the Coastal Region of Tillamook and Clatsop Counties, Oregon (Bulletin 74, State of Oregon Department of Geology and Mineral Industries, 1972):

   i Active and inactive landslides (including those identified on pp. 77-80 of Bulletin 74 which are caused by wave undercutting of headlands and terraces)
   ii Faults
   iii Landslide topography within 500 feet of coastal lakes in areas with soils and associated slopes identified in Table 1 (Soils Hazardous in Relation to Mass Movement) in the Clatsop County Compreheneisve Plan Natural Hazards Background Report which are in a zone with a minimum lot size of less than 20 acres.

See maps 2, 9, and 16, pages 39, 46 and 53.

3. Natural or man-made riparian resources, especially vegetation necessary to stabilize the shoreline and to maintain water quality and temperature necessary for the maintenance of fish habitat ans spawning areas.

As noted in Clatsop County's Goal 5 element the study, "Significant Shoreland and Wetlands Habitat of the Clatsop Plains", prepared for the Coastal Shoreland portion of Clatsop County, established criteria for defining the extent of riparian vegetation along rivers and streams. See Appendix A.

The LCDC Statewide Planning Goals and Guidelines, p. 24, defines riparian vegetation as vegetation situated on the edge of the bank of a river or other body of water. Riparian vegetation performs several important functions: it maintains water temperature and quality and thus reduces the occurrent of stream bank erosion that can result in increased stream sedimentation; it provides habitat for the breeding, feeding and nesting of aquatic and upland wildlife and waterfowl species; and it protects the aquatic ecosystem from unnecessary human disturbances. Riparian vegetation can consist of any of the following plant communities: trees and shrubs growing on uplands adjacent to the river or stream; trees and shrubs growing in a wetland; and an emergent marsh or low shrub wetland. Riparian vegetation is not agricultural crops, land managed as pasture, horticultural or landscaped areas, or unvegetated areas.

Riparian vegetation was identified by Duncan Thomas in his report to Clatsop County entitled Significant Shoreland and Wetland Habitats in the Clatsop Plains, 1982. The following factors were considered during the identification of riparian areas:

1) Riparian vegetation types
2) Width and location of riparian zones
3) Functions of riparian vegetation
4) Definitions of "shoreline"
5) The extent of riparian vegetation (1) within riparian zones (2)
6) Non-riparian vegetation within riparian zones
7) Riparian zones around significant wetlands

1) Riparian Vegetation Types
   a) Trees and shrubs growing on upland adjacent to an aquatic area.
   b) Trees and shrubs (taller than 12 ft.) growing in wetland (Sect. 7).
   c) Non-significant emergent marsh or low shrub wetland, except where this is managed for agricultural use.

2) Width and Location of Riparian Zones
   a) In a zone up to 50 feet wide from the shorelines of:
      -- lakes of surface area exceeding 1 acre.
      -- estuaries up to the heads of tide.
      -- larger creeks and rivers (average annual flow exceeding 100 cu. ft/sec.)
      -- areas of significant wetland habitat, except where the wetland vegetation is trees and shrubs exceeding 12 ft. in height (Sect. 7).
   b) In a zone up to 30 feet wide from the shorelines of:
      -- smaller creeks (average annual flow less than 100 cu. ft/sec.)
      -- diked sloughs of width exceeding 15 ft. for some of their length.

3) Functions of Riparian Vegetation
   a) It maintains water temperature and quality and enhances fish habitats.
   b) It provides bank stabilization.
   c) It provides habitats for the breeding, feeding and resting of both aquatic and upland wildlife species.
   d) It protects aquatic ecosystems from unnecessary human disturbance.

4) Definitions of "Shoreline"
   a) On estuaries, the line of non-aquatic (upland) vegetation, or mean higher high water where vegetation is absent.
   b) Ordinary high water on lakes, rivers and other bodies of non-tidal water.
   c) On significant wetland areas the shoreline is defined here as the boundary of the significant area.

5) The Extent of Riparian Vegetation (1) Within Riparian Zones (2)
Within the riparian zones defined in section 2, riparian vegetation defined in section 1 may extend for all or for only a part of the maximum zone width from the shoreline. Riparian vegetation ends at either:
a) The landward boundary of the zone defined in section 2, or
b) Within the zone riparian vegetation may end at the boundary with non-riparian vegetation defined in section 6.

6) Non-riparian Vegetation Within Riparian Zones
Riparian vegetation is not agricultural crops, land managed as pasture, horticultural or landscaped areas, or unvegetated areas.

7) Riparian Zones Around Significant Wetlands
Wetland areas dominated by woody plants exceeding 12 feet in height fulfill the riparian functions described in section 3. Around an area of significant wetland, the riparian vegetation may be composed entirely or partially of forested wetland (Figure 3).

For inventory purposes, the zone of riparian vegetation on rivers or river segments with an average annual flow exceeding 100 cubic feet per second (cfs) is defined as fifty feet on either side of the river. On rivers, river segments, or streams with an average annual flow of less than 100 cfs., the zone of riparian vgetation is defined as 30 feet on either side of the river. (The shoreline being defined as the ordinary high water line on a stream or river). However, where the extent of shrub wetlands or forested wetlands adjacent to a river or stream is greater than thirty or fifty feet, the zone of riparian vegetation is defined to include all of the shrubs or forested wetland. Where there is emergent wetland vegetation adjacent to a river or stream, the zone of riparian vegetation is defined to be fifty feet from the landward extent of the emergent wetlands vegetation.

With the riparian zone, riparian vegetation may extend for all or only a portion of the maximum zone width. Riparian vegetation ends at one of the following:

(1) the fifty foot or thirty foot boundary described above; or

(2) the extent of shrub or forested wetlands; or

(3) fifty feet from the landward extent of emergency wetland vegetation; or

(4) within the zone, riparian vegetation may end at the boundary with non-riparian vegetation; or

(5) at a man-made obstruction, such as a road or dike which prevents vegetation on the landward side of the obstruction from fulfilling riparian vegetation functions described above.

Waters producing or rearing fish have been identified by the Oregon Department of Fish and Wildlife in their report "Fish and Wildlife Habitat Protection Plan for Clatsop County", September, 1976. "Map 2 of the Fish and Wildlife Habitat Protection Plan for Clatsop County" illustrates these streams. In areas where the plan identifies major marshes, significant wildlife habitat on riparian vegetation in coastal shorelands and subject to forest operations governed by the Forest Practices Act, the Act and Forest Practices Rules administered by the Department of Forestry will be used to protect the natural values of these resources and to maintain riparian vegetation.

The County will develop plan policies and zoning ordinance provisions to protect riparian vegetation within the riparian zones.

The inventory of lakes in Clatsop County shall be those identified in the document titled "Lakes of Oregon, Volume 1, Clatsop, Columbia, and Tillamook Counties", prepared by the U.S. Department of Interior, Geologic Survey in 1973. According to this report the following lakes within the Coastal Shoreland planning area are: Slusher Lake, Smith Lake, Sunset (Neacoxie Lake, Taylor (Carnahan) Lake, Triangle Lake, Wild Acé Lake and West Lake.

Generally, the uses or developments that result in, or require occupation of water surface area, removal of riparian vegetation, filling or removal, increased sedimentation, or chemical or biological pollution may conflict with the protection of fish habitat. This would depend on the characteristics of the area and the design of the development being proposed.

For inventory purposes the zone of riparian vegetation on lakes with a surface area exceeding one acre is defined as fifty feet (see above crieria).

Within the riparian zone, riparian vegetation may extend for all or only a portion of the maximum width. Riparian vegetation ends at one of the boundaries identified above under stream vegetation.

See maps 4, 11 and 18, pages 41, 48, and 55.

4. Areas of significant shoreland and wetland biological habitat.

All areas identified as coastal shoreland wetlands in the report Significant Shoreland and Wetland Habitats in the Clatsop Plains by Duncan Thomas are included within the Clatsop County's Coastal Shoreland Boundary. See Appendix B.

Areas identified in the report Oregon Natural Areas Data Summary for Clatsop County report were reviewed individually. The following sites are located within the Ocean and Coastal Lake Shorelands area (outside of Urban Growth Boundaries and Estuarine Resources and associated Coastal Shoreland areas):

a) Cullaby Lake South (See Appendix A)
b) Slusher Lake
c) Carnahan (Taylor Lake) (See Appendix A)
d) Ecola State Park
e) Clatsop Beach
f) Oswald West State Park (the portion west of Highway 101)
g) Tillamook Head Rocks
h) Unnamed Rocks
i) Sealion Rocks
j) Bird Rocks
k) Haystack Rock
l) Needles
m) Unnamed Rock
n) Jockey Cap
o) Lion Rock
p) Castle Rock
q) Gull Rock

The following is a brief description of the sites listed above:

a) Cullaby Lake South see Appendix A.

b) Slusher Lake - The dune lake is approximately 20 acres in size and owned by the Military Department, State of Oregon. See Significant Shoreland and Wetland Habitats in the Clatsop Plains Report listed as Site (CP 5) for description and mapping. The water area is currently zoned A-4 Aquatic Natural and the shoreland is zoned S-3 Natural Shorelands.

c) Carnahan (Taylor) Lake see Appendix A.

d) Ecola State Park (and Elmer Feldenhiemer Preserve) - The properties are owned by the State of Oregon and comprise 1,908.64 acres. (Ecola 1303.64, Elmer Feldenheimer 605). Ecola State Park contains bald eagles' nests as identified in the Clatsop

County Goal 5 Open Space, Scenic/Historic Areas and Natural Resources report. Other areas of the park provide nesting sites and feeding grounds for other ocean and shoreland birds and study opportunities of a recent landslide area, rock intertidal area and offshore kelp beds rich in marine life. Existing areas of developed recreational facilities within the State Parks are excluded from the above description.

e) Clatsop Beach - This area identified by the Oregon Natural Areas Data Summary for Clatsop County Report extends from Clatsop Spit to the Gearhart UGB. Characteristics include associated dunes adjacent to the beach, a fairly pristine beach, the rare silverspot butterfly and razor clams. Vehicles are able to utilize portions of the beach for segments of the year. The beach is administered by the Oregon Department of Transportation Parks and Recreation section.

f) Oswald West State Park (the portion west of Highway 101) - The site portion of Oswald West State Park in Clatsop County comprises 291.43 acres most of which is east of Highway 101. The site is in the Sitka spruce zone and contains significant stands of old Western hemlock and Douglas fir. Characteristics include two creeks, basaltic headland, trails, short sands beach (Tillamook County) and wildlife. The site does not meet the Douglas fir/salal 100-150 year old element of the Oregon Natural Heritage Plan. Existing areas of developed recreational facilities within the State Park is excluded from the above description.

g) through q) All of these rocks have been designated Natural in the Clatsop County Comprehensive Plan. They are part of the Oregon Islands Wilderness and are discussed in the Clatsop county Background Report for Goal 5 Open Spaces, Scenic/Historic Areas and Natural Resources.

See maps 4, 11, and 18 pages 41, 48 and 55.

5. Areas needed for water-dependent and water-related uses, including areas of recreational importance which utilize coastal waters and riparian resources, areas appropriate for navigation and port facilities, and areas having characteristics suitable for aqua-culture.

A. To determine the extent of coastal shorelands (ocean and coastal lake shorelands) in Clatsop County, an inventory of areas necessary for water-dependent and water-related uses was conducted using the following information sources:

1. Oregon State Game Commission (1972) Clatsop and Columbia County Lakes and Resevoirs: Master Plan for Angler Access and Associated Recreational Uses. Sites identified werre at:

Smith Lake
Sunset Lake

The following areas necessary for water-dependent and water-related uses were included within the extent of ocean and coastal lake shorelands:

a) Existing or proposed County, State, or Federal public recreational areas and facilities such as parks, campgrounds, scenic waysides, marinas and moorages for recreational boats, and boat ramps or other public access points to coastal water bodies;

b) Existing private recreational areas, such as commercial resorts and campgrounds;

B. Areas having characteristics suitable for aquaculture.

a) Salmon

1) Sites may be located a short distance above the mouth of small direct tributaries to the ocean which essentially do not have tidal influence; and

2) the following streams and their tributaries and included tidal reaches are available to siting of private salmon hatchery release and recapture facilities.

aa) Columbia River system below Tongue Point
bb) Youngs River including Klaskanine River below Battle Creek Slough
cc) Lewis and Clark River below Johnson Slough
dd) Skipanon River below Taylor Lake outlet
ee) Necanicum River below Neawanna Creek

b) Non-salmon and shell fish - areas suitable for this type of aquaculture include

1) small tributaries to the ocean
2) Columbia River system
3) Youngs River system
4) Lewis and Clark River system
5) Skipanon River
6) Necanicum River system
7) Pacific Ocean

C. Navigation and port facilities not applicable for coastal lakes; see Estuarine Resources and associated Coastal Shorelands Section for the Columbia River and Necanicum River Estuaries.

D. Riparian vegetation - See subsection 3 above entitled "Natural or man-made riparian resources especially vegetation necessary to stabilize the shoreline and to maintain water quality and temperature necessary for the maintenance of fish habitat and spawning areas"

Specific "areas needed for water-dependent and water-related uses, including areas of recreational importance which utilize coastal waters and riparian resources, areas appropriate for navigation and port facilities, and areas having characteristics suitable for aquacultre" are shown on maps 6, 7, 13, 14, 20 and 21 pages.

See maps 7, 14, and 21 pages 44, 51 and 58.

6. Areas of exceptional aesthetic or scenic quality, where the quality is primarily derived from, or related to, the association with coastal water bodies.

This includes the following areas that derive their primary quality from their association with coastal water bodies i.e. ocean and coastal lakes:

headlands
beaches
active dunes (first foredune immediately adjacent to the beach)
off shore rocks

a) State Parks Headlands, Active Dune areas and Sandspits.
Within Ecola, Oswald West, and Ft. Stevens state Parks, the designation of areas of exceptional aesthetic and scenic quality has been limited to coastal headlands, undeveloped portions of active dune areas and sandspits. Although all areas with the state parks are usually attractive, the coastal headlands, active dune and sandspits have exceptional aesthetic and scenic qualities because of the lack of developed recreational facilities, and because of the variety and/or extent of coastal views provided in these areas.

b) Other active dune areas (first dune east of beach)
Active dune areas have been identified for areas in the Clatsop Spit area (Ft. Stevens State Park) and from Warrenton south to the Gearhart UGB in the report Stability of Coastal Dunes, Clatsop County, Oregon Second Draft by Leonard Palmer. Active dune areas of exceptional aesthetic or scenic quality are limited to the immediate foredune adjacent to the beach. Areas committed to residential use in the Surf Pines area are not included as areas of exceptional aesthetic scenic quality.

c) Beaches in Clatsop County
These are protected by Oregon Beach Law (ORS 390).

d) Off shore rocks

Areas of exceptional aesthetic or scenic quality (i.e., exceptional aesthetic resources) and other areas of scenic quality are listed under Coastal Shorelands Inventory and mapped on Maps 5, 12, and 19 pages 42, 49 and 56. (exceptional aesthetic resources)

7. Coastal Headlands
Coastal headlands are identified in the Visual Resource Analysis of- the Oregon Coastal Zone (Oregon Coastal Conservation and Development Commission, 1974). Although the scale of mapping in the report is not large enough to determine exact boundaries it is sufficient to make the following determination:

a) Tillamook Head. The area included as a Headland is much of the land within Ecola State Park and Elmer Feldenhiemer Preserve. It includes the steep slopes experienced beginning at the north end of the park and extends south parallel to the ocean to the beach north of Chapman Point. Indian Beach is included in this area. ODOT Parks Division owns the property and maintains day use activities for portions of the area (south area at Indian Beach and Bald Point) where roads, parking, picnicking and associated activities are permitted. The Oregon Coast Trail is located in the park.

b) Oswald West State Park. The area included in Clatsop County is that portion within the park encompassing the tunnel and adjacent park land. The land is the northern most portion of the park owned by the ODOT Parks Division. The Oregon Coast Trail skirts the eastern end of the headland on the east side of Highway 101.

The location of headlands is shown on Maps 6, 13, and 20, page 43, 50 and 57.

Coastal Shoreland Inventory

The following sections list hazard areas, 100 year floodplain velocity zone and adjacent areas of geological instability, significant shoreland and wetland biological habitat, areas necessary for water-dependent and water-related uses, areas of exceptional aesthetic or scenic quality, coastal headlands and historical sites which were identified during the inventory of the coastal shoreland planning area. In order to protect and preserve archeological sites, the inventory of the archeological sites is not available for public review, but is on file at the Clatsop County Planning Department. The coastal lake and shoreland inventory list, which is arranged geographically by shoreland subarea, is followed by maps (pp.) showing the location of the listed features by type and site number. Larger scale maps showing these features are located in the Clatsop County Department of Planning and Development.

TILLAMOOK COUNTY TO ARCH CAPE TUNNEL

1. Site: Cove Beach. Maps 16 and 17 pages 53 and 54.
   Location: T4N R10W Section 30 & 31
   Classification: 1. Hazard area, 100 year floodplain velocity zone;
   2. Adjacent areas of geologic instability
   Discussion:
   Base Zone: Coastal Residential (CR).

2. Site: Oswald West State Park (portion east of Cove Beach). Map 20 page 57.
   Location: T4N R10W Section 31
   Classification: Area of recreational importance
   Discussion:
   Base Zone: Recreation Management (RM).

3. Site: Gull Rocks, Castle Rocks and other offshore islands. Maps 18 and 19 pages 55 and 56.
Location: West of T4N R10W Sections 6, 7, 18, 19, 30 & 31l
Classification: 1. Significant shoreland and wetland habitat(Map 19 exceptional aesthetic resource)
Discussion: The islands are a significant seabird habitat which are included in the Oregon IIslands Wilderness
Base Zone: Natural Shorelands (NS).

4. Site: Oswald West State Park (Arch Cape Tunnel area). Maps 19, 20, 21 pages 56, 57 and 58.
Location: T4N R10W section 30
Classification: 1. Coastal headland
2. Historic site
3. Exceptional aesthetic or scenic quality
Discussion: The tunnel is listed in the Statewide Inventory of Historic Sites and Buildings
Base Zone: Recreation Management (RM).

ARCH CAPE TUNNEL TO SOUTH BOUNDARY OF CANNON BEACH URBAN GROWTH BOUNDARY (UGB)

5. Site: Arch Cape shoreland. Maps 16, 17 and 19 pages 53, 54 and 55.
Location: T4N R10W Sections 19 and 30
Classification: 1. Beach - exceptional aesthetic or scenic quality
2. Hazard area, 100 year floodplain velocity zone
3. Adjacent areas of geologic instability
Discussion:
Base Zone: Rural Service Area-Single Family Residential (RSA-SFR), Coastal Residential (CR).

6. Site: Hug Point State Park. Maps 17, 19, 20 and 21 pages 54, 56, 57, and 58.
Location: T4N R10W Section 18
Classification: 1. Hazard area, 100 year floodplain velocity zone;
2. Public access and recreational use
3. Exceptional aesthetic or scenic quality
4. Area needed for water-dependent and water-related uses.
Discussion:
Base Zone: Recreation Management (RM).

7. Site: Arcadia shoreland. Maps 16 and 17 pages 53 and 54.
Location: T4N R10W Section 7 and 18 (between Hug Point State Park and Arcadia Beach Wayside)
Classification: 1. Hazard area, 100 year floodplain velocity zone
2. Adjacent areas of geologic instability
Discussion:
Base Zone: Coastal Residential (CR).

8. Site: Arcadia Beach Wayside. Map 16 page 53.
Location: T4N R10W Section 7.
Classification: Adjacent area of geologic instability.
Discussion: Area is immediately south of the south Cannon Beach UGB where in 1974 a huge slide took out U.S. Highway 101.
Base Zone: Recreation Management (RM).

9. Site: Silver Point. Map 16 page 53.
Location: T4N R10W Section 6 and 7.
Classification: Adjacent area of geologic instability.
Discussion: Area is immediately south of the Cannon Beach UGB where in 1974 a huge slide took out U.S. Hwy. 101.
Base Zone: Coastal Residential (CR).
Agriculture-Forest 20 (AF-20).
Open Space, Parks and Recreation (OPR).

NORTH CANNON BEACH UGB TO SOUTH SEASIDE UGB

10. Site: Tillamook Head. Maps 2-7 pages 39-44.
Location: T5N R10W Sections 6 and 7
T5N R11W Sections 1 and 12
T6N R10W Sections 29, 30, and 31
Classification: 1. Adjacent area of geologic instability
2. Exceptional aesthetic resource
3. Significant shoreland
4. Area needed for water-dependent and water-related uses
5. Coastal headland
6. Recreational importance
7. Historic site
Discussion: This area is in Ecola State Park and Elmer Feldenheimer Forest Preserve administered by ODOT State Parks Division. The site has been identified as containing northern Bald Eagle nesting sites. Ecola State Park is also an important coastal recreation area. At Clark's Viewpoint a plaque commemorates the sourthern most extent of the Lewis and Clark Expedition in Clatsop County.
Base Zone: Recreation Management (RM).

NORTH GEARHART UGB TO SOUTH WARRENTON UGB

11. Site: Clatsop Beach. Maps 9-12 pages 46-49.
    Location: T7N R10W Sections 4, 9, 16, 21, 28 and 33
    T8N R10W Section 29 and 33
    From north Gearhart UGB to south Warrenton UGB
    Classification:
    1. Hazard area, 100 year floodplain velocity zone
    2. Adjacent area of geologic instability (first foredune)
    3. Exceptional aesthetic or scenic quality
    4. Significant shoreland habitat.
    Discussion: The adjacent area of geologic instability comprises thefirst foredune (the immediate area east of the 100 year floodplain velocity zone).
    Base Zone: Open Space, Parks and Recreation (OPR).
    Residential-Agriculture 5 (RA-5).
    Coastal Beach Residential (CBR).
    Military Reserve (MR).

12. Site: Del Rey Beach wayside. Map 14 page 51.
    Location: T7N R10W Section 33
    Classification: Area needed for water-dependent and water-related uses
    Discussion: ODOT State Highway Division beach access, County Road access to beach
    Base Zone: Open Space, Parks and Recreation (OPR).

13. Site: Sunset Beach access. Map 14 page 51.
    Location: T7N R10W Section 33
    Classification: Area needed for water-dependent and water-related uses
    Discussion: County Road access to beach
    Base Zone : Open Space, Parks and Recreation (OPR).
    Residential-Agriculture 5 (RA-5).

14. Site: Clatsop Plains Site #17 and northern extension of Gearhart Site #2. Map 11 page 48.
    Location: T7N R10W Section 22, 27 and 34
    West of Highway 101, north of Gearhart UGB, north and south of Del Rey Beach Road and north and south end of Surf Pines Road.
    Classification: Significant shoreland and wetland habitat comprising about 30 acres.
    Discussion: This is a northern extension of Gearhart sites #1 and 2. This is part of an extensive deflation plain/coastal lake system which extends from the Necanicum estuary north to Sunset Lake. Before extensive filling in Camp Rilea it extended to Coffenbury Lake. The system has fisheries, waterfowl and other wetland values.
    Base Zone: Lake and Wetlands (LW).

15. Site: Clatsop Plains Site #12. Maps 11 page 48.
Location: T7N R10W sections 15, 22 and 27 West Lake. This lake is crossed by Highway 101 and the associated wetlands extend southwards beyond the sourthern end of the Delmoor Loop.
Classification: 1. Significant shoreland and wetland habitat.
2. Riparian Vegetation.
Discussion: This site is approximately 126 acres in size. A coastal lake of medium depth, with its associated marshes and swamps. At higher water periods these wetlands are inundated with lake water. This lake is reported to support recreational fishing for warm-water game fish. Waterfowl winter over on this lake. Some breeding occurs.
Base Zone: Lake and Wetlands (LW).

16. Site: Clatsop Plains Site #10. Map 11 Page 48.
Location: T7N R10W Sections 4, 9, 10, 15
T8N R10W Section 33
A long narrow coastal lake (c. 15,600 feet) extending from Columbia Beach Road near Smith Lake south through Camp Rilea, between the golf course and U.S. Highway 101 and beyond Sunset Beach Road.
Classification: 1. Significant shoreland and wetland habitat comprising about 73 acres
2. Riparian vegetation.
Discussion: At their widest places these shallow lakes have extensive sedge and water lily marshes with weed-filled water and swampy patches. Where they are narrow they become weed-filled water overhung by willows and riparian vegetation.
Base Zone: Lake and Wetlands (LW).

17. Site: Clatsop Plains Site #11. Map 11 page 48.
Location: T7N R10W Section 9, 16, 21 and 22
Classification: Significant habitat comprising about 130 acres.
Discussion: One of the largest and deepest coatal lakes, Sunset Lake is about 16,500 feet long, up to 640 feet wide and up to 19 feet deep. This lake supports populations of warm-water fish and there is a large recreational fishery. Waterfowl are often abundant, besides the large domestic flocks, and in bad weather, the lake is used for shelter by pelagic ocean species. The riparian vegetation has been heavily impacted.
Base Zone: Lake and Wetlands (LW).

18. Site: Sunset Lake boat ramp. Map 14 Page 51.
Location: T7N R10W Section 9
Classification: Area needed for water-dependent and water-related uses
Discussion: This is an existing site
Base Zone: Open Space, Parks and Recreation (OPR).

19. Site: Clatsop Plains Site #5. Map 11 page 48.
Location: T7N R10W Section 4 and 9
Wetlands, including Slusher Lake, deflation plains west of Sunset Lake
Classification: 1. Significant shoreland and wetland habitat comprising about 104 acres
2. Riparian vegetation
Discussion: West and south of Camp Rilea, the first and second deflation plains, behind the foredune area, are discontinuous. Instead of the large slough-sedge areas found further north, these are hollows in the dunes filled with slough sedge and hooker willow wetlands, and often containing coastal lakes. The largest of these is Slusher Lake, but there are several others which are perenially flooded. These lakes have some warm water fish and waterfowl values, while the associated swamps and marshes are used by waterfowl and other wetland birds. South of this site, the first deflation plain peters out gradually in a series of small seasonally inundated puddles. These were not found to be significant. This site has waterfowl and some fisheries value and is part of a large coastal ecosystem.
Base Zone: Aquatic Natural (AN).
Natural Shorelands (NS).
Lake and Wetlands (LW).

20. Site: Clatsop Plains Presbyterian Church. Map 14 page 51.
Location: T7N R10W Section 4
Classification: Historic site
Discussion: The church is listed as a historic site in the Statewide Inventory of Historic Sites and Buildings
Base Zone: Residential Agriculture 1 (RA-1).

21. Site: Clatsop Plains Site #7. Map 11 page 46.
Location: T8N R10W Section 28 and 33 Smith Lake
Classification: 1. Significant shoreland and wetland habitat
2. Riparian vegetation
Discussion: This site consists of two parallel deflation plains. The smaller one to the west is shallow, weed-filled water surrounded by swamps and marshes. The larger one to the east is connected to the first in several places by swamps, and contains the large but rather shallow Smith Lake. This lake is mostly open water which becomes weed-filled in summer; fringing marshes and swamps are narrow except at the southern end. It has heavy recreation usage from the surrounding property owners, and is reported to support several species of warm-water game fish. It is also an important overwintering area for waterfowl, principally coot and American widgeon, which may number many hundreds. Fisheries, recreational warm-water game fish, overwintering waterfowl. Local recreational use.
Base Zone: Lake and Wetlands (LW).

22. Site: Smith Lake boat ramp. Map 14 page 51.
Location: T8N R10W Sections 28 and 33
Classification: Area needed for water-dependent and water-related uses
Discussion: The site is proposed on a 3 acre site owned by Clatsop County. The lake contains numerous weeds and could become a problem for boating.
Base Zone: Single Family Residential (SFR-1).

23. Site: Clatsop Plains Site #6. Map 11 page 48.
Location: T8N R10W Section 29, 32, 33
West of Ridge Road, south of Columbia Beach Road (DeLaura Beach Road) to Camp Rilea
Classification: 1. Significant shoreland and wetland habitat
2. Riparian vegetation
Discussion: A large shallow lake occupying two parallel deflation plains with a discontinuous dune ridge between them. This is a diverse wetland system, with large expanses of shallow water, sedge marshes, willow and spruce swamp and riparian vegetation. Since this area is permanently flooded, it supports populations of warm-water fish. The shallow marshy nature of this lake makes it unsuitable for fishing, but it is used extensively by waterfowl, particularly American widgeon. It probably supports breeding populations of waterfowl, such as mallard and wood duck, as well as other wetland bird species. The southward extension of this lake is narrow and long and is lined with trees. It should also contain warm-water fish, and is important to breeding water birds. An isolated four acre "puddle" (c. 400 feet west of the main site) with standing water, sedge and willow swamp, is also included in this site. It also has some importance to wetland birds. Important to waterfowl and aquatic mammals.
Base Zone: Lake and Wetlands (LW).

24. Site: Clatsop Plains Site #4. Map 11 page 48.
Location: T8N R10W Section 29
The first deflation plain east of the westermost dune ridges. Extends from the City of Warrenton limits on the north south to Camp Rilea.
Classification: Significant shoreland and wetland habitat comprising 120 acres.
Discussion: A large deflation plain of relatively recent origin. At c. 18-22 feet above MSL, these wetlands are flooded at wet times of the year, particularly winter and spring, and dry out during the summer. The sandy soil has poor moisture retaining capacity. The vegetation is mostly dominated by slough sedge and hooker willow, while numerous small isolated dunes support upland vegetation. The main value of these wetlands is that they are part of a large, more or less natural coastal ecosystem: they are less valuable per acre than wetlands further inland. Wildlife use is by amphibians, small mammals, deer and many bird species, particularly birds of prey. Breeding and feeding of wetland birds, scientific/educational value as part of a coastal ecosystem.
Base Zone: Lake and Wetlands (LW).

25. Site: Battery Russell (Fort Stevens State Park). Map 14 page 51.
Location: T8N R10W Section 7
Classification: Historic site
Discussion: Ft. Stevens is the site of old gun emplacements that were used to guard the mouth of the Columbia River from possible enemy attack. This one and others are listed as a historical site in the Statewide Inventory of Historic Sites and Buildings
Base Zone: Recreation Management (RM).

26. Site: Ft. Stevens Beach Access Points. Map 14 page 51.
Location: T8N R11W Sections 1 and 12 Clatsop Spit
Classification: Area needed for water-dependent and water-related uses
Discussion: These beach access points are not for vehicles but are for pedestrians only.
Base Zone: Recreation Management (RM).

27. Site: Clatsop Spit Beach. Maps 9, 11 and 12 pages 46, 48, and 49.
Location: T8N R10W Section 7
T8N R11W Section 1
From north Warrenton UGB to South Jetty
Classification:
1. Hazard area, 100 year floodplain velocity zone
2. Adjacent area of geologic instability (first foredune)
3. Exceptional aesthetic or scenic quality
4. Significant habitat
Discussion: The adjacent area of geologic instability comprises the first foredune (the immediate area east of the 100 year floodplain velocity zone).
Base Zone: Recreation Management (RM).

28. Site: Clatsop Plains Site #1. Map 11 page 48.
Location: T8N R10W Section 7
Clatsop Spit west of Battery Russell south to Warrenton city limits
Classification: Significant shoreland and wetland habitat
Discussion: This enormous site is a mosaic of young deflation plain wetlands and sand dunes mostly of rather low elevation. The deflation plains are mostly dominated by slough sedge and hooker willow; they are flooded in winter and spring by high water tables, and also by very high tides. In summer, the sandy soil may be saturated or moist. A well developed young dune/deflation plain flora is present. The uplands are dominated by grass, principally introduced beach grass, and also some scrub. Black-tailed deer are present together with many smaller aquatic and terrestrial mammals. The area is important to avifauna, particularly migrating and overwintering populations. Many rare species have been recorded. It is important habitat for raptors, and has a resident population of marsh hawks and occasional use by many other species. The area is important to pelagic birds during

stormy weather. Endangered snowy plovers have nested here, particularly west of parking lot C. The area has been identified as important habitat by the Nature Conservancy, and as one of the State's most important birdwatching areas.
Base Zone: Recreation Management (RM).

29. Site: Clatsop Plains Site #2. Map 11 page 48.
Location: T8N R10W Section 7 and 8
Areas east of Battery Russell and east to Hammond town limits and south to Warrenton city limits
Classification: Significant shoreland and wetland habitat comprising about 40 acres
Discussion: This area supports relatively mature sand dune vegetation, with a mosaic of wetland and upland areas. The deflation plain wetlands are forested and large areas are inundated by the highest tides. Because the major hydrological influence is the sand dune water table, these wetlands were judged to be Goal 17, not Goal 16. Isolated dunes and dune ridges in this site support spruce/hemlock forest and are significant as riparian and upland habitats for birds and mammals. This site is in a complex area of great habitat diversity, closely associated with the Swash Lake estuarine area. it is important to deer, aquatic furbearers and to wetland bird species. The site also includes three areas of forested swamp on the south side of Jetty Road. Part of natural mature sand dune ecosystem, in close proximity to the estuary.
Base Zone: Recreation Management (RM).

30. Site: Seaside Site #1. Map 11 page 48.
Location: T6N R10W Section 32 and 33
Circle Creek wetlands south of Seaside Golf Course.
Classification: Significant shoreland and wetland habitat comprising about 20 acres in the County with adjacent areas in Seaside and Seaside UGB.
Discussion: This site is poorly drained, low-lying part of the Necanicum floodplain. It is separated from the ocean by the bar which supports Ocean View Way, and from the Necanicum River, into which it drains. It is mostly separated by the more elevated land adjacent to the river. Site is a typicl natural river floodplalin wetland for this region. The vegetation is mostly willow and spruce swamp, and the site has some fine old-growth spruce trees. It is enhanced by areas of emergent marsh and shallow water-lily covered lakes along Circle Creek, which meanders through the site.
Base Zone: Lake and Wetlands (LW).

31. Site: Clatsop Plains Site #20. Map 11 page 48.
Location: T6N R10W Section 16
Southeast of Seaside.
Classification: Significant shoreland and wetland habitat.
Discussion: This headwater swamp on the Neawanna is dissected by several small creeks, which support a small natural run of coho salmon (Maine). The swamps which also act as riparian zones around these creeks and the mill ponds are important elk habitat and are important habitat for nesting and feeding wetland birds species, probably included waterfowl breeding.
Base Zone: Lake and Wetlands (LW).

32. Site: Clatsop Plains Site #8. Map 11 page 48.
Location: T8N R10W Section 33 and 34.
South of Warrenton High School, east and west of old railroad right-of-way.
Classification: Significant shoreland and wetland habitat.
Discussion: An area of mostly forested wetland with some emergent marsh, adjacent to the Skipanon River. Besides fulfilling riparian functions, these wetlands are extensively used by wetland and upland avifauna, by aquatic furbearers and by deer.
Base Zone: Lake and Wetlands (LW).

Description of Ocean and Coastal Lake Shorelands Boundary (OCLSB)

The extent of ocean and coastal lake shorelands in Clatsop County is defined by the Ocean and Coastal Lake Shoreland Boundary line described below. The OCLSB line (delineated on the Clatsop County Comprehensive Plan and Land and Water Development and Use Map and on Maps 8, 15, and 22 p. 45-59 defines the limits of the Shorelands Overlay/SO district and the Lake and Wetlands zone. The zones are described in other portions of this Section and in the Clatsop County Land and Water Development and Use Ordinance.

Coastal Shorelands include the following areas:

1) Areas containing one or more of the seven features described in the section "Methodology for Shoreland Inventory".
2) Other areas containing significant shoreland features and resources described in the section "Ocean and Coastal Lake Shoreland Inventory".
3) All other areas adjacent to coastal lakes which are:

   a) within 200 feet of a coastal lake; or
   b) between a coastal lake and a highway if the highway is closer than 200 feet to a coastal lake.

These areas (a & b) were included in the ocean and coastal lake shorelands boundary line because they are subject to development pressure for water-dependent development, as well as for non-water dependent development which benefits in some manner from the proximity of the coastal lake. The decision on the extent of area to include was based on review of existing development patterns in areas adjacent to coastal lakes. The review revealed that development adjacent to coastal lakes occurs most frequently within areas described above. The Lake and Wetlands zone and the development review mechanism in the Coastal Shorelands Overlay zone should serve to decrease the possibility of adverse impacts on coastal lakes caused by development on these adjacent lands.

TILLAMOOK COUNTY LINE TO ARCH CAPE TUNNEL

1. From the Tillamook County line the boundary line follows U.S. Highway 101 north to the northernmost access road to Cove Beach and then follows the boundary of Oswald West State Park west and south to the Tillamook County line. See map 22.

2. From the Tillamook county line to the Arch Cape Tunnel the boundary line follows the easternmost line of the 100 year floodplain (velocity zone) and identifies geologic hazards to the north end of the Cove Beach subdivision where the line goes east to U.S. Highway 101 then north to the tunnel. These are the only factors identified in this area. See map 22.

ARCH CAPE TUNNEL TO SOUTH BOUNDARY OF CANNON BEACH URBAN GROWTH BOUNDARY (UGB)

1. From the Arch Cape tunnel on U.S. Highway 101 the line goes north to Webb Avenue, then west to the easterly line of the 100 year floodplain (velocity zone). The boundary line then follows the 100 year floodplain and identified geologic hazards north to the northern boundary line of the Arch Cape Sewer County Service District. The boundary line then goes east to U.S. Highway 101. These are the only factors identified in this area.

2. From this point the boundary line goes north along U.S. Highway 101 to the northern line of Hug Point State Park. The boundary line then goes west to an identified geologic hazard.

3. From this point the boundary line goes north along the eastern boundary of the 100 year floodplain (velocity zone) and identified geologic hazard areas to Arcadia Beach Wayside. The line then goes east to U.S. Highway 101. These are the only facors identified in this area.

4. From this point the boundary line goes north along U.S. Highway 101 to the northern boundary line of Arcadia Beach Wayside then goes west to the 100 year floodplain (velocity zone).

5. From this point the boundary line goes north along the easternmost point of the 100 year floodplain (velocity zone) and identified geologic hazards. The geologic hazard (Silver Point slide) intersects with U.S. Highway 101. These are the only factors in this area.

6. From this point the boundary line goes north along U.S. Highway 101 to the Cannon Beach UGB.

NORTH CANNON BEACH UGB TO SOUTH SEASIDE UGB

From the north line of the Cannon Beach UGB the boundary line follows the eastern boundaries of Ecola State Park and Elmer Feldenheimer Preserve to the south boundary of the Seaside UGB. See Map 8.

NORTH GEARHART UGB TO SOUTH WARRENTON UGB

The ocean and coastal lake shorelands boundary is as shown on Map 15. In areas where there is an "area of geologic instability associated with a coastal water body" the upland boundary is 25 feet from the identified hazard.

NORTH WARRENTON AND HAMMOND UGBS TO COLUMBIA RIVER COASTAL SHORELANDS BOUNDARY

The entire area is within the ocean and coastal lake shoreland boundary line.

4. GENERAL POLICIES FOR OCEAN AND COASTAL LAKE SHORELANDS

General Use Priorities
Policy:

New shoreland development, expansion, maintenance or restoration of existing development and restoration of historic sites shall conform to the following general priorities for the overall use of ocean and coastal lake shorelands (in order of priority):

1. water-dependent uses;
2. water-related uses;
3. non-dependent, non-related uses which retain flexibility of future use and do not prematurely or inalterably commit ocean and coastal lake shorelands to more intensive uses;
4. development, including non-dependent, non-related uses, in Rural Service Areas (compatible with existing or committed uses);
5. non-dependent, non-related uses which cause a permanent or long term change in the features of ocean and coastal lake shorelands only upon a demonstration of public need.

Shoreland Development
Policy:

New shoreland development, expansion, maintenance or restoration of existing development; or restoration of historic waterfront areas shall be sited, designed, constructed and maintained to minimize adverse impacts on riparian vegetation, water quality and aquatic life and habitat in adjacent aquatic areas, and to be consistent with existing hazards to life and property posed by eroding areas and flood hazard areas.

To accomplsh this:

a. The requirements of the National Flood Insurance Program shall be used to regulate development in flood hazard areas within coastal shorelands.
b. Shoreland setbacks shall be established to protect riparian vegetation and to recognize eroding areas (see Riparian Vegetation Section of this element);
c. Priority shall be given to nonstructural rather than structural solution to problems of erosion or flooding;
d. Existing state and federal authorities referenced in the Water Quality policies shall be utilized for maintaining water quality and minimizing man-induced sedimentation in aquatic areas.

Scenic Views and Public Access
Policy:

New shoreland development, expansion, maintenance or restoration of existing development and restoration of historic sites shall be designed to promote visual attractiveness and scenic views and provide, where appropriate, visitor facilities, public viewpoints and public access to the water. Existing public access to publicly owned shorelands shall be maintained.

Multiple Use of Shorelands
Policy:

Multiple use of shorelands shall be encouraged when the integration of compatible uses and activities is feasible and is consistent with the intent of other Comprehensive Plan policies contained in this Plan element.

Planned Development in Ocean and Coastal Lake Shorelands
Policy:

Clustering of non-water dependent and non-water related residential and commercial development on ocean and coastal lake shorelands shall be required in the Clatsop Plains planning area. No industrial development is permitted. Clustering of non-water dependent or non-water related residential, commercial or industrial development on ocean and coastal lake shorelands shall be encouraged in other planning areas through application of the Planned development overlay district (/PDO).

Development densities shall be compatible with significant shoreland resources and features identified in the Clatsop County Comprehensive Plan and with adjacent estuarine and associated coastal shoreland areas designated Natural or Conservation.

5. FINDINGS AND POLICIES FOR SIGNIFICANT SHORELAND RESOURCES: MAJOR MARSHES, SIGNIFICANT WILDLIFE HABITAT, COASTAL HEADLANDS, EXCEPTIONAL AESTHETIC RESOURCES AND HISTORICAL AND ARCHEOLOGICAL SITES

Findings for Compatibility of Low-Intensity Uses with the Protection of Natural Values of Significant Shoreland Resources

Clatsop County finds that:

a. Uses and activities which are consistent with the protection of the natural values of significant shoreland resources are those uses which do not require developed facilities,[1] and which can be accommodated without adverse impact to an area or its resources;

b. The following uses and activities are consistent with the protection of natural values of major marshes, significant wildlife habitat, coastal headlands, exceptional aesthetic resources and historical or archaeological sites:

   (1) recreational uses such as hiking, fishing, hunting, photography, wildlife observation, sightseeing or beachcombing which can be conducted with only minor alteration (such as foot trails, simple interpretive devices or viewpoint signs) to an area or its resources;

   (2) grazing and other farm uses (excluding farm structures) which do not require a development, building or mobile home placement permit from Clatsop County, or a Division of State Lands or U.S. Army Corps of Engineers permit.

   (3) research or educational activities which maintain or enhance the natural characteristics of an area or its resources;

   (4) harvesting wild crops.

c. The following forest management activities are considered to be low-intensity activities within coastal headlands, exceptional aesthetic resources and significant historical and archaeological sites:

   (1) fire, insect and disease control, reforestation and hazard tree removal, consistent with the Oregon Forest Practices Act, as long as the resource remains substantially unaltered.

Findings for Compatibility of Uses Permitted Under Existing Management Programs in Areas Containing Significant Shoreland Resources

1. Ft. Stevens State Park
   Clatsop County finds that:

   (a) A State Park Master Plan has been completed for Ft. Stevens State Park;

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[1] "Facility" is defined as a group or combination of structures that is built, installed or established to serve a particular purpose.

(b) The Ft. Stevens State Park Master Plan separates lands within State Parks into land use categories, establish primary land use values and functions for each land use category, and specify compatible recreation activities and developments for each land use category;

(c) The PRIMARY RESOURCE PROTECTION land use category contains lands with the following primary land use values and functions:1

> "Vital park attractions, outstanding scenic features, major fish and wldlife habitats, historic and archaeological sites, unique ecological areas to be retained as natural park attractions for public inspiration, enjoyment, and scientific values."

Compatible recreation activities and developments within this land use category are:

> "Foot-trail access, simple interpretive devices, viewing structures, passive water activities, limited recreation uses which have little impact on land resources."

(d) The following areas containing exceptional aesthetic resources identified in the Clatsop County Comprehensive Plan have been included within the Primary Resource Protection land use category:

(1) Fire Control Hill (adjacent to Battery Russell)
(2) Active dune

(e) The following historical sites identified in the Clatsop County Comprehensive Plan have been included within the Primary Resource Protection land use category:

(1) Ft. Stevens State Park Military Reservation (Battery Russell areas).

All archaeological within Ft. Stevens State Park (as identified on the unpublished archaeological sites map) were also included within the Primary Resource Protection land use category.

(f) The following significant wildlife habitat areas identified in the Clatsop County Comprehensive Plan in addition to those included within the Primary Resource Protection land use category:

(1) Clatsop Plains Site #1
(2) Clatsop Plains Site #2

1"Primary land use values and functions", and "compatible recreation activities and developments", within the Primary Resource Protection land use category were taken from the Master Plan for Ft. Stevens State Park. Oregon State Parks Division, Sept., 1976, p. 33.

(g) Activities permitted within the Primary Resource Protection land use category are consistent with the protection of natural values of coastal headlands, exceptional aesthetic resources, historical and archaeological sites, and significant wildlife habitat.

2. Oregon Islands Refuge
Clatsop County finds that:

(a) The Oregon Islands National Wildlife Refuge in Clatsop County is designated as "significant wildlife habitat" and "exceptonal aesthetic resources" in the Clatsop County Comprehensive Plan.

(b) A National Wildlife Refuge is established to "provide protection and habitat for waterfowl, colonial birds, endangered species and other wildlife."[1]

(c) There are no public use facilities in the Oregon Islands Natural Refuge in Clatsop County. Uses within this National Refuge are limited to low-intensity uses such as viewing and photographing birds and other wildlife and research and environmental education. These uses are consistent with the protection of natural values of significant wildlife habitat and exceptional aesthetic resources.

Findings for Farm Uses and Propagation and Harvesting of Forest Products in Coastal Headlands, Exceptional Aesthetic Resources and Historical or Archaeological Sites

1. Coastal Headlands
Clatsop County finds that:

(a) The following coastal headland has been identified in the Clatsop County comprehensive Plan:

(1) Oswald West State Park (Arch Cape Tunnel Headland)

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[1]National Wildlife Refuges of Region 1, U.S. Department of the Interior, Fish and Wildlife Service, April 11, 1977, p. 2.

2. Exceptional Aesthetic Resources
Clatsop County finds that:

(a) The following exceptional aesthetic resources have been identified in the Clatsop County Comprehensive Plan:

(1) Tillamook Head Rocks
(2) Unnamed Rocks
(3) Sealion Rocks
(4) Bird Rocks
(5) Haystack Rock
(6) Needles
(7) Unnamed Rock
(8) Jockey Cap
(9) Lion Cap
(10) Castle Rock
(11) Gull Rock
(12) Arch Cape Tunnel Headland
(13) Tillamook Head
(14) Clatsop Beaches
(15) Active Dune

(b) With the exception of Oswald West, Ecola, and Elmer Feldenheimer, the exceptional aesthetic resources listed above are physically unsuited for farm use or propagation and harvesting of forest products.

(c) Oswald West, is located within an area which is under the Oregon Parks Division management program which limits the intensity of farm use or propagation and harvesting of forest products to a level which is consistent with the protection of natural values of exceptional aesthetic resources.

3. Historical or Archaeological Sites
Clatsop County finds that:

(a) The following significant historical sites have been identified in the Clatsop County Comprehensive Plan:

(1) Arch Cape Tunnel (Oswald West State Park)
(2) Clark's Viewpoint (Tillamook Head, Ecola State Park)
(3) Clatsop Plains Presbyterian Church
(4) Battery Russell

(b) The following historic sites listed in (a) above occur in areas which are physically unsuited for farm or propagation and harvesting of forest products:

(1) Clatsop Plains Pioneer Presbyterian Church
(2) Battery Russell

(c) The remaining significant historical sites listed in (a) above and all identified significant archaeological sites within coastal shorelands are:

(1) located in areas which are under the Oregon Parks Division management program which limits the intensity of farm use or propagation and harvesting of forest products to a level which is consistent with the protection of the natural values of significant historical and archaeological sites;
(2) located within an area where farm and forest uses have been limited to those farm and forest uses described in Section 5 of this element, which are consistent with protection of natural values of coastal headlands, exceptional aesthetic resources, and historical and archaeological sites.

Policies for Protection of Natural Values of Significant Shoreland Resources

a. Shoreland development shall be sited and designed to be consistent with the protection of the natural values of identified major marshes, significant wildlife habitat, riparian vegetation coastal headlands, exceptional aesthetic resources and significant historic or archaeological sites within the shorelands planning boundary identified in the Clatsop County Comprehensive Plan.

b. Forestry operations within coastal shorelands shall be consistent with the protection of the natural values of major marshes, significant wildlife habitat and riparian vegetation. The State Forest Practices Act and Forest Practices Rules administered by the Department of Forestry shall be used to protect the natural values of these resources on commercial forest lands and other lands under the jurisdiction of the Forest Practices Act within coastal shorelands.

6. FINDINGS AND POLICIES FOR PROTECTION OF RIPARIAN VEGETATION

Findings:

Goal 17 Implementaiton Requirement 5 establishes the following requirements for the proteciton of riparian vegetation within coastal shorelands.

> "(5) Because of the importance of vegetative fringe adjacent to coastal waters to water quality, fish and wildlife habitat, recreational use and aesthetic resource, riparian vegetation shall be maintained; and where appropriate restored and enhanced, consistent with water-dependent uses."

Clatsop County feels that protection of riparian vegetation is important for coastal shoreland areas. Clatsop County recognizes, however, that under certain circumstances, maintenance of riparian vegetation according to the standards in the Land and Water Development and Use Ordinance is either impracticable or would place an undue restriction on the use of land. An obvious example is the case of a water-dependent use which requires direct access to or use of water. In this case, a certain amount of riparian vegetation must be removed in order to accommodate the use. Another example would be the case of an existing lot of record where maintaining riparian vegetation according to the standards in the Land and Water Development and Use Ordinance would reduce the buildable lot area to the extent that development on the lot would be precluded. Based on the experience of the Clatsop County Planning Department, a minimum depth of 45 feet is necessary in order to accommodate development.

It was not possible to estimate the impacts of removal of riparian vegetation in conjunction with a water-dependent use, since it was not possible to anticipate all areas in which water-dependent uses might be proposed. (This is particularly true in the case of individual private docks for recreational boat moorage). However, an attempt has been made to estimate the impacts of allowing removal of riparian vegetation to provide for development of small existing lots of record. The most recent Assessors maps available to the Clatsop County Planning Department were used to locate existing lots of record within the extent of coastal shorelands which could not be developed under the riparian vegetation standards.

Through examination of Assessors maps, lots of record which are too small to accommodate development under the riparian vegetation standards were located. Approximately 90% of these lots occur within areas which are built and committed to development, the incremental adverse environmental impact of allowing additional removal of riparian vegetation was considered to be more acceptable than the social and economic impacts produced by precluding development of these lots in order to achieve total protection of riparian vegetation. Map references are not made in a few cases where lots are located within a resource zone (EFU-38, F-80, F-38, AF-20).

Clatsop County finds that there is justification for reducing the requirements for protection of riparian vegetation in order to provide for direct access to water in conjunction with a water-dependent use, or to provide for development on existing platted or partitioned lots.

Policy:

Riparian vegetation shall be retained, except in cases where removal is necessary in order to provide for development of a lot of record existing as of the date of adoption of the Clatsop County Comprehensive Plan. Removal of riparian vegetation under these circumstances shall be the minimum possible to provide for the proposed use. Restoration and enhancement of riparian vegetation is encouraged, where appropriate and consistent with water-dependent uses.

7. IMPLEMENTATION POLICIES

1. Ocean and Coastal Lake Shorelands of Clatsop County shall be managed through implementation of the Clatsop County Comprehensive Plan by means of the Land and Water Development and Use Ordinance, which shall contain the Land and Water Standards, shoreland zones and zoning maps.

2. Clatsop County shall review the following for consistency with the Clatsop County Comprehensive Plan, zoning map, zoning ordinance and Land and Water use Standards:

   (a) state or federal permit applications for uses and activities within shorelands:
   (b) applications for Clatsop County Development Permits; including building and mobile home placement permits, development permits for flood hazard areas, preliminary subdivision plat applications and planned developments within coastal shorelands;
   (c) A-95 project pre-application notifications, by means of referral from and comment to the Clatsop-Tillamook Intergovernmental Council.

   Where applicable, procedures for review shall be developed as part of the Clatsop County Land and Water Development and Use Ordinance.

3. Clatsop County shall coordinate with local, state and federal agencies and citizen-advisory groups during implementation of the Coastal Shorelands element of the Clatsop County Comprehensive Plan. Clatsop County may convene an implementaiton conference as a means of coordination during the following:

   (a) preparation of post-acknowledgment amendments to the Comprehensive Plan or Land and Water Development and use Ordinance;
   (b) periodic updates of the Clatsop County Comprehensive Plan;
   (c) review of recommendations and/or findings of fact for state or federal permit applications as a forum for discussion or resolution of disputes over regulatory functions.

4. Removal of algae, weeds and noxious plants from Coastal lakes east of U.S. Highway 101 may be allowed if acceptable to the Oregon Department of Fish and Wildlife and other state and federal agencies.

5. Uses of major marshes and significant wildlife habitat in the coastal shorelands will be consistent with the protection of their natural values. Riparian vegetation will be maintained.

6. Where the Plan identifies major marshes, significant wildlife habitat or riparian vegetation on lands in the coastal shorelands subject to forest operations governed by the Forest Practices Act, the Act and Forest Practices Rules administered by the Department of Forestry <u>will</u> be used to protect the natural values of these resources and to maintain riparian vegetation.

7. Uses in Coastal Headland, significant wildlife habitat, Exceptional Aesthetic Resources and Historical or Archeological Sites in Oswald West State Park, Ecola State Park and Elmer Feldenheimer Forest Preserve shall be limited to the protection of identified natural values.

9-15-83

Appendix A

Note: Lakes east of Highway 101 - Cullaby, Carnahan (Taylor or Stricklin), Triangle and Unnamed (Lounsberry) Lakes

Clatsop County believes that the above lakes east of U.S. Hwy. 101 are not Coastal Lakes as defined in Statewide Planning Goals as "Lakes in the Coastal Zone that are created by a dune formation or that have a hydrologic surface or subsurface connection with saltwater."

Initial inventory information, specifically the documents

1. Visual Resource Analysis of the Oregon Coastal Zone by Oregon Coastal Conservation and Development Commission

2. Beaches and Dunes of the Oregon Coast by Oregon Coastal Conservation and Development Commission (except Stricklin [Taylor] Lake)

show these lakes as coastal or as adjacent to sand dunes. Upon closer examination through the use of detailed "Soil Interpretations for Oregon" (OR-Soils-1) developed by the U.S. Soil Conservation Service Clatsop County finds that the soils adjacent to the four lakes are Brallier peat (map reference 3A, see attached) with a depth of five (5) feet.

Carnahan Lake - Using the detailed soils maps the nearest sand dune is to the west over one-quarter (1-4) mile away; west of the Skipanon River. This area is underlain by the Astoria Formation which is comprised of shale and sandstone. Hydrologically, Carnahan Lake appears to have no outflow as none is shown on USGS topographic maps. Inflow results from run-off and precipitation. Lake levels appear to be stabilized through evaporation, transpiration and percolation. Actual outflow is minimal. The percolation that occurs appears to be into the Skipanon River drainage. The Skipanon River drains all four lakes, the land to the east and much of the land east of Highway 101. The Skipanon River flows north and empties into the Columbia River.

Cullaby Lake - The above discussion also applies to Cullaby Lake. Cullaby Lake flows into the Skipanon River. There is an extensive peat formation between the lake and the former Burlington Northern Railroad lines which are just east of U.S. Hwy. 101.

Triangle and Unnamed (Lounsberry) Lakes - These lakes are south of Cullaby Lake approximately two-thirds (2/3) of a mile. They are surrounded by Brallier peat, drain into Cullaby Creek which empties into Cullaby Lake.

See attached information:

1. Paul See, Geologist statement.
2. OR-1s for adjacent soils.
3. 5 soils maps of area.

Exhibit "A"

PAUL D. SEE

300 SURF PINES ROAD
SEASIDE, OREGON 97138
738-5869

August 25, 1983

To Whom It May Concern:

At the request of Lou Larson, attorney at law, Astoria, Oregon, the following statement has been prepared as an abstract of a report now in progress on the geologic setting and genesis of Cullaby Lake, Sections 14, 15, 22 and 23, Township 7 North, Range 10 West, Clatsop County, Oregon.

It is my professional opinion based on many years of detailed observation that Cullaby Lake is not a coastal lake as defined by goal 17 of the LCDC Statewide Planning Goals and Guidelines. Rather, Cullaby Lake is surrounded on the north, east and south by Tertiary bedrock, and on the west by less obvious and almost continuous outcrops of the same formation.

OR-SOILS-1 12/72
FILE CODE SOILS 12

SOIL INTERPRETATIONS FOR OREGON

U.S.D.A. SOIL CONSERVATION SERVICE

DATE: January, 1974 GEO BRALLIER SERIES SOILS: 3

1. Brallier peat, 0-1% slopes
2. Brallier peat, 0-2% slopes
3. Brallier peat, 0-3% slopes

The Brallier series consists of very poorly drained peaty soils formed mainly of slightly decomposed fibrous organic residues from water tolerant plants. These soils occupy nearly level basins on tidelands and basins or flood plains along sluggish streams near tidelands. Where not cultivated, the vegetation is brush, willow, and spruce or tussock grasses. Elevation is from 0 to 8 feet. Average annual precipitation is 90 to 100 inches, average annual temperature is 50 to 52° F., and the frost-free period at 32° F. is 150 to 200 days.

Typically, the surface layer is about 6 inches of dark brown extremely acid peat. The subsoil is dark grayish brown and grayish brown strongly to extremely acid peat to about 40 inches, below which is very dark grayish brown and gray slightly acid peat and muck.

Permeability is moderate. Runoff is very slow to ponded. The erosion hazard is slight. The total available water holding capacity is 12 to 25 inches. The water supplying capacity is 20 to 26 inches.

Brallier soils are used mainly for hay, pasture, and wildlife habitat. These soils are in the Northern Pacific Coast Range and Valleys Land Resource Area (MLRA A1).

(Classification: Hemic Medisaprists; dysic, mesic family)

ESTIMATED SOIL PROPERTIES

DEPTH FROM SURFACE (in.)	CLASSIFICATION			COARSE FRACT. OVER 3 IN.	% OF MATERIAL PASSING SIEVE				LIQUID LIMIT	PLASTICITY INDEX	PERMEABILITY (in/hr)	AVAIL. WATER CAP. (in/in)	SOIL REACTION (pH)	SHRINK SWELL POTENTIAL
	USDA TEXTURE	UNIFIED	AASHO		#4	#10	#40	#200						
0-60	Peat or muck	Pt	A-8	0	Organic material				Non-plastic		.6-2.0	0.3-0.4	4.1-6.5	Moderate

DEPTH (in.)	CONDUCTIVITY (mmhos/cm)	CORROSIVITY		EROSION FACTORS		WIND EROD. GROUPS	FLOODING			HIGH WATER TABLE			HYDROLOGIC GROUP
		STEEL	CONCRETE	K	T		FREQUENCY	DURATION	MONTHS	DEPTH (ft.)	KIND	MONTHS	
0-60	---	High	High	--	--	--	Frequent	Long	Dec-Apr	0.0-2.0	Apparent	Jan-Dec	D

CEMENTED PAN		BEDROCK		FROST ACTION	REMARKS
DEPTH (in.)	HARDNESS	DEPTH (in.)	HARDNESS		
--		>60		--	

SANITARY FACILITIES AND COMMUNITY DEVELOPMENT				SOURCE MATERIAL AND WATER MANAGEMENT			
USE	SOIL	RATING	RESTRICTIVE FEATURES	USE	SOIL	RATING	RESTRICTIVE FEATURES
SEPTIC TANK ABSORPTION FIELDS	1,2,3	Severe	Floods, wet	ROADFILL	1,2,3	Poor	Wet, excess humus
SEWAGE LAGOONS	1,2,3	Severe	Floods, wet	SAND	1,2,3	Unsuited	Excess humus
SANITARY LANDFILL (TRENCH)	1,2,3	Severe	Floods, wet	GRAVEL	1,2,3	Unsuited	Excess humus
SANITARY LANDFILL (AREA)	1,2,3	Severe	Floods, wet	TOPSOIL	1,2,3	Unsuited	Wet
DAILY COVER FOR LANDFILL	1,2,3	Poor	Floods, wet, excess humus	POND RESERVOIR AREA	1,2,3	Severe	Excess humus
SHALLOW EXCAVATIONS	1,2,3	Severe	Floods, wet, excess humus	EMBANKMENTS DIKES AND LEVEES	1,2,3	Severe	Low strength
DWELLINGS WITHOUT BASEMENTS	1,2,3	Severe	Floods, wet, excess humus	DRAINAGE	1,2,3	Severe	Floods, wet
DWELLINGS WITH BASEMENTS	1,2,3	Severe	Floods, wet, excess humus	IRRIGATION	1,2,3		Not needed
SMALL COMMERCIAL BUILDINGS	1,2,3	Severe	Floods, wet, excess humus	TERRACES AND DIVERSIONS	1,2,3		Not needed
LOCAL ROADS AND STREETS	1,2,3	Severe	Floods, wet, excess humus	GRASSED WATERWAYS	1,2,3		Not needed

OR-SOILS-1 12/72
FILE CODE SOILS 12

SOIL INTERPRETATIONS FOR OREGON U.S.D.A. SOIL CONSERVATION

DATE: January, 1974 GEO CLATSOP SERIES SOILS: 5 1. *Clatsop silty clay loam*

The Clatsop series consists of very poorly drained soils that formed in fine textured alluvium consisting of tidal "mud". They occupy nearly level or depressional topography in coastal bays. Where not cultivated the vegetation consists of grasses, reeds and sedges. Elevation is 1 to 5 feet. Average annual precipitation is 60 to 100 inches, average annual temperature is 50 to 52° F, and the frost free period is about 202 days.

The surface layer is about 6 inches of peat mixed with some mineral soil that is underlain by mottled very dark grayish-brown silty clay loam about 7 inches thick. The subsoil is dark gray silty clay with common mottles about 33 inches to many feet thick.

Permeability is slow. Runoff is very slow to ponded. The erosion hazard is slight. The total available water holding capacity is 7 to 9 inches.

This soil is used mainly for hay, pasture and wildlife habitat. These soils occur in the Coast Range and Valley Resource Area (A1).

(Classification: Histic Humaquepts; fine, mixed, acid, mesic family)

ESTIMATED SOIL PROPERTIES

DEPTH FROM SURFACE (in.)	CLASSIFICATION			COARSE FRACT. OVER 3 IN.	% OF MATERIAL PASSING SIEVE				LIQUID LIMIT	PLASTICITY INDEX	PERMEABILITY (in/hr)	AVAIL. WATER CAP. (in/in)	SOIL REACTION (pH)	SHRINK SWELL POTENTIAL
	USDA TEXTURE	UNIFIED	AASHO		#4	#10	#40	#200						
6-0	Peat	Pt	A-8	0		organic material			--	NP	0.6-2.0	.3-.4	4.5-5.0	Low
0-7	Silty clay loam	ML,OL	A-7	0	100	100	95-100	85-95	41-50	11-20	0.6-2.0	.15-.21	4.6-5.5	Mo
7-40	Silty clay,Clay	MH	A-7	0	100	100	95-100	85-95	50-60	15-25	.06-2.0	.15-.17	5.1-6.5	

DEPTH (in.)	CONDUCTIVITY (mmhos/cm)	CORROSIVITY		EROSION FACTORS		WIND EROD. GROUPS	FLOODING			HIGH WATER TABLE			HYDROLOGIC GROUP
		STEEL	CONCRETE	K	T		FREQUENCY	DURATION	MONTHS	DEPTH (ft.)	KIND	MONTHS	
6-0	--	High	High	--	--	--	Frequent	Brief	Dec-Mar	0.0-1.5	Apparent	Nov-June	D
0-7	--	High	High	--									
7-40	--	High	High	--									

CEMENTED PAN		BEDROCK		FROST ACTION	REMARKS
DEPTH (in.)	HARDNESS	DEPTH (in.)	HARDNESS		
--		>60		--	

SANITARY FACILITIES AND COMMUNITY DEVELOPMENT				SOURCE MATERIAL AND WATER MANAGEMENT			
USE	SOIL	RATING	RESTRICTIVE FEATURES	USE	SOIL	RATING	RESTRICTIVE FEATURES
SEPTIC TANK ABSORPTION FIELDS	1	Severe	Floods, percolates slowly, wet	ROADFILL	1	Poor	Wet, low strength
SEWAGE LAGOONS	1	Severe	Floods, wet	SAND	1	Unsuited	Excess fines
SANITARY LANDFILL (TRENCH)	1	Severe	Floods, wet	GRAVEL	1	Unsuited	Excess fines
SANITARY LANDFILL (AREA)	1	Severe	Floods, wet	TOPSOIL	1	Poor	Wet
DAILY COVER FOR LANDFILL	1	Poor	Wet, excess humus, thin layer	POND RESERVOIR AREA	1	Slight	Favorable
SHALLOW EXCAVATIONS	1	Severe	Floods, wet	EMBANKMENTS DIKES AND LEVEES	1	Moderate	Shrink-swell, excess humus
DWELLINGS WITHOUT BASEMENTS	1	Severe	Floods, wet	DRAINAGE	1	Severe	Floods, wet
DWELLINGS WITH BASEMENTS	1	Severe	Floods, wet	IRRIGATION	1		Not needed
SMALL COMMERCIAL BUILDINGS	1	Severe	Floods, wet	TERRACES AND DIVERSIONS	1		Not needed
LOCAL ROADS AND STREETS	1	Severe	Floods, wet, low strength	GRASSED WATERWAYS	1		Not needed

DATE: October, 1973 GBT, GEO Ecola SERIES SOILS: 13 1. Ecola silt loam, 20-60% slope

The Ecola series consists of well drained silt loam over silty clay loam soils developed in colluvium and residium weathered from siltstone and shale on gently sloping to steep uplands. The native vegetation is Douglas-fir, Western hemlock, Sitka spruce, red alder, salal, salmonberry, vine maple, and sword fern. Elevation ranges from 100 to 2000 feet. The average annual air temperature is 50°F.; average annual precipitation is 80 to 100 inches; and the frost-free period (32°F.) is about 250 days.

The surface layer is very dark grayish brown, friable silt loam about 6 inches thick. The subsoil is dark yellowish brown slightly sticky and plastic silty clay loam about 31 inches thick. Depth to siltstone is 20 to 40 inches.

Permeability is moderate. Runoff is slow to rapid and the erosion hazard is high. Total available water holding capacity is 4 to 8 inches. The annual water supplying capacity is 18 to 22 inches. The effective rooting depth is 20 to 40 inches.

The soil is primarily used for timber production with homesites and permanent pasture as secondary uses. The soil occurs in Northwest Oregon within the Northern Pacific Coast Range and Valleys Land Resource Area (MLRA A-1).

(Classification: Typic (Andic) Haplumbrepts, fine-silty, mixed, mesic family).

ESTIMATED SOIL PROPERTIES

DEPTH FROM SURFACE (in.)	CLASSIFICATION			COARSE FRACT. OVER 3 IN.	% OF MATERIAL PASSING SIEVE				LIQUID LIMIT	PLASTICITY INDEX	PERMEABILITY (in/hr)	AVAIL. WATER CAP. (in/in)	SOIL REACTION (pH)	SHRINK SWELL POTENTIAL
	USDA TEXTURE	UNIFIED	AASHO		#4	#10	#40	#200						
0-6	Silt loam	ML	A-4	0	100	100	90-100	70-90	25-35	0-5	0.60-2.0	.19-.21	5.0-5.5	Low
6-37	Silty clay loam	ML	A-4	0	85-95	80-90	75-90	70-85	35-40	5-10	0.60-2.0	.19-.21	4.5-5.5	Moderate
37-50	Partially weathered siltstone													

DEPTH (in.)	CONDUCTIVITY (mmhos/cm)	CORROSIVITY		EROSION FACTORS		WIND EROD. GROUPS	FLOODING			HIGH WATER TABLE			HYDROLOGIC GROUP
		STEEL	CONCRETE	K	T		FREQUENCY	DURATION	MONTHS	DEPTH (ft.)	KIND	MONTHS	
0-6	-	High	High	.32	5	5	None			> 6			B
6-37	-			.37									

CEMENTED PAN		BEDROCK		FROST ACTION	REMARKS
DEPTH (in.)	HARDNESS	DEPTH (in.)	HARDNESS		
-		20-40	rippable	-	

SANITARY FACILITIES AND COMMUNITY DEVELOPMENT				SOURCE MATERIAL AND WATER MANAGEMENT			
USE	SOIL	RATING	RESTRICTIVE FEATURES	USE	SOIL	RATING	RESTRICTIVE FEATURES
SEPTIC TANK ABSORPTION FIELDS	1	Severe	Slope	ROADFILL	1	Poor	Slope
SEWAGE LAGOONS	1	Severe	Slope, depth to rock	SAND	1	Unsuited	Excessive fines
SANITARY LANDFILL (TRENCH)	1	Severe	Slope, depth to rock	GRAVEL	1	Unsuited	Excessive fines
SANITARY LANDFILL (AREA)	1	Severe	Slope	TOPSOIL	1	Poor	Slope
DAILY COVER FOR LANDFILL	1	Severe	Slope	POND RESERVOIR AREA	1	Severe	Slope
SHALLOW EXCAVATIONS	1	Severe	Slope, depth to rock	EMBANKMENTS DIKES AND LEVEES	1	Severe	Slope
DWELLINGS WITHOUT BASEMENTS	1	Severe	Slope	DRAINAGE	1		Not needed
DWELLINGS WITH BASEMENTS	1	Severe	Slope, depth to rock	IRRIGATION	1	Poor	Slope
SMALL COMMERCIAL BUILDINGS	1	Severe	Slope	TERRACES AND DIVERSIONS	1	Severe	Slope
LOCAL ROADS AND STREETS	1	Severe	Slope	GRASSED WATERWAYS	1	Severe	Slope

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SUP COUNTY SOIL SURVEY, OREGON. 0 ¼ ½ MILE

OF COPY 4.7 COPY FACTOR 33.3 % NEG. SCALE 1.57 DATE COPIED APR. 1973

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P COUNTY SOIL SURVEY, OREGON. 0 ¼ ½ MILE

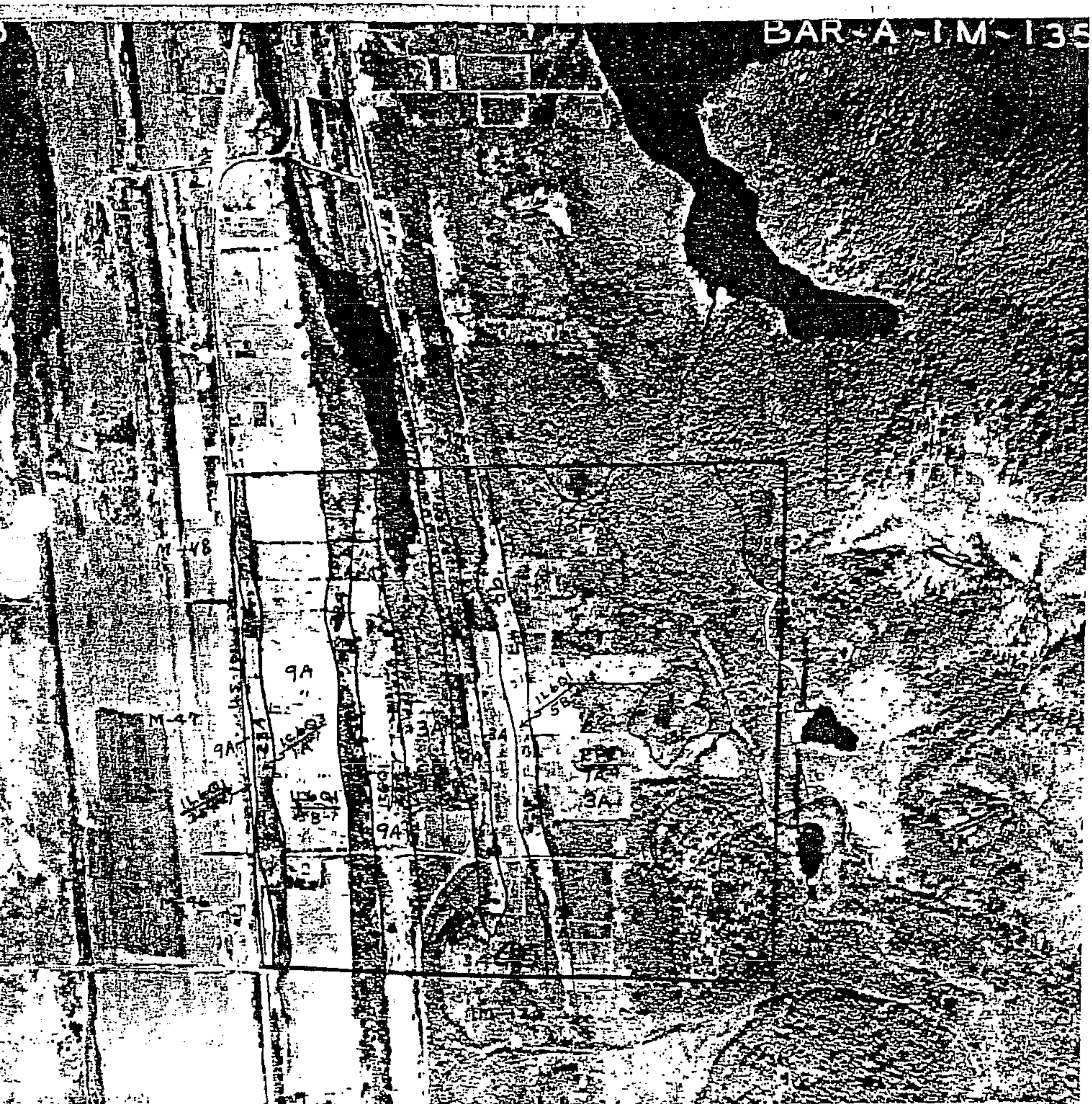
OF COPY 47 COPY FACTOR 53.3 NEG. SCALE 1:57 DATE COPIED APR. 1983

USDA - SCS ADVANCE COPY - SUBJECT TO CHANGE

0 ¼ ½

LUTI COUNTY SOIL SURVEY, OREGON

OF COPY 4.7 COPY FACTOR 33.3 NEG. SCALE 1:57 DATE PRINT. APR 83



USDA - SCS ADVANCE COPY - SUBJECT TO CHANGE

COUNTY SOIL SURVEY,

0 1/4 1/2

SCALE OF COPY 4.7 COPY FACTOR 33.3

Sources used:

- Beaches and Dunes of the Oregon Coast by Oregon Coastal Conservation and Development Commission.

- Clatsop Plains Groundwater Protection Plan, Groundwater Evaluation Report by Sweet, Edwards and Associates, Inc., December, 1981.

- See, Paul. Letter from Paul See regarding geologic setting of Cullaby Lake dated August 25, 1983.

- U.S. Soil Conservation Service, Detailed Maps of Soil Interpretations for Oregon (OR-Soils-1).

- Visual Resources Analysis of the Oregon Coastal Zone by Oregon Coastal Conservation and Development Commission.

OCEAN AND COASTAL
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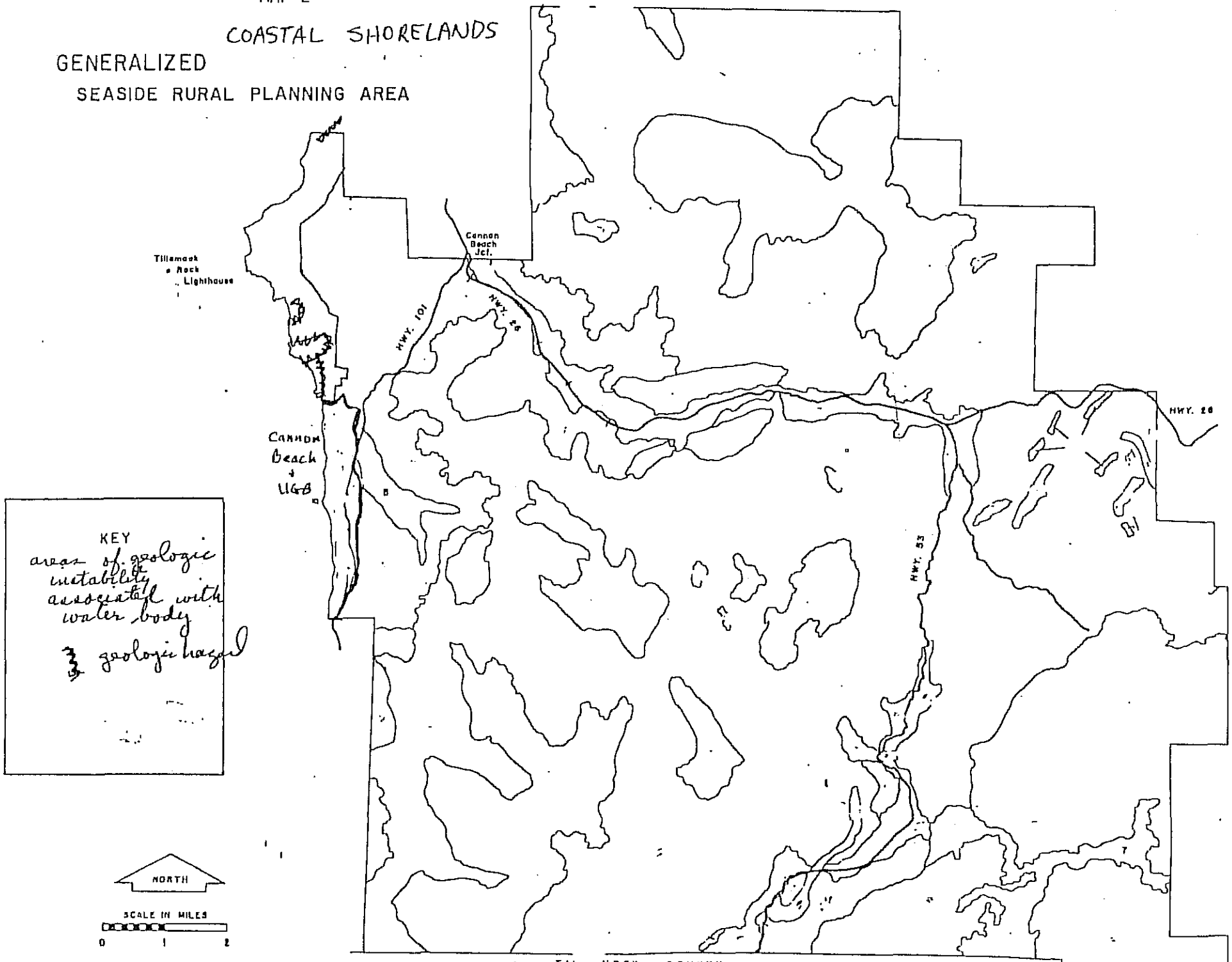
For Detailed Mapping see maps in the Clatsop County Department of Planning and Development.

MAP 2

COASTAL SHORELANDS

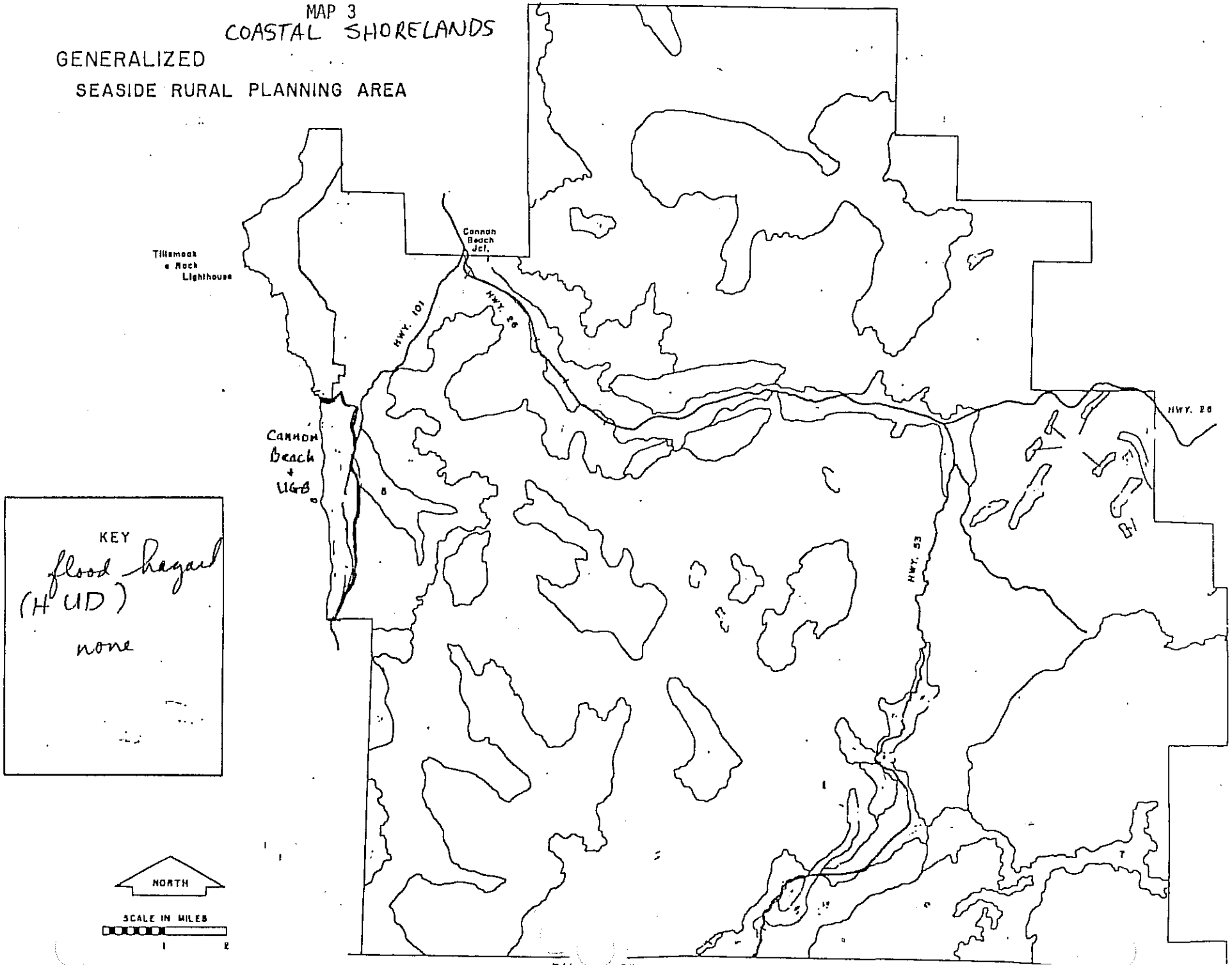
GENERALIZED

SEASIDE RURAL PLANNING AREA



MAP 3
COASTAL SHORELANDS

GENERALIZED
SEASIDE RURAL PLANNING AREA

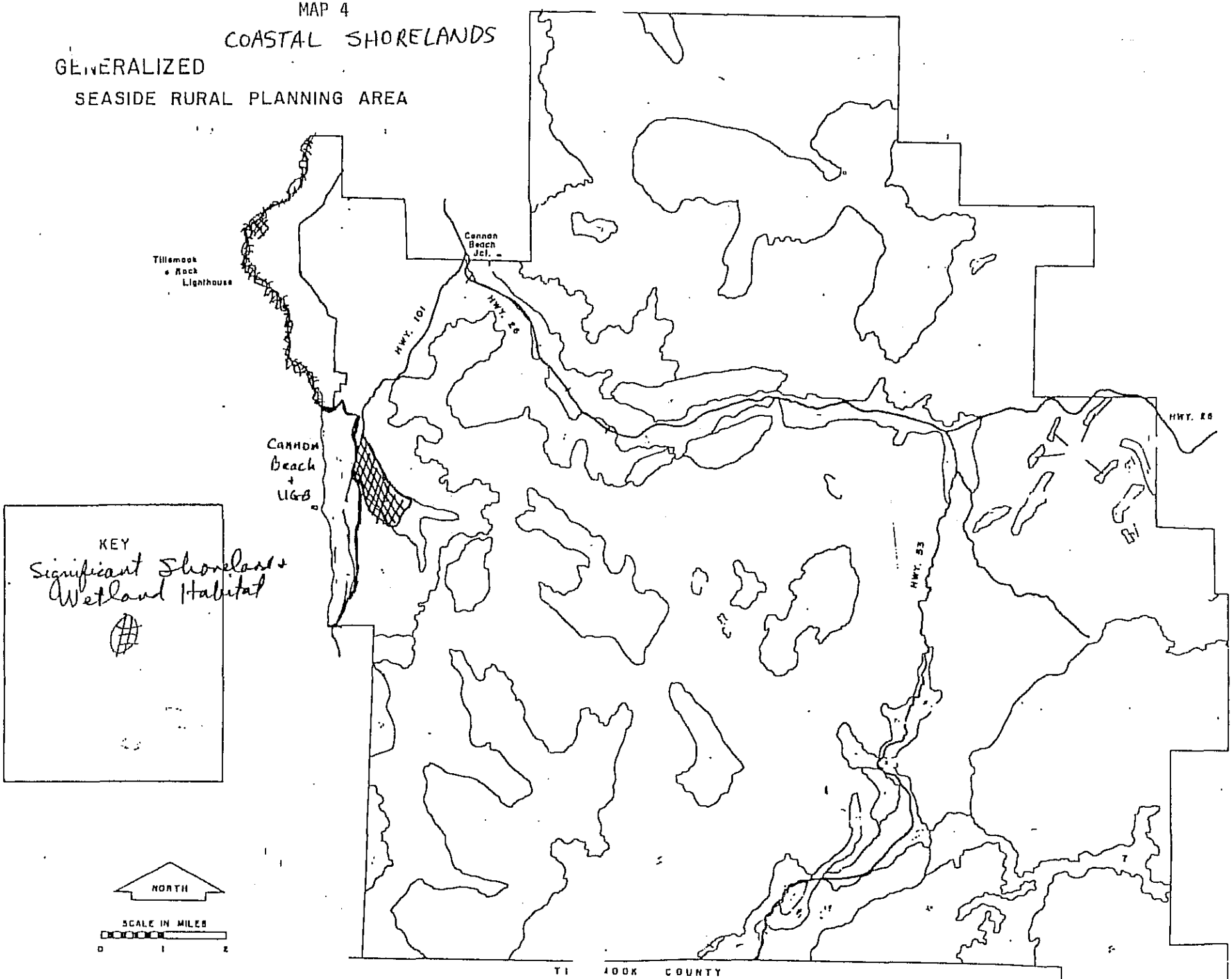


MAP 4

COASTAL SHORELANDS

GENERALIZED

SEASIDE RURAL PLANNING AREA

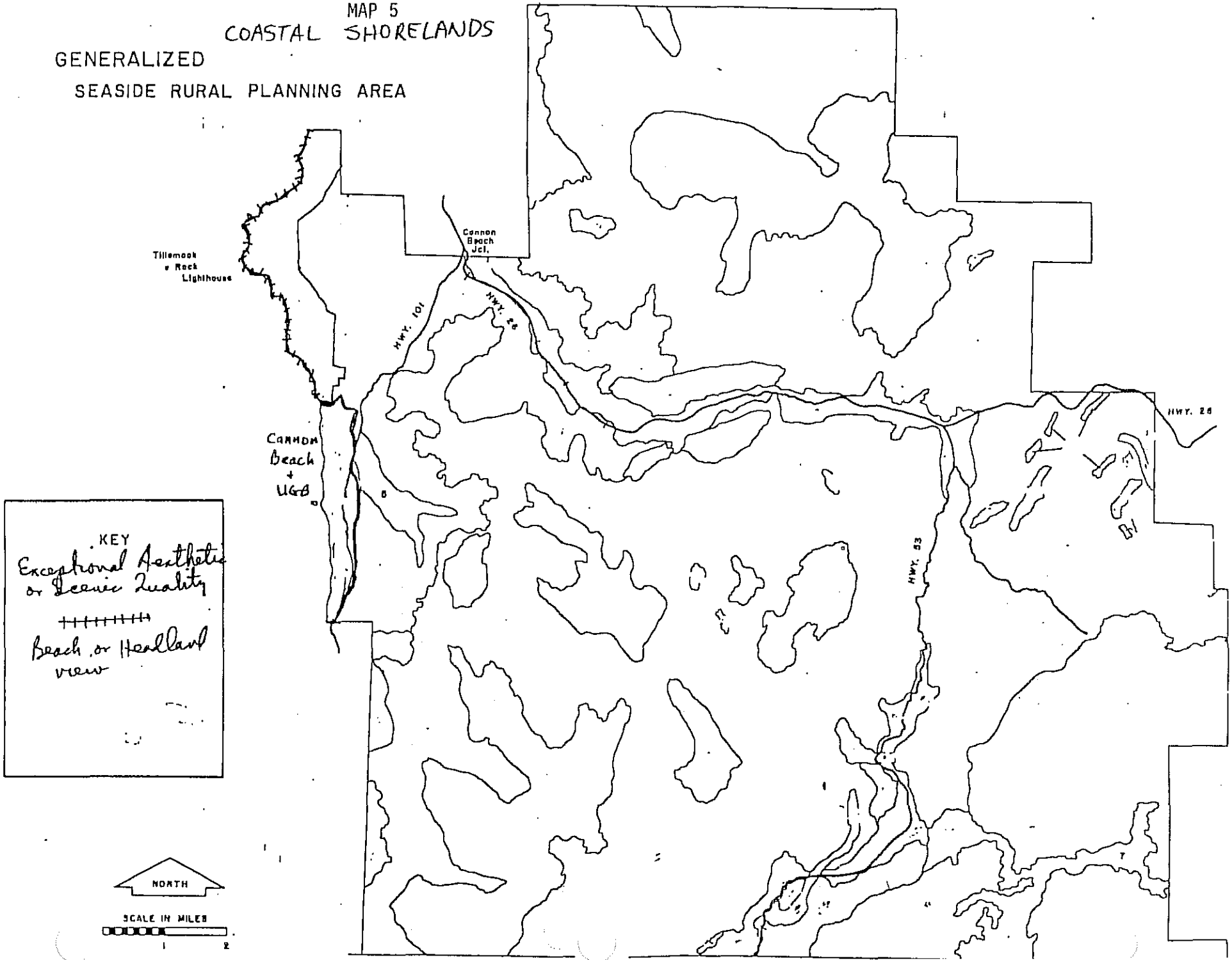


MAP 5

COASTAL SHORELANDS

GENERALIZED

SEASIDE RURAL PLANNING AREA

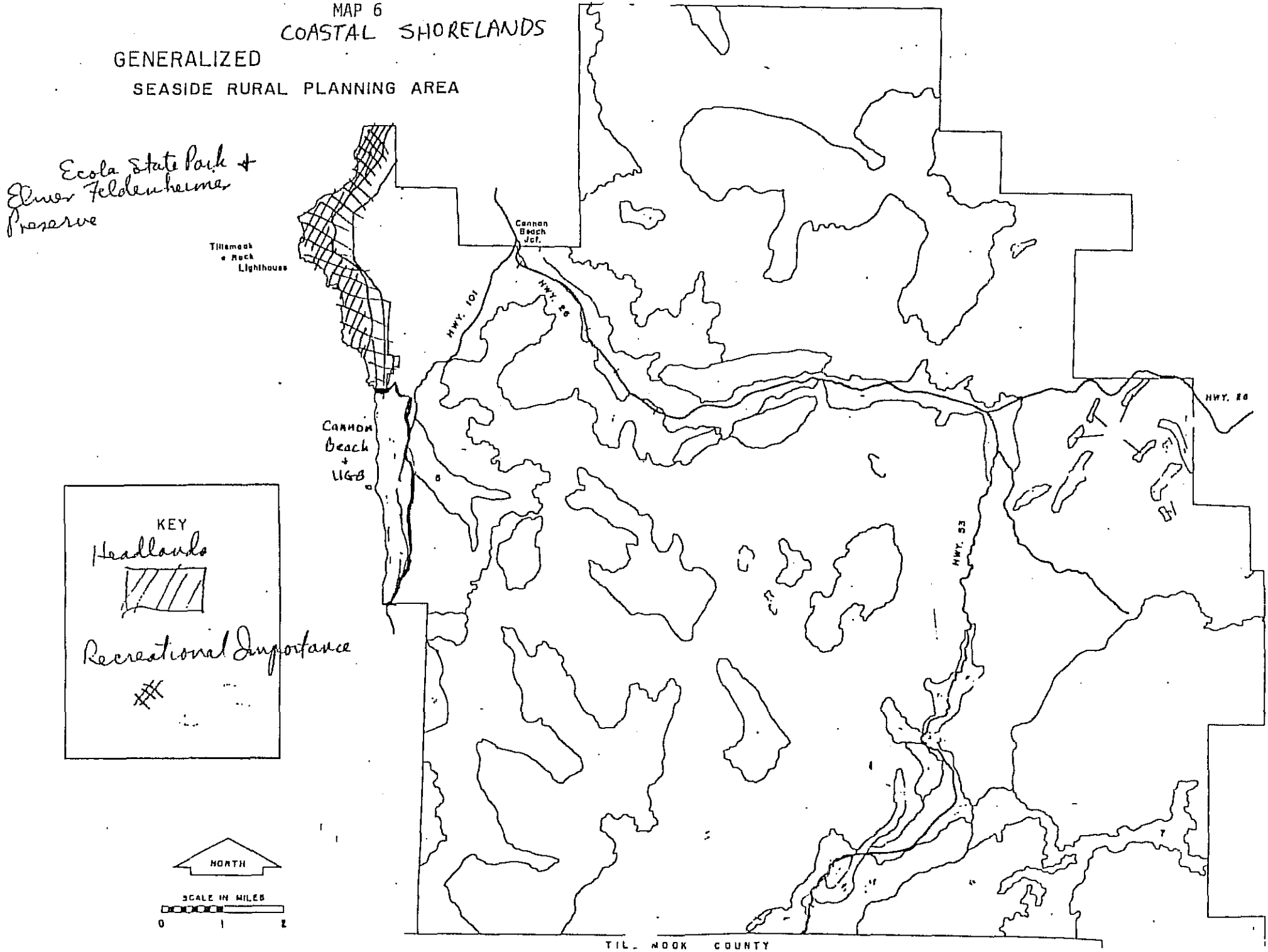


MAP 6

COASTAL SHORELANDS

GENERALIZED

SEASIDE RURAL PLANNING AREA



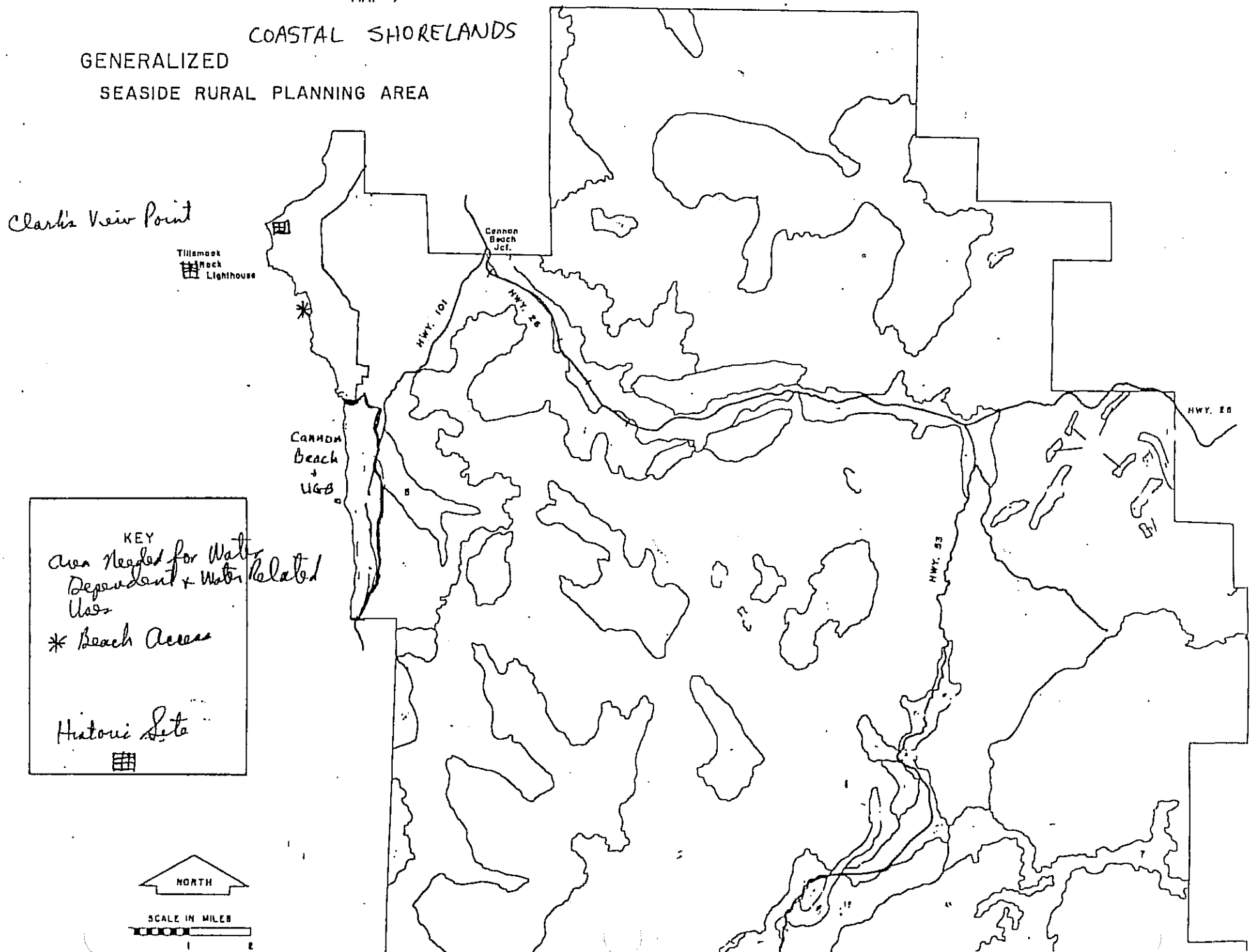
43.

MAP 7

COASTAL SHORELANDS

GENERALIZED

SEASIDE RURAL PLANNING AREA

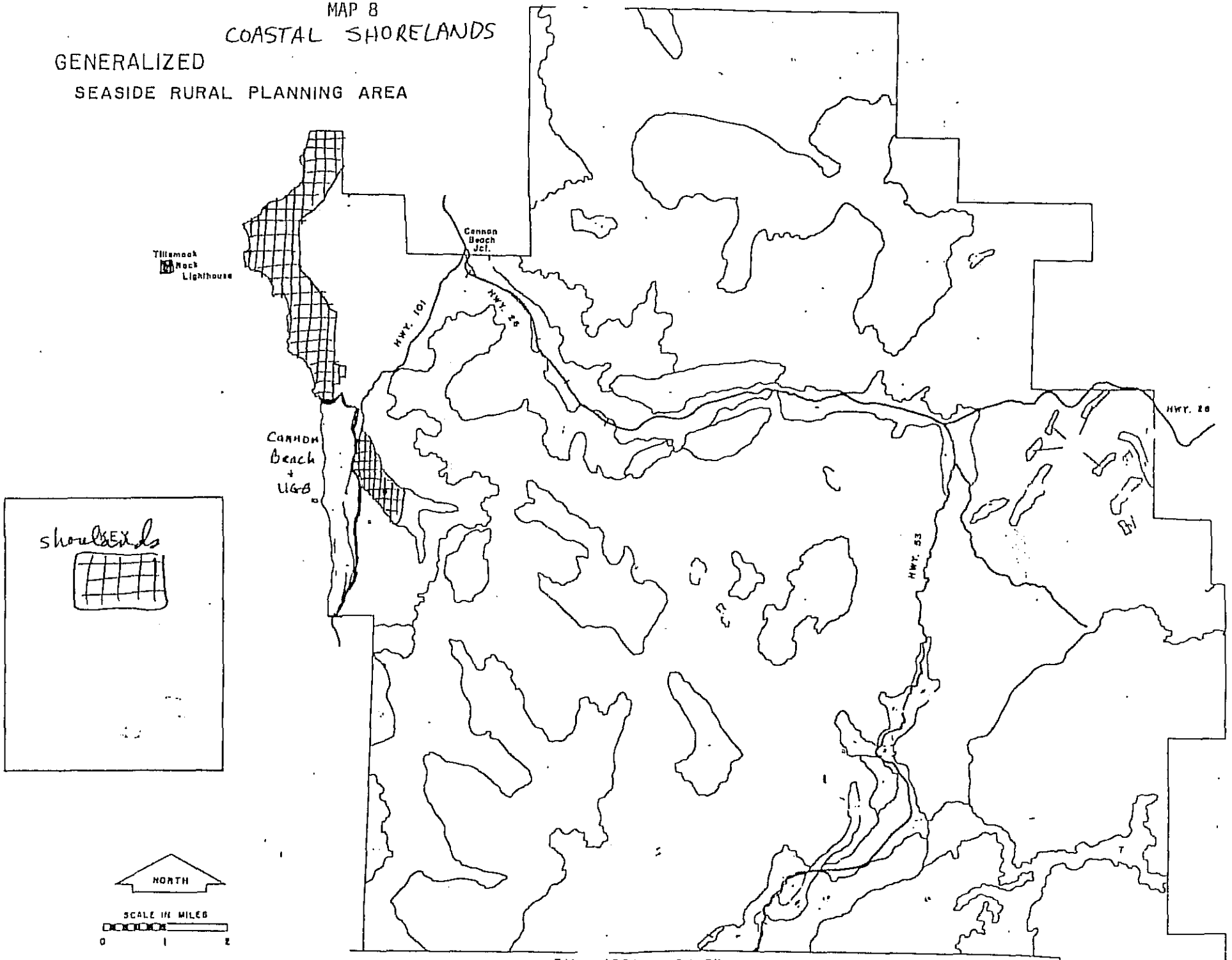


MAP 8

COASTAL SHORELANDS

GENERALIZED

SEASIDE RURAL PLANNING AREA

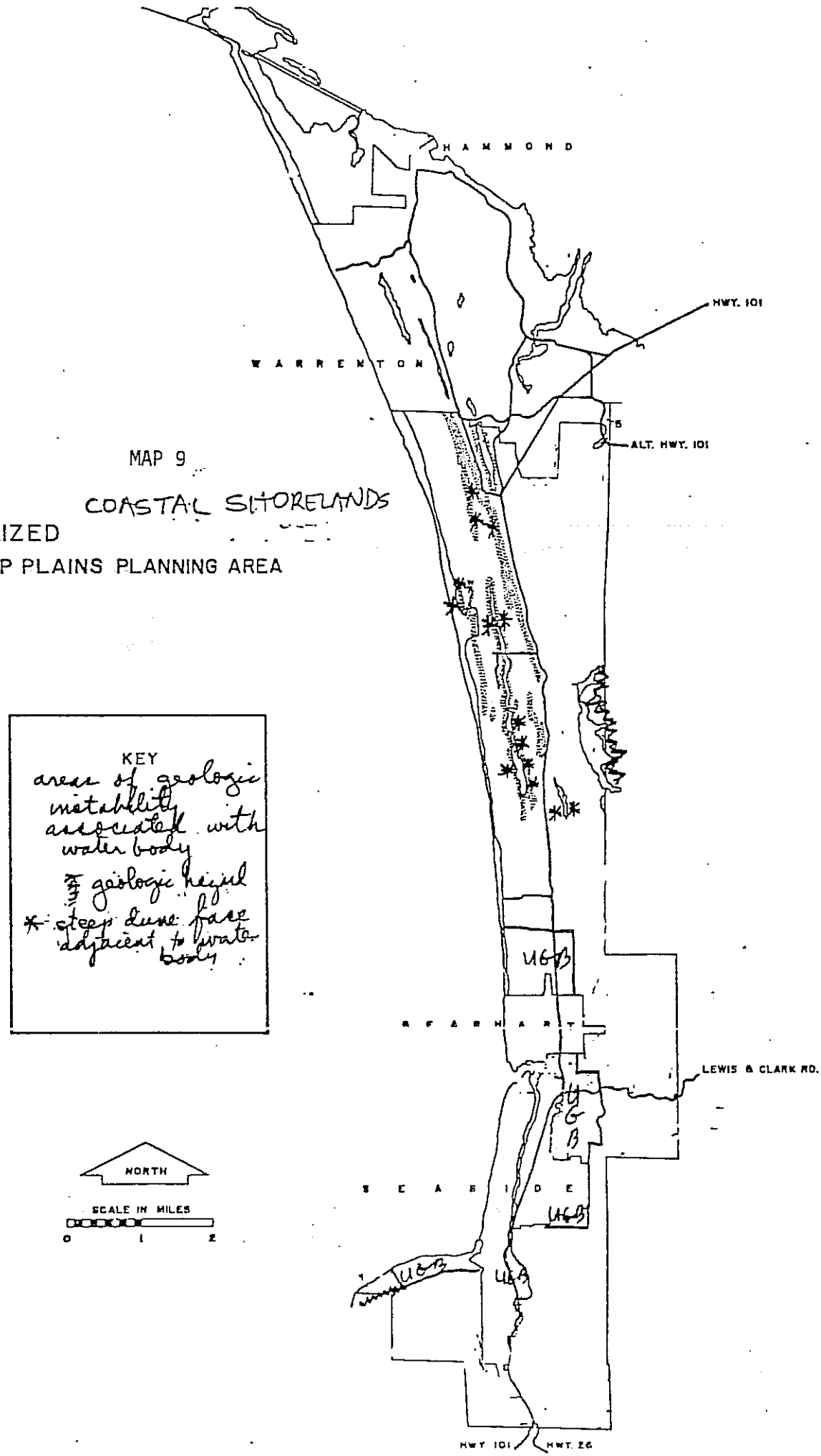


MAP 9

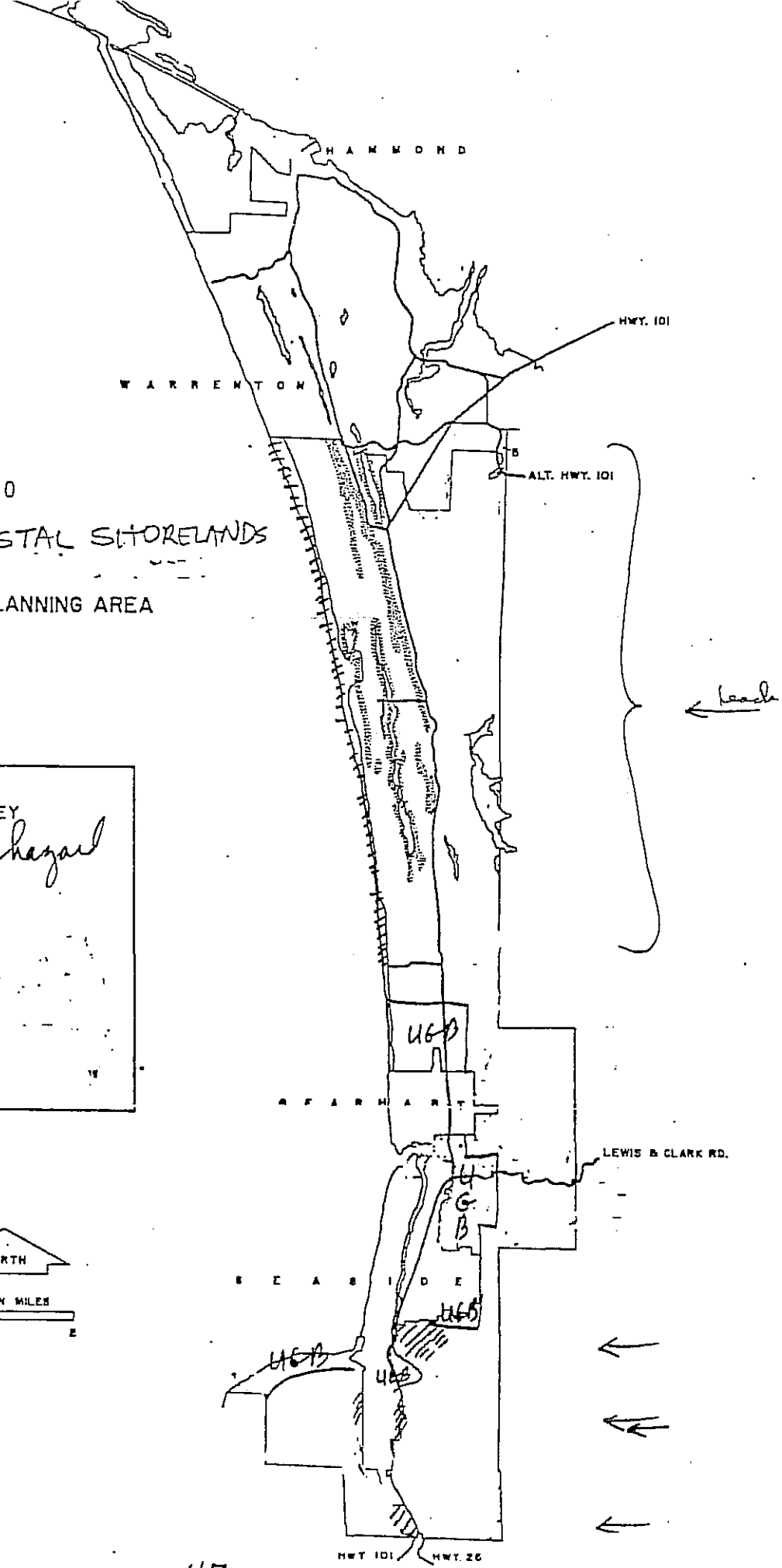
COASTAL SHORELANDS

GENERALIZED

CLATSOP PLAINS PLANNING AREA



Page IV



MAP 10

COASTAL SHORELANDS

GENERALIZED

CLATSOP PLAINS PLANNING AREA

KEY

flood hazard (H.U.D.)

NORTH

SCALE IN MILES

0 1 2

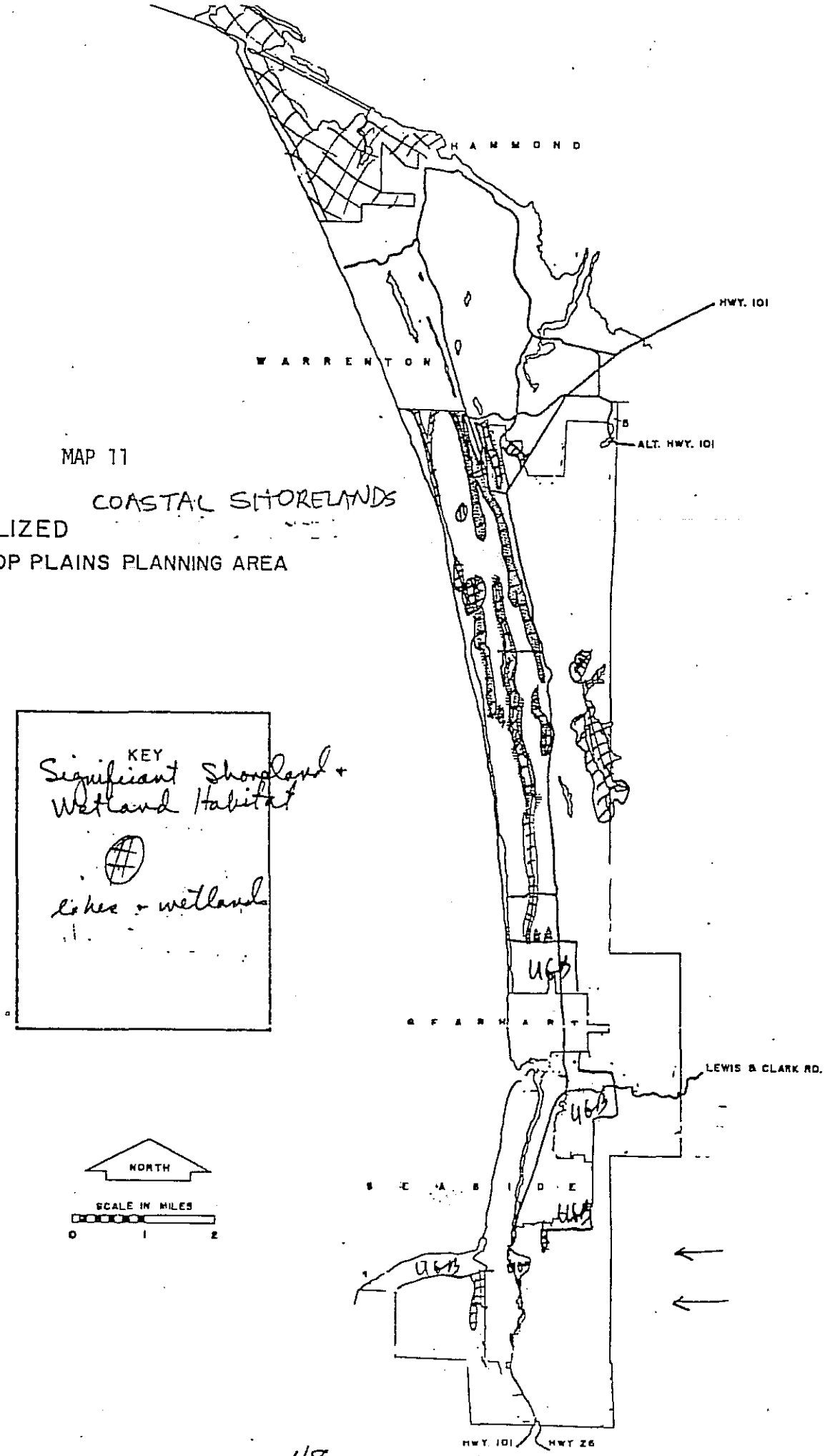
see Map

MAP 11

COASTAL SHORELANDS

GENERALIZED

CLATSOP PLAINS PLANNING AREA



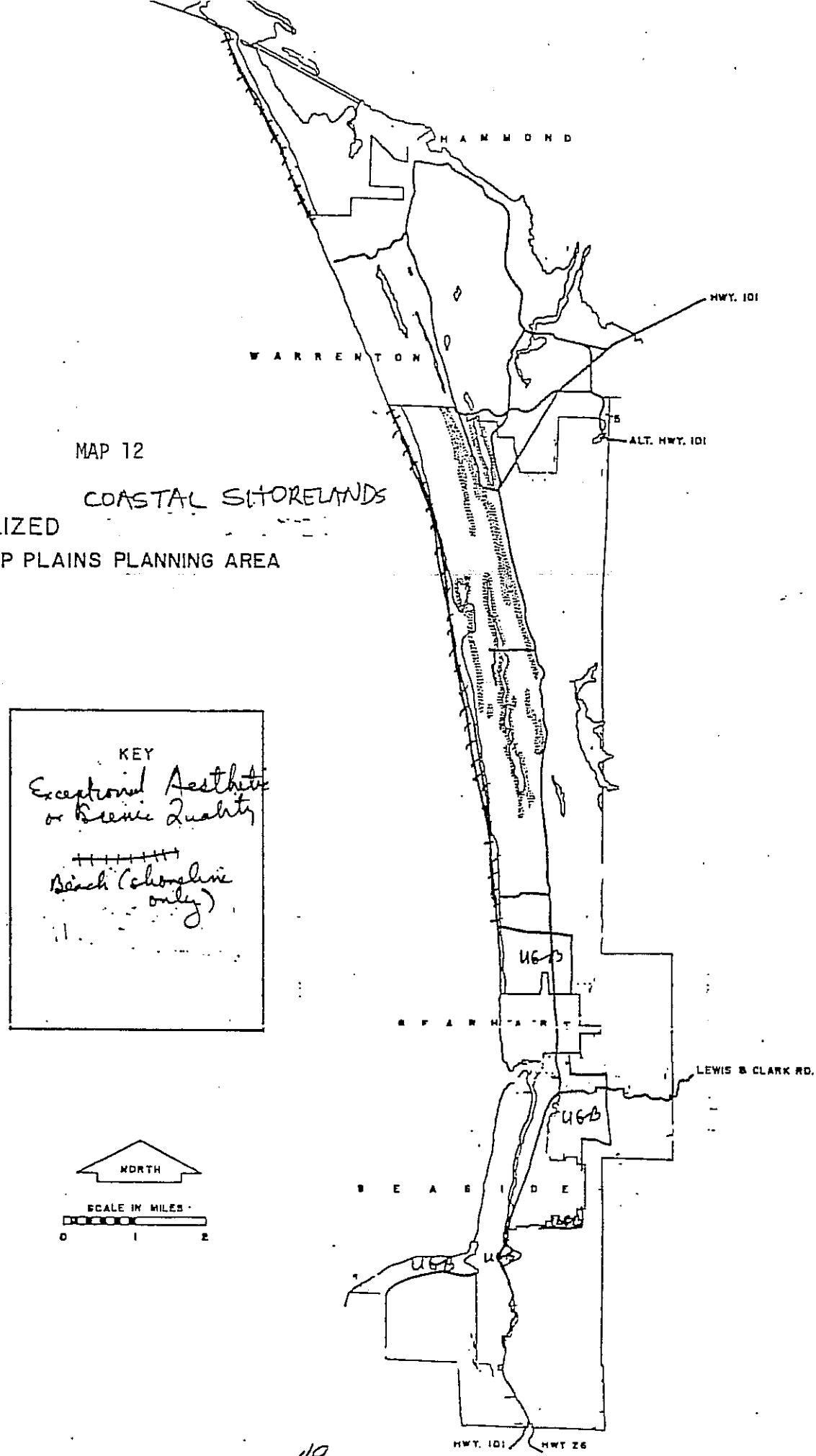
see IV 3.?

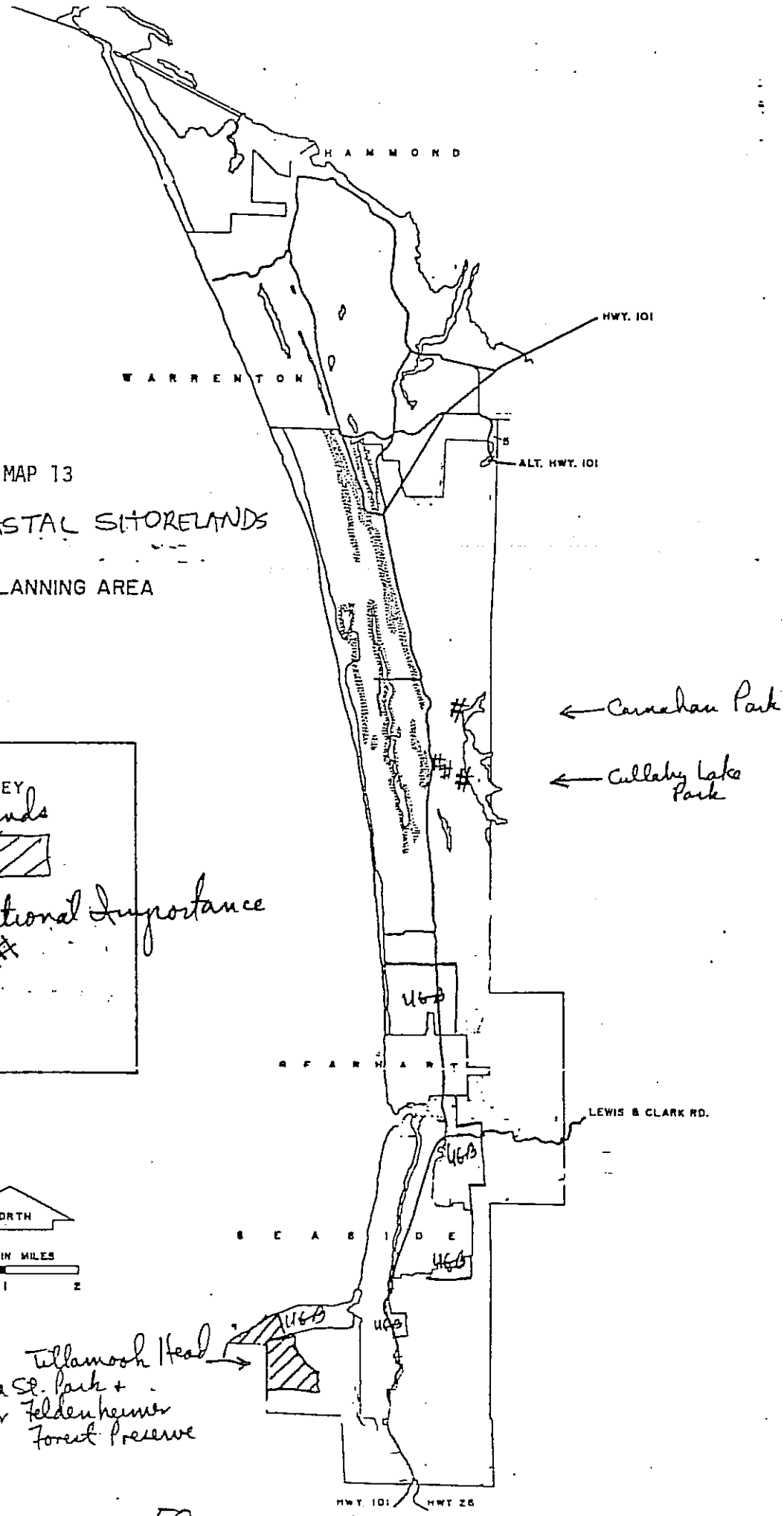
MAP 12

COASTAL SHORELANDS

GENERALIZED

CLATSOP PLAINS PLANNING AREA





MAP 13

COASTAL SHORELANDS

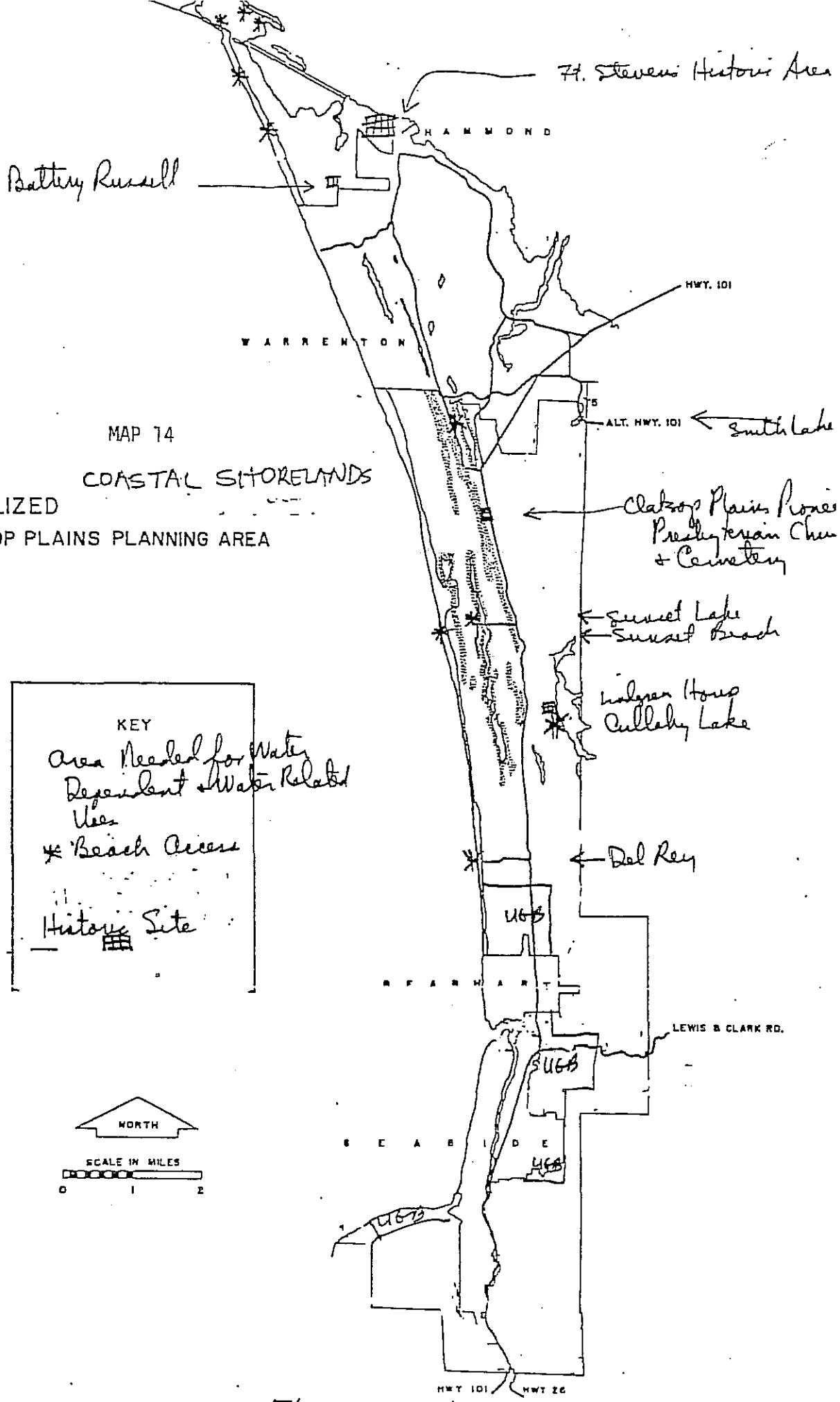
GENERALIZED

CLATSOP PLAINS PLANNING AREA

KEY

Headlands

Recreational Importance



MAP 14

COASTAL SHORELANDS

GENERALIZED

CLATSOP PLAINS PLANNING AREA

KEY

Area Needed for Water Dependent + Water Related Uses

* Beach Access

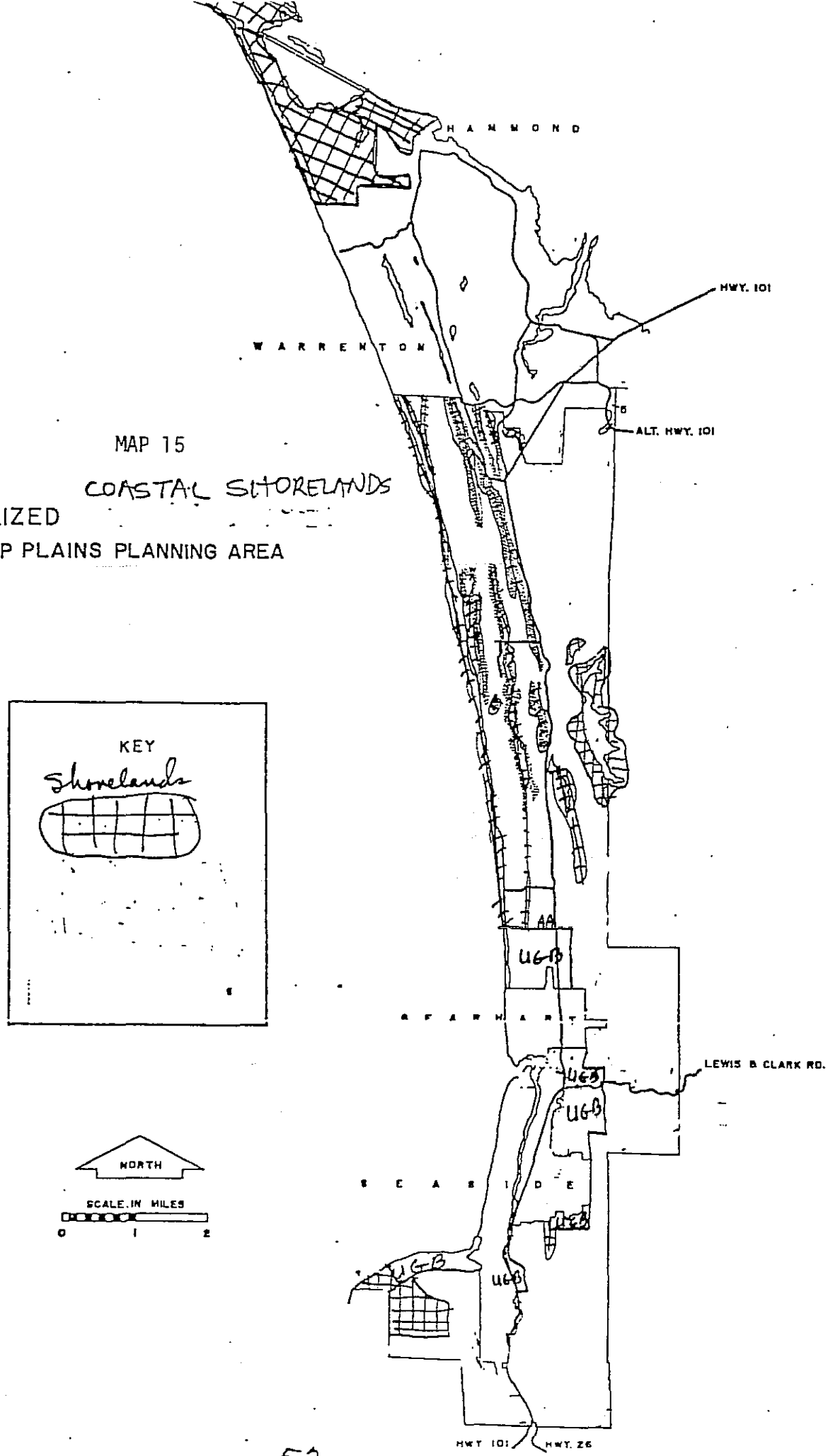
Historic Site

MAP 15

COASTAL SHORELANDS

GENERALIZED

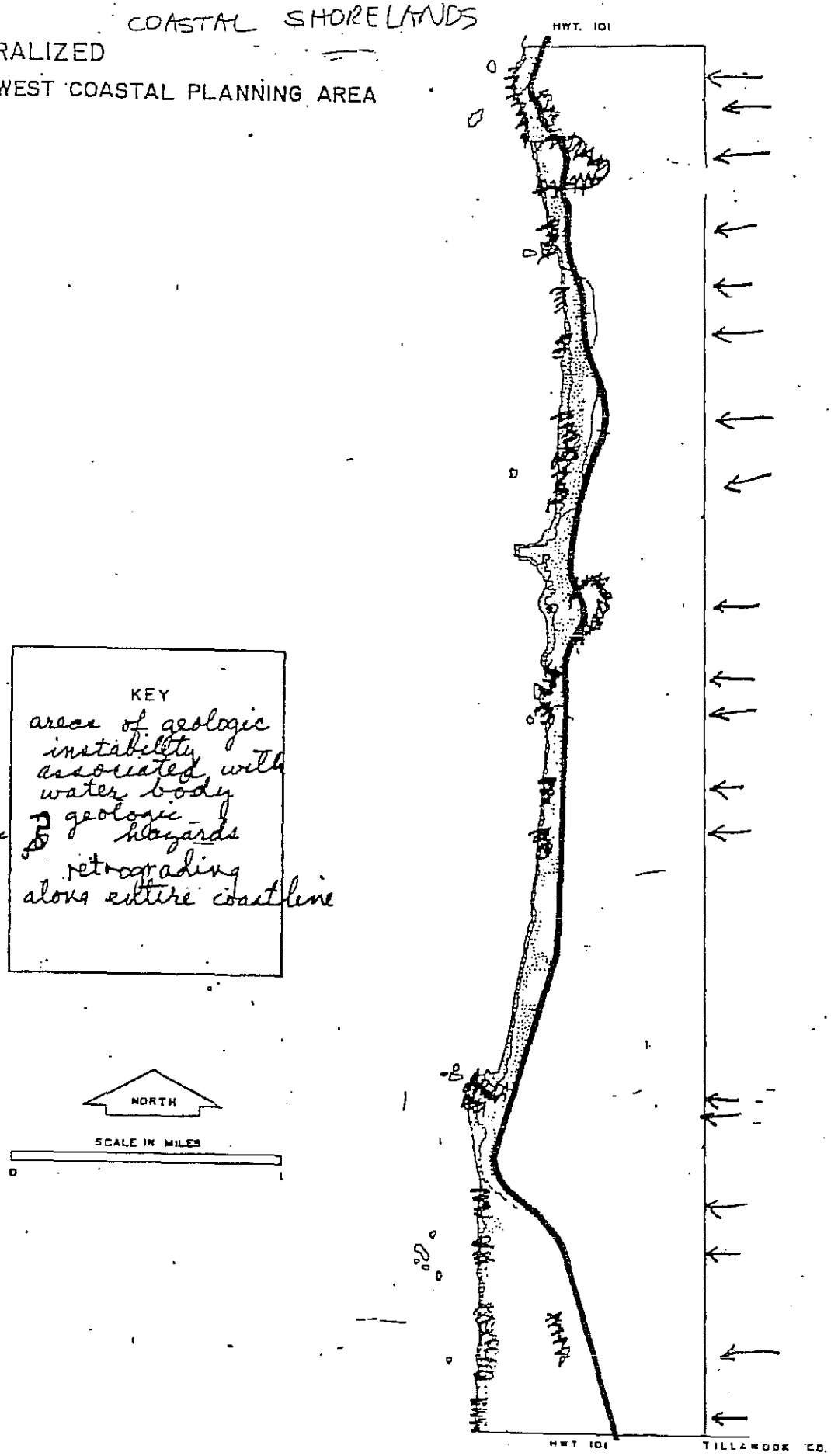
CLATSOP PLAINS PLANNING AREA



MAP 16

COASTAL SHORELANDS

GENERALIZED
SOUTHWEST COASTAL PLANNING AREA



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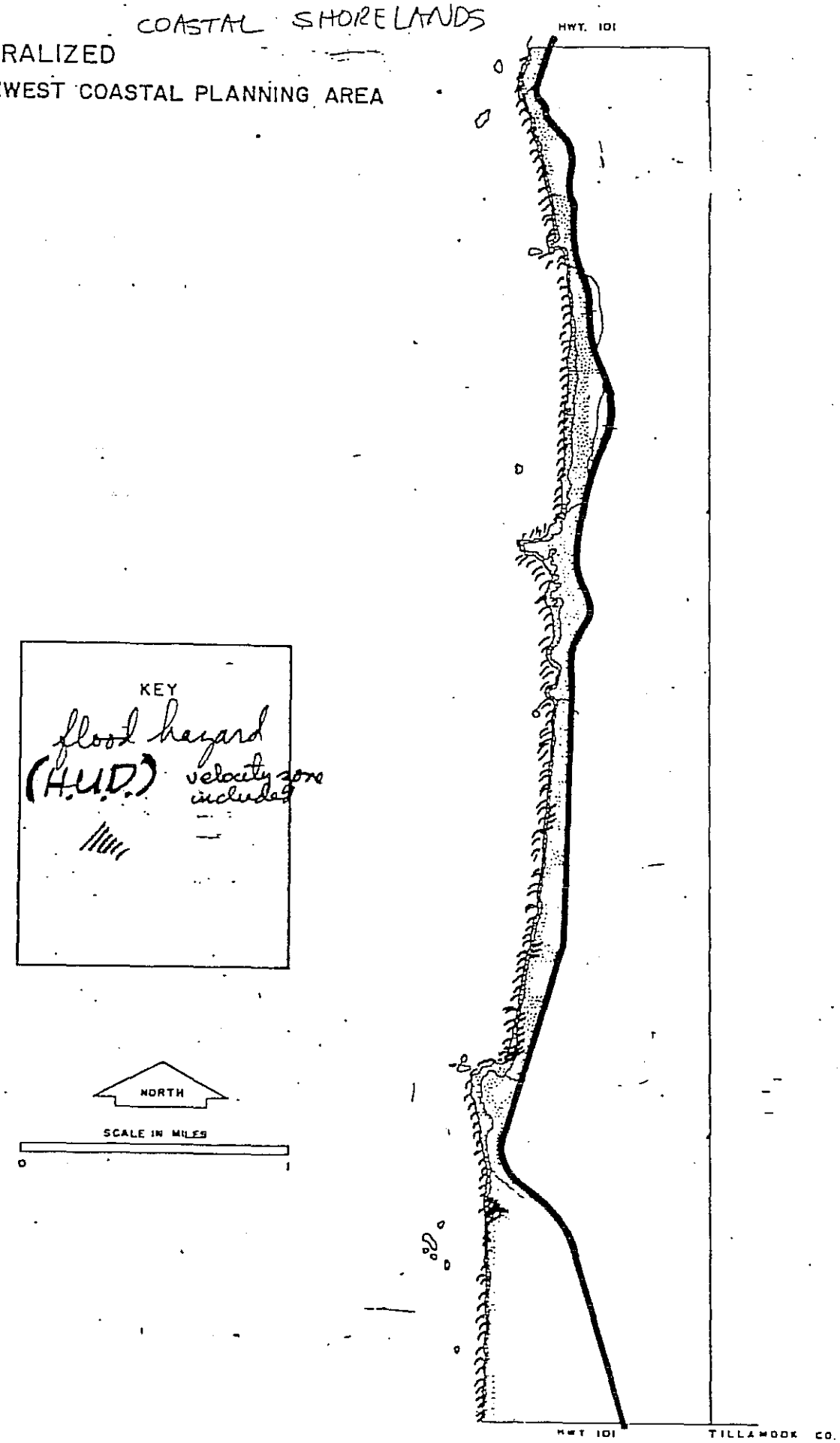
MAP 17

COASTAL SHORELANDS

GENERALIZED

SOUTHWEST COASTAL PLANNING AREA

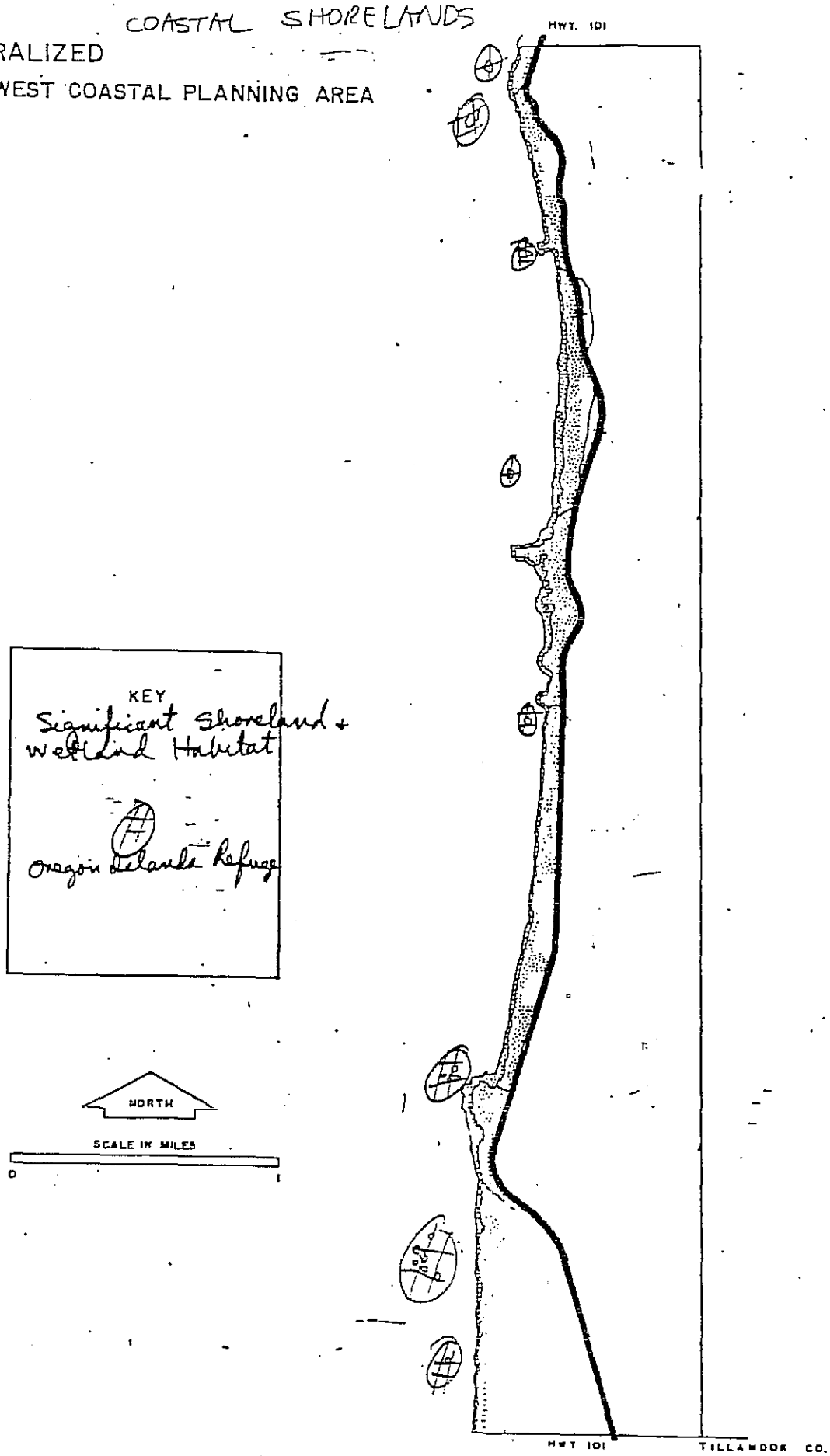


MAP 18

COASTAL SHORELANDS

GENERALIZED

SOUTHWEST COASTAL PLANNING AREA

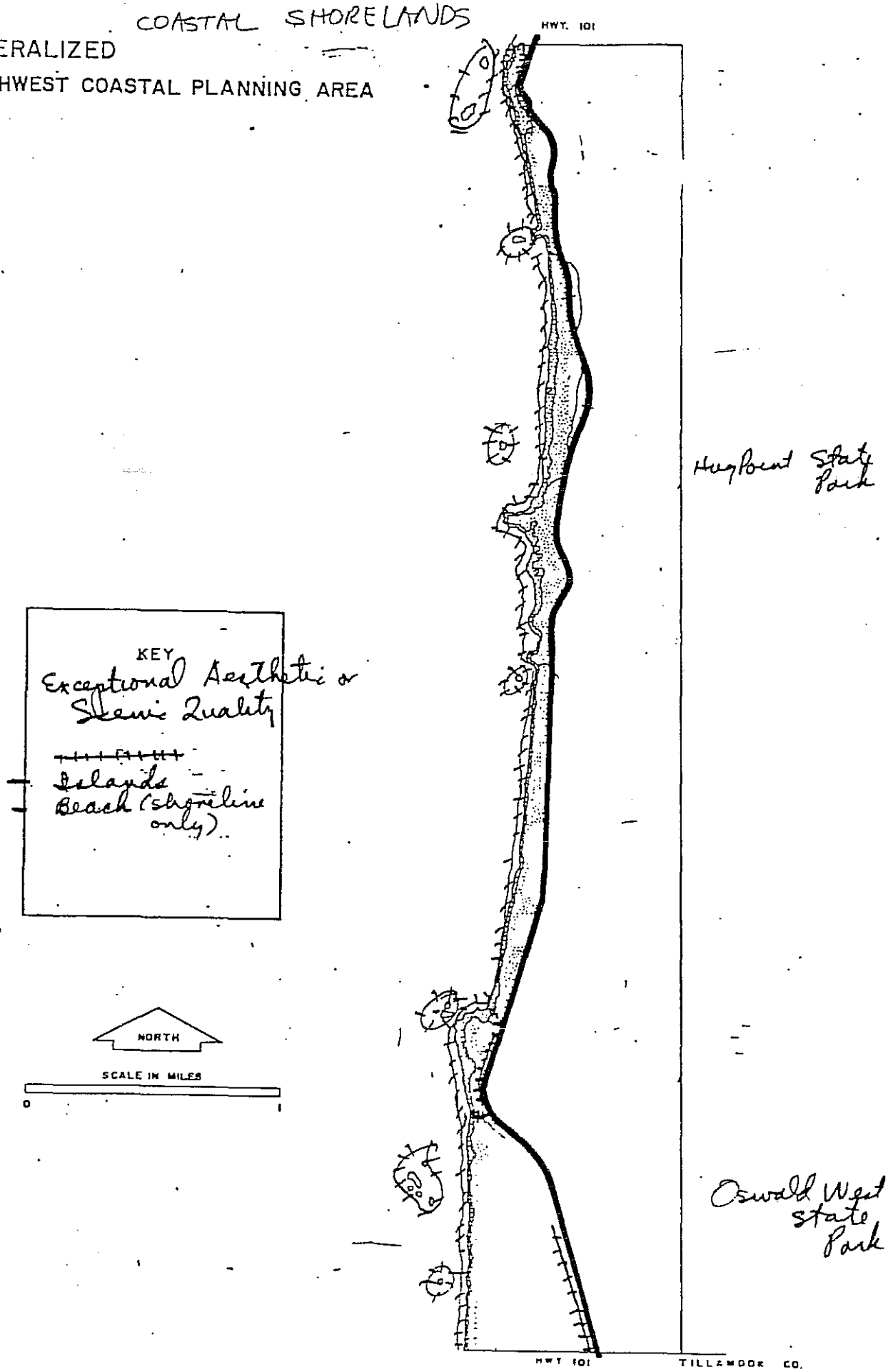


MAP 19

COASTAL SHORELANDS

GENERALIZED

SOUTHWEST COASTAL PLANNING AREA

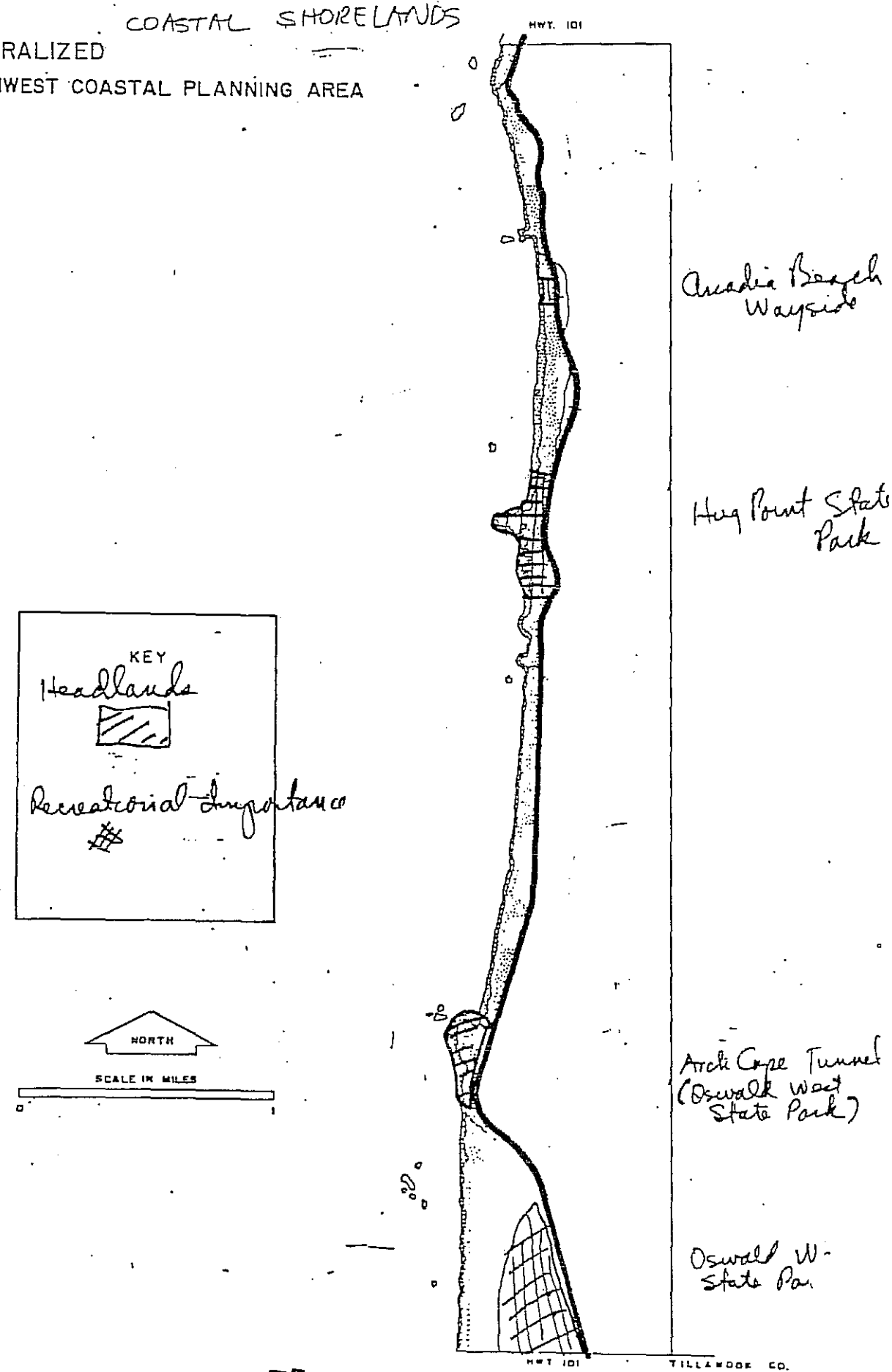


MAP 20

COASTAL SHORELANDS

GENERALIZED

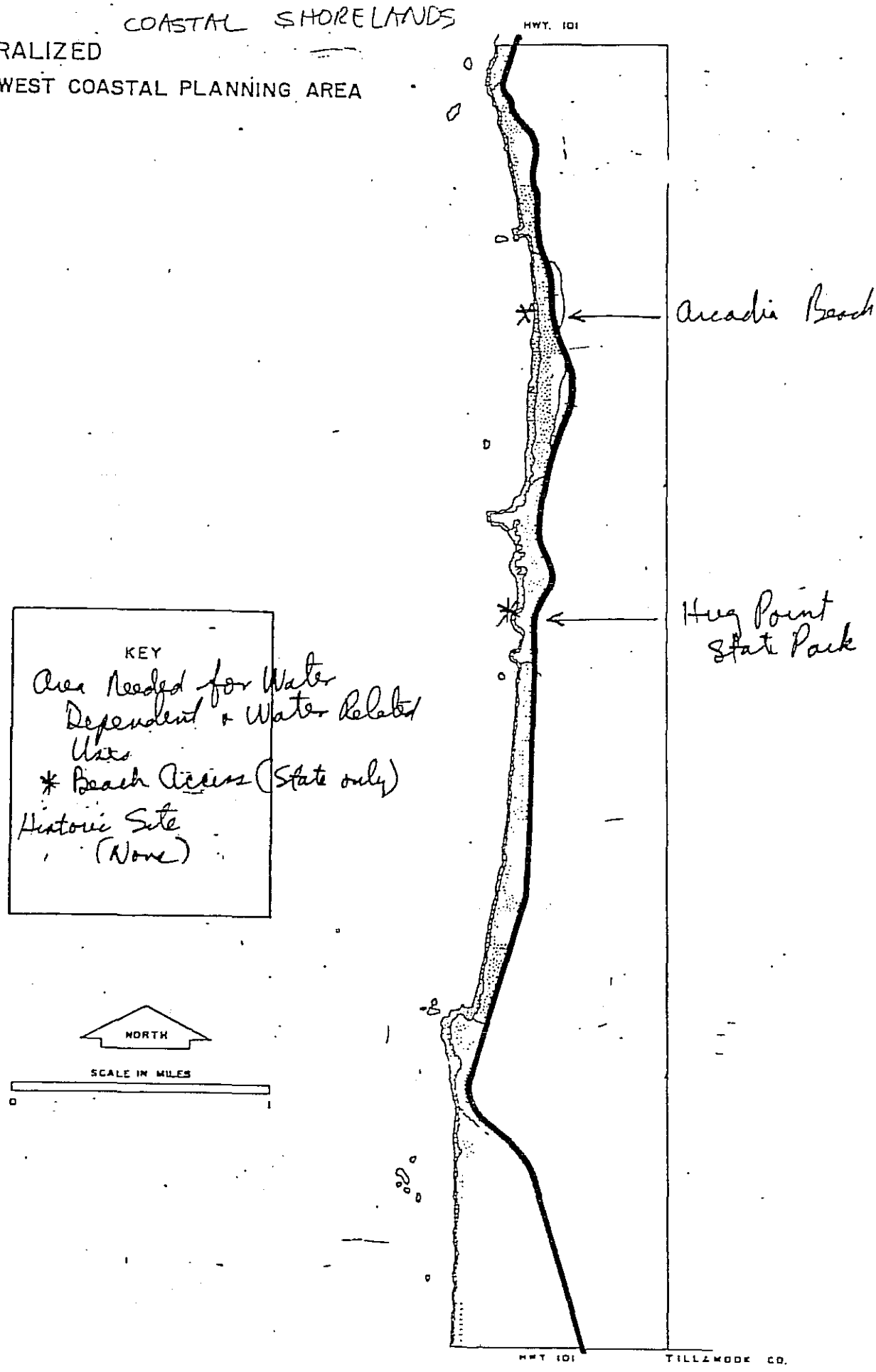
SOUTHWEST COASTAL PLANNING AREA



MAP 21

COASTAL SHORELANDS

GENERALIZED
SOUTHWEST COASTAL PLANNING AREA



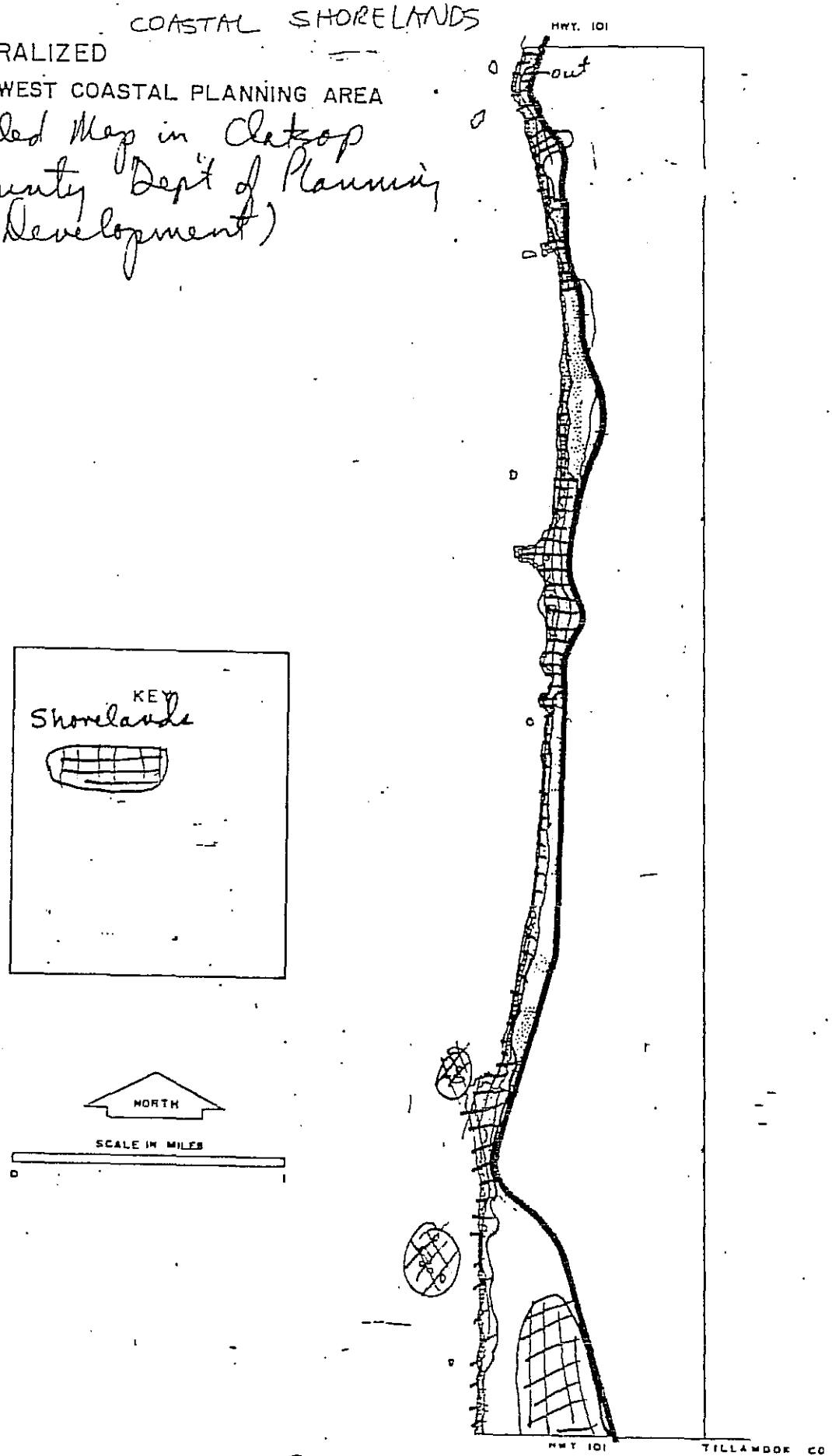
MAP 22

COASTAL SHORELANDS

GENERALIZED

SOUTHWEST COASTAL PLANNING AREA

(Detailed Map in Clatsop County Dept of Planning + Development)



SIGNIFICANT SHORELAND AND WETLAND HABITATS IN THE CLATSOP PLAINS

A report to CTIC and CREST from Duncan Thomas, identifying wetland, shoreland and riparian values, and describing the significant sites in the Clatsop Plains and the Columbia River Floodplain.

JUNE 1982

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SIGNIFICANT SHORELANDS AND WILDLIFE HABITAT

This large coastal and estuarine area contains sand dune uplands together with deflation plain and peat bog wetlands. The sand dune uplands still supports some natural and semi-natural* areas, and some of these are significant wildlife habitat under Statewide Planning Goal 17:

1) Foredune grasslands
2) Dune forests

Other types of upland habitat which are likely to be significant in Clatsop County are also outlined here:

3) Old growth forest
4) Dredge-spoil islands in the Columbia River
5) Critical wildlife habitat areas identified by ODFW.

1) Foredune Grasslands

The foredune ridge is widest and lowest at the northern end of the Clatsop Plains, where it is associated with extensive deflation plain wetlands. South of Sunset Beach the dunes become higher, and deflation plains are absent close to the ocean. The foredune grasslands extend from Clatsop Spit to the Necanicum Estuary; they are of variable width in Fort Stevens State Park, and about 500 - 700 ft. wide southwards from it.

The foredunes are of recent origin. The construction of the Columbia jetties at the turn of the century altered the pattern of sand movement along the coast, causing the growth of the sand dunes westwards into the ocean, until the coastline stabilized in its present location. Sand also blew inland, destroying natural vegetation on the older dunes, covering farmland and damaging property (USDA Circular 660, 1942). The foredunes were therefore stabilized during the 1930's by the US Department of Agriculture, using introduced beach

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* Semi-natural - an area which has received some human disturbance in the past, but now resembles a natural ecosystem.

grasses. These plantings were successful and the introduced species now behave as native grasses. In addition, a large number of native and introduced dune species colonized the foredunes, forming an extensive semi-natural grassland.

This dune grassland is locally important to wildlife species; in this predominantly forested region, grassland is rare except for lowland pastures. Consequently, the coastal grassland is important to the large numbers of bird and mammal species which feed on the seeds and shoots of grasses and other herbaceous plants, as well as to the predators, particularly birds of prey, which hunt in the grasslands. Migratory birds include flocks of snow buntings, Lapland longspurs and various sparrows. Raptors, which use the area regularly or occasionally, include marsh hawks, short-eared owls, snowy owls, red-tailed hawks, American kestrals, rough-legged hawks, peregrine falcons and probably other species. The dune grassland is extensively used by black-tailed deer.

Suitable uses of the foredunes are recreational: a limited number of access roads to the ocean beaches with parking lots and facilities, are appropriate; bike trails and footpaths are also suitable. Destruction of the grassland by heavy off-road vehicle use should be prevented, since this will lead to destruction of the grassland by moving sand and the loss of its resource value.

2) Dune Forests

The second dune ridge which is older than the foredunes, but whose vegetation was destroyed when the system became mobile, was planted with coastal pine (Pinus contorta var. contorta) and now supports an even-aged stand of this species. This community supports birds and mammals typical of coniferous forest in the area. The wildlife value of the coastal pine forest will increase as the trees mature, but is currently not very high. Good examples of this community occur in Fort Stevens State Park and in several localities south to Gearhart,

but have not been mapped as significant for this study.

Further inland the dunes may support forests of Sitka spruce and hemlock, often with a dense understory of berry-bearing shrubs such as salal, evergreen huckleberry and salmonberry. This is the climax vegetation of sand dunes on Gearhart fine sandy loam, and is therefore of scientific interest as a component of the dune ecosystem. It also supports populations of black-tailed deer and other mammals and birds. The best examples of this spruce/hemlock dune forest are in Fort Stevens State Park (in Warrenton and Clatsop County). In addition, there are a few other examples in Warrenton which have been mapped as significant. In all cases where significant spruce/hemlock forest has been identified, it is associated with coastal lakes and deflation plain wetlands, and consequently forms sand dune natural resource areas with high habitat diversity.

Recreational uses, including footpaths and bike trails are consistent with the protection of these uplands.

3) Old Growth Forest

Elsewhere in Clatsop County, examples of significant upland areas are natural ecosystems, particularly old growth forest. This habitat type has been so heavily impacted that insufficient acreage remains to supply the needs of natural resource protection. Thus, the remaining old growth forest in the County has exceptionally high resource value and should be protected. An investigation is needed to establish criteria for the protection of areas of mature forest to insure that some of these will eventually proceed to old growth. This might at least bring the resource up to a minimum level. Suitable actions would be the preservation of riparian corridors along rivers, scenic forest corridors along roads, and areas of potentially spectacular scenery, such as mountainsides along the coast and river canyons. Low intensity recreation is about the only use compatible with the protection of old-growth forest.

4) Dredge-spoil Islands in the Columbia River

Another habitat of significance to wildlife is dredge-spoil islands in the Columbia River. Because of their remoteness from human disturbance and protection from some predators, these are important bird nesting areas for gulls and Caspian terns and are also extensively used by fur-bearing mammals. Protection of these values is compatible with a number of other uses, such as dredge material disposal outside the nesting season.

5) Critical Wildlife Habitat Areas Identified by ODFW

The Oregon Department of Fish and Wildlife has defined the following areas of critical wildlife habitat in their report, "Fish and Wildlife Habitat Protection Plan for Clatsop County" (1976). These areas should be protected.

Critical habitat for Roosevelt Elk

Critical habitat for Columbia White-tailed Deer

Critical areas for the nesting of birds, particularly:

- Snowy Plover (nests on young dunes)
- Great Blue Heron (nests in colonies in mature trees)
- Cliff and Island-nesting seabirds
- Birds of prey, particularly Bald Eagle (and Osprey) nests

RIPARIAN VEGETATION

In Oregon, riparian vegetation is described in the Statewide Planning Goals as being an attribute of the shore adjacent to aquatic areas. A definition of riparian vegetation is therefore difficult, since it is dependent upon the characteristics of the aquatic area. The following seven sections fully describe the functional and spatial relationships between riparian vegetation and aquatic areas, and can be used for field identification. Where vegetation which meets these criteria is present,

it should be protected. The major tracts of riparian vegetation in the Clatsop Plains and Columbia River Estuary were mapped during this project.

Riparian vegetation is a difficult concept and is therefore discussed in some detail in seven sections below. These are:

1) Riparian vegetation types
2) Width and location of riparian zones
3) Functions of riparian vegetation
4) Definitions of "shoreline"
5) The extent of riparian vegetation (1) within riparian zones (2)
6) Non-riparian vegetation within riparian zones
7) Riparian zones around significant wetlands

1) Riparian Vegetation Types

a) Trees and shrubs growing on upland adjacent to an aquatic area.

b) Trees and shrubs (taller than 12 ft.) growing in wetland (Sect. 7).

c) Non-significant emergent marsh or low shrub wetland, except where this is managed for agricultural use.

2) Width and Location of Riparian Zones

a) In a zone up to 50 feet wide from the shorelines of:

-- lakes of surface area exceeding 1 acre.

-- estuaries up to the heads of tide.

-- larger creeks and rivers (average annual flow exceeding 100 cu. ft/sec.)

-- areas of significant wetland habitat, except where the wetland vegetation is trees and shrubs exceeding 12 ft. in height (Sect. 7).

b) In a zone up to 30 feet wide from the shorelines of:

-- smaller creeks (average annual flow less than 100 cu.ft/sec.)

-- diked sloughs of width exceeding 15 ft. for some of their length.

3) Functions of Riparian Vegetation

a) It maintains water temperature and quality and enhances fish habitats.

b) It provides bank stabilization.

c) It provides habitats for the breeding, feeding and resting of both aquatic and upland wildlife species.

d) It protects aquatic ecosystems from unnecessary human disturbance.

4) Definitions of "Shoreline"

a) On estuaries, the line of non-aquatic (upland) vegetation, or mean higher high water where vegetation is absent.

b) Ordinary high water on lakes, rivers and other bodies of non-tidal water.

c) On significant wetland areas the shoreline is defined here as the boundary of the significant area.

5) The Extent of Riparian Vegetation (1) Within Riparian Zones (2)

Within the riparian zones defined in section 2, riparian vegetation defined in section 1 may extend for all or for only a part of the maximum zone width from the shoreline. Riparian vegetation ends at either:

a) The landward boundary of the zone defined in section 2, or

b) Within the zone riparian vegetation may end at the boundary with non-riparian vegetation defined in section 6.

6) Non-riparian Vegetation Within Riparian Zones

Riparian vegetation is not agricultural crops, land managed as pasture, horticultural or landscaped areas, or unvegetated areas.

7) Riparian Zones Around Significant Wetlands

Wetland areas dominated by woody plants exceeding 12 feet in height fulfill the riparian functions described in section 3. Around an area of significant wetland, the riparian vegetation may be composed entirely or partially of forested wetland (Figure 3).

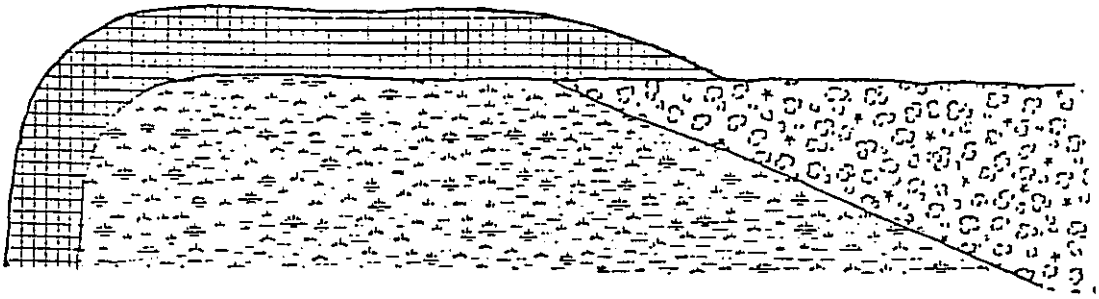
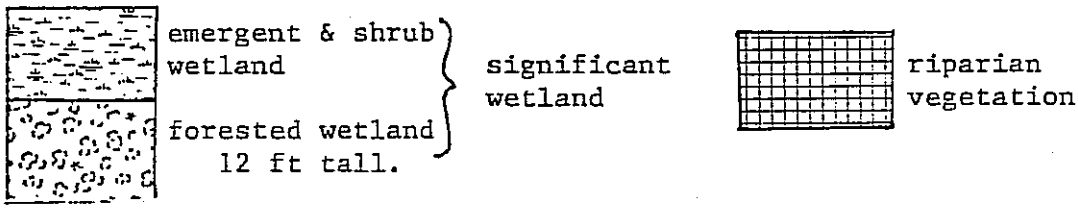


Figure 1. The location of a 50 ft wide riparian zone around a significant wetland area dominated partly by emergent vegetation and partly by woody vegetatation exceeding 12 ft in height.



WETLANDS DESCRIPTION

i) WETLAND TYPES

In the Clatsop Plains, three kinds of wetlands were identified, each characterized by different hydrology. These are:

1) Young Deflation Plains
2) Older Deflation Plains
3) Peat Bogs
4) Columbia Floodplain and Necanicum Floodplain

1) Young deflation plains are found near the ocean in recently accreted areas. They are characterized by species: poor marsh or swamp vegetation on immature, sandy soils. The water-table fluctuates so that wetlands are flooded during wet times of year, and the soil surface is moist or even dry at other times. The ratio of standing water to other types of wetland is relatively low. These wetlands have rather low natural resource value, but their significance is enhanced on account of their great extent and because they are part of a fine, natural sand dune system with great habitat diversity.

2) Older deflation plains generally occur in the middle of the Plains, between foredunes with young deflation plains and the peat bogs. They are generally long (north-south axis) and narrow in shape, and contain coastal lakes with marshes, swamps and riparian vegetation. The ratio of open water to other wetlands is relatively high. The high natural resource values and the high habitat diversity of these areas makes them the most important of the wetland areas. These lakes depend upon the ground-water in the dune system. They are characterized by small drainage areas and often lack inflow and outflow channels. They are hydrologically dependent upon the movement of water through the course sand of the dune system, probably have slow turn-over rates, and are very susceptible to water pollution. The marshes and swamps may be flooded permanently or seasonally, but the surface soil - usually with high organic content - is permanently saturated.

3) Bogs occur in deflation plains or lagoons which have filled in with organic material. They are generally broad and occur furthest from the ocean, adjacent to Clatsop Ridge. Lakes are a less prominent feature than in old deflation plains, but some important ones are present. The gradual in-filling of lagoons and deflation plains by peat raises the surface relative to the water table, so that many areas of bog are seldom flooded, but remain saturated and poorly drained at all times due to the water-retaining properties of the soil. These wetlands have moderate natural values overall, but values may be high locally. Bogs occur in Hammond and Warrenton, along the Skipanon River, and from Cullaby Lake south to Stanley Lake. In the past, most bogs were drained for agricultural use, but some of these have subsequently reverted to a natural condition.

4) The Columbia River Estuary floodplain was formerly tidal marshes and swamps and is now diked. Significant wetlands in this area are likely to be substantially altered from their original condition. Natural resource areas which have been identified include tide-gated sloughs and areas of marsh and swamp. In most instances, the restoration of these wetlands to the estuary would be appropriate management. They

have moderate fish and wildlife value, and form a system of non-tidal wetlands associated with the estuary, thereby increasing the area's habitat diversity.

The Necanicum River and estuary are located at the southern end of the Clatsop Plains, and the course sandscent peats of the dune system changes to riverine silts and gravels. As a result, small creeks, oxbows and ponds become more important features in Necanicum flood-plain marshes, which have moderate to high wildlife value.

RIVERINE HABITAT. Although the Clatop Plains have extensive wetlands, these are not linked to important river systems, with the notable exception of the Necanicum River. Generally, drainage channels through the Clatsop Plains marshes are maintained by man, and where they are not maintained, become blocked by vegetation and by beavers. Riverine wetland and riparian habitat is therefore of very limited distribution and importance.

ii WETLAND MANAGEMENT

The wetlands can be divided into open water areas and marshes/swamps for a discussion of management.

With open water areas, the main problem is likely to be eutrophication by septic tank leachate and fertilizer. At present, many lakes have a very dense growth of water-weed and algal blooms. If the eutrophication trend continues, areas with a high water residency time are likely to become oxygen-depleted and lose their fish and wildlife values. Naturally, these lakes tend to be oligotrophic, lacking dense, floating vegetation and algal blooms. Shoreline development may impact natural values around some of the larger lakes. Typical impacts are the destruction of riparian vegetation, and the proliferation of single-purpose docks. These should be avoided where possible and riparian restoration should be carried out where feasible.

The major causes of loss of natural values to marsh and swamp areas come from draining, filling and logging. These habitats are more susceptible to a variety of human disturbance than open water, because of the delicate nature of their surfaces, and the relative ease with which they can be filled. In general, marshes and swamps can only support a minimum of human activities, such as low-intensity recreation. Also, a limited number of structures on piling, such as footpaths or access ways to adjacent lakes are not incompatible with natural resource protection. Marsh areas in particular need a buffer zone of riparian vegetation on the shoreward side to protect them from excessive disturbance.

iii SIGNIFICANT WETLANDS

For wetland classification, the USFWS system of Cowardin et al (1979) was followed. At the start of this project, all the possible wetland areas were delineated using aerial photographs, contour maps and soils maps. These areas were then visited to determine whether significant wetlands were present.

Significance of wetlands sites was a cumulative assessment of many features, the main ones being:

- Size: larger areas are more significant than smaller ones.
- Naturalness: the more natural or pristine, the greater the significance of a wetland.
- Habitat diversity: the presence of a diverse assemblage of natural wetland (and upland) habitats increases significance.
- Wetness: the significance of wetland areas is increased by the presence of permanent standing water.
- Habitat for rare or endangered species, critical habitat for game or non-game wildlife species increases significance.
- Heavy human disturbance of a wetland decreases its significance.
- Close proximity to dense housing development or industrial areas decreases significance.

The wetland areas were described in terms of plant communities, characteristic of different soils and hydrological regimes. These are listed in the following section.

These same criteria were also applied to wetlands in the Columbia River Floodplain. In this case, an additional criterion was the contribution made by the wetlands to the tidal ecosystem of the Estuary and the River.

iv WETLAND VALUES

Wetlands have been identified at both federal and state levels as being important fish and wildlife habitat. Nutrients from the groundwater and carbon dioxide are used by marsh plants to give levels of primary productivity which are often very high. This productivity is utilized by herbivores and detritovores, and eventually supports a wide range of important fish and wildlife species. Each wetland area is unique in the combination of values present, but for the Clatsop Plains area, the following species were identified as being common in the coastal lakes and other wetlands:

Overwintering and Breeding (*) Waterfowl

American widgeon	Green-winged teal
Bufflehead	Ring-necked duck
Mallard (*)	Common merganser
Wood Duck (*)	
Hooded Merganser (*)	

Other Breeding Birds

American bittern	Pied-billed grebe
Sora rail	Song sparrows
Virginia rail	Red-winged blackbird
Green heron	Yellowthroat
Coot	Marsh hawks

And many other species.

Pelagic birds which use the wetlands in winter: common loon, western grebe, cormorant species.

Warm water fish which may be taken as game species:

White crappie	Warmouth
Black crappie	Largemouth bass
Brown bullhead	Catfish
Yellow perch	Cutthroat trout (often stocked)
Bluegill	Rainbow trout (stocked)
Sunfish	

Medium and large mammals:

Nutria	Black-tailed deer
Beaver	Roosevelt elk
Muskrat	
Raccoon	

PLANT COMMUNITIES IN THE CLATSOP PLAINS

1A Open water with few floating or submerged aquatic vascular plants.

1B Water which usually becomes more or less filled with floating or submerged aquatic vascular plants during the summer and fall. Plant species include:

Callitriche species (water starwort)
Lemna minor (duckweed)
Ceratophyllum demersum (water hornwort)
Elodea densa (South American waterweed)
Elodea nuttallii (Nuttaill's waterweed)
Myriophyllum brasiliense (South American water-milfoil)
Nymphaea odorata (fragrant waterlily)

2 Shallow but more or less permanent water which becomes covered by a dense growth of non-persistant emergent and floating-leaved plants. The main dominants are the yellow flowered Indian Pondlily and the

marsh cinquefoil. A species list of plants common or dominant in this community includes:

Potomogeton species (pondweed)
Nuphar polysepalum (indian pondlily)
Hippuris vulgaris (common mare's tail)
Potentilly Palustris (marsh cinquefoil)
Utricularia vulgaris (common bladderwort)

3 In shallow water where lakes are filling in with aquatic vegetation, a community dominated by sedge tussocks floating in liquid mud. Between the usually compact tussocks, non-persistant emergent and floating leaved plants typical of #2 are often found. Common or dominant species include:

Carex cusickii (Sucick's sedge)
Carex vesicaria (inflated sedge)
Carex interior (inland sedge)
Menyanthes trifoliata (bogbean)
Nuphar polysepalum (indian pondlily)
Potentilly palustris (marsh cinquefoil)

4 Sedge meadows dominated by tussocks of Sitka sedge. This vegetation is flooded by two or three feet of water during wet periods though the sedge tussocks are usually persistantly emergent. During dry periods, the surface between the tussocks may be exposed or shallowly flooded. This community is typical of wet emergent marshes on Brallier peat, and it usually contains floristic elements of either wetter (2, 3) and/or drier (5, 11A) communities. Common plant species include:

Carex sitchensis (Sitka sedge)
Carex cusickii (Cusick's sedge)
Carex obnupta (slough sedge)
Nuphar polysepalum (indian pondlily)
Spiraea douglasii (spiraea or hackberry)
Oenanthe sarmentosa (water parsley)

5 Sedge meadows dominated slough sedge, saturated or flooded at all times. This vegetation is flooded by a foot or more of water during wet periods, and the saturated soil surface is exposed during dry conditions. It occurs on Brallier muck and also on Warrenton loamy fine sand. Common species include:

Carex obnupta (slough sedge)
Lysichiton americanum (skunk cabbage)
Oenanthe sarmentosa (water parsley)
Athyrium filix-femina (lady fern)
Spiraea douglasii (spiraea, or hackberry)
Lonicera involucrata (twinberry)
Carex sitchensis (Sitka sedge)

6 Slough sedge wetland on young deflation plains. These wetlands, on sandy soil close to the ocean, have a fluctuating water table and are flooded during wet periods but dry out so that the soil is moist, not saturated, during dry conditions. Common or dominant species include:

Carex obnupta (slough sedge)
Potentilla pacifica (pacific silverweed)
Deschampsia cespitosa (tufted hair-grass)

A number of unusual or interesting plant species occur in this community:

Botrychium multifidum (leathery grape-fern)
Habenaria greenei (Green's bog-orchid)

7 Shrub-dominated wetland on young deflation plans. As with vegetation type #6, this type is saturated or flooded during wet periods and may be merely moist at other times. The usual dominant species is Salix hookeriana (Hooker willow), with an herb layer of Carex obnupta (slough sedge).

8 Shrub-dominated swamps. This vegetation type resembles #7, but occurs on more mature soils, particularly Brallier muck and also Warrenton loamy fine sand. Soils are less well draining than #7,

and are saturated or flooded at all times. Species typical of this community are:

Salix hookeriana (Hooker willow)
Salix lasiandra (Pacific willow)
Pyrus fusca (crabapple)
Lysichiton americanum (skunk cabbage)
Carex obnupta (slough sedge)

In addition, scattered trees of Picea sitchensis (Sitka spruce) and Alnus rubra (red alder) may be present.

9 Sitka spruce swamp. Forested swamp dominated by Sitka spruce trees, which may become large (they are generally stunted in type 8). Soil conditions are saturated with occasional flooding. The understory is dominated by skunk cabbage and slough sedge, with Rubus spectabilis (salmonberry), and Sambucus racemosa (elderberry) in areas which are transitional between wetland and upland.

10 Alder swamp. Forested swamp dominated by red alder with an understory of slough sedge and skunk cabbage. Soil conditions are saturated. Red alder is mainly an upland species and appears to be intolerant of very wet conditions. Well developed alder swamps are not common.

11 Low shrub vegetation, in which spiraea or hackberry (Spiraea douglasii) is the main dominant. A wet and a drier variant of this type have been identified. The wet variant often occurs on Brallier muck and is flooded for most of the year. Typical associates of the spiraea are slough sedge and Sitka sedge (Carex sitchensis). The drier variant is also found on Brallier peat, often on abandoned cranberry bogs, where it grows with other shrubs such as sweet gale (Myrica gale) and labrador tea (Ledum glandulosum).

12 Sphagnum bog. The bog surface is covered by a mat of bryophytes, principally of the genus Sphagnum. Soil conditions are saturated, on account of the water-retaining properties of the moss, and the

community develops on Brallier peat. Common vascular plants include species of herb and shrub such as:

Carex obnupta (slough sedge)
Carex sitchensis (Sitka sedge)
Carex cusickii (Cusick's sedge)
Lysichiton americanum (skunk cabbage)
Trientalis arctica (northern starflower)
Drosera rotundifolia (sundew)
Eriphorum chamissonis (cotton-grass)
Ledum glandulosum (Labrador tea)
Kalmia occidentalis (swamp laurel)
Gaultheria shallon (salal)

13 Disturbed marsh flora (wet variant). The usual reason for such disturbance is the logging of adjacent forested areas. Following the destruction of marsh vegetation types such as #4 and #5, these areas become dominated by species such as:

Sparganium emersum (bur-reed)
Juncus nevadensis (Sierra rush)
Juncus species (rush)
Glyceria species (manna grass)

14 Disturbed marsh flora (dry variant). This vegetation develops on the site of former forested swamp after it has been logged. Common species are:

Juncus effusus (common rush)
Carex obnupta (slough sedge)
Oenanthe sarmentosa (water parsley
Juncus ensifolius (dagger-leaved rush)
Carex canescens (gray sedge)

In addition to the wetland plant communities described above, marsh and swamp areas, particularly those characteristic of drier hydrological regimes such as 6, 7, 8, 9, and 10, are sometimes mixed with patches of upland vegetation. These upland communities are described in sections 15 - 17 below.

15 The forest communities which develop on well-drained sandy soils, particularly the old sand-dunes which surround the Clatsop Plains wetlands, are typically dominated by the following species:

Trees: Alnus rubra (red alder)
Picea sitchensis (Sitka spruce)
Tsuga heterophylla (hemlock)
Rhamnus purshiana (cascara)

Shrubs: Sambucus racemosa (red elderberry)
Rubus spectabilis (salmonberry)
Vaccinium ovatum (evergreen huckleberry)
Vaccinium parvifolium (red huckleberry)
Gaultheria shallon (salal)

Herbs: Maianthemum californicum (false lily-of-the-valley)
Polystichum munitum (sword fern)

16 Younger sand-dunes often support planted coastal pine forest, and this may occasionally be mixed with wetland types 6 and 7.

REFERENCES

1) CREST, 1979: Columbia River Estuary Regional Management Plan; Columbia River Estuary Study Taskforce, Astoria, OR.

2) Maine, N., 1979: Necanicum Estuary Inventory; Report to Clatsop County.

3) Nature Conservancy, 1977: Oregon Natural Areas - Data Summary.

4) Sanderson, R. B., Shulters, M. V., Curtiss, D. A., 1973: Lakes of Oregon, Volume 1, a report by U.S.G.S.

5) Taylor, D., Knispel, W., 1976: Fish and Wildlife Habitat Protection Plan for Clatsop County. ODFW report to Clatsop County.

THE MAPS

The 1" to 400' base map was aerial photos from the Corps of Engineers (black and white - 1973), prepared for a sewer feasibility study by CH2M Hill. For the field work, these were supplemented by more recent (1981) Corps of Engineers infra-red aerials. In areas not covered by these aerials, USGS quad sheets and CREST base maps (scale 1" to 2,000') were used.

Overlays were produced at a scale of 1" to 400' in transparent acetate for the aerial photographs, or on other base maps when aerials were not available. The following symbols were used:

Blue hatching - - - Significant wetland, Goal 17
Brown or brown/blue hatching - - - Significant wetland, Goal 5
Green hatching - - - Significant wildlife and shoreland habitat.
_|_|_|_|_|_|_|_|_|_|_|_|_ - - - Major riparian vegetation.

A LIST OF THE SIGNIFICANT SITES

Warrenton Sites

W 1	1st Deflation Plain
W 2	State Park Wetlands
W 3	Coffenbury Lake
W 4	Leinenweber Lake
W 5	Abbot Lake Wetlands
W 6	Crabapple/Creep and Crawl Lakes
W 7	Long Lake
W 8	Pond Lily Lake
W 9	Wild Ace Lake
W 10	Shag Lake/Warrenton Bog
W 11	Clear Lake
W 12	Cemetery Lake
W 13	Warrenton Sloughs
W 14	Middle Skipanon
W 15	Upper Skipanon
W 16	Old Skipanon Creek

Hammond Sites

H 1	West of Russell Drive
H 2	Hammond Bog
H 3	West of Lake Drive
H 4	West of Mooring Basin

Gearhart Sites

G 1	Neacoxie Creek
G 2	Deflation Plain
G 3	Gearhart Bog, part of CP 16
G 4	Mill Creek, part of CP 19

Seaside Sites

S 1	Circle Creek Wetlands
S 2	Neawanna Swamp, part of CP 20
S 3	Stanley Lake
S 4	Necanicum River

Clatsop Plains Sites

CP 1	Clatsop Spit
CP 2	Swash Lake Area
CP 3	Foredunes
CP 4	1st Deflations Plain
CP 5	Slusher Lake, etc.
CP 6	? Lake
CP 7	Smith Lake
CP 8	Skipanon Swamps
CP 9	Skipanon Bog
CP 10	Golf Course Lake
CP 11	Sunset Lake
CP 12	West Lake
CP 13	Taylor Lake
CP 14	Cullaby Lake
CP 15	Cullaby Bog
CP 16	Gearhart Bog
CP 17	Upper Neacoxie
CP 18	Triangle Lake
CP 19	Mill Creek
CP 20	Neawanna Swamp

Other Clatsop County Sites

LY 22	Sloughs
LY 23	Wetlands/Wildlife
EC 26	Islands
EC 27	Tongue Point
EC 28	John Day

EC 29 John Day - Knappa Dock, Riparian Vegetation
EC 30 Brownsmead
EC 31 Aldrich Point - Eastwards, Riparian Vegetation
EC 34 Tenasilliahe Island
EC 35 Driscoll Slough Marshes

W - Warrenton
H - Hammond
G - Gearhart
S - Seaside

CP - Clatsop Plains
LY - Lewis & Clark & Youngs River
EC - Eastern Clatsop

Appendix - Shoreline Changes, Goal 16 areas.

W 18 Middle Skipanon Shoreline Change
LY 24 Tidal Marshes on the Lewis & Clark River
EC 32 Tidal Marshes at Aldrich Point
EC 33 Hunts Creek Tidal Swamps at Bradwood

SITE DESCRIPTIONS - WARRENTON

Warrenton - Site #1 - Goal 17
(Overlay - 1" to 400', #'s 3, 5, and 8)
Location - Coastal, with 3,000 feet of shoreline in FSSP.
Size - c. 500 acres.
Vegetation Types - 6 and 7, together with some upland vegetation (Types 16 and 17).
Riparian Vegetation - None.
Soil - 8A (dune land).
Site Description - A very large area of deflation plain. Wetlands, the dune ecosystem adjacent to the coast in Warrenton (and throughout Clatsop Plains) is of recent origin, having been formed in intertidal and shallow subtidal areas following alterations to the pattern of sand movement along the coast after the construction of the Columbia River South Jetty. The area was stabilized by the U.S. Soil Conservation Service, who planted introduced European beach grass and native trees and shrubs on the unvegetated young dunes. The deflation plain

vegetation is largely natural, and is probably still in a successful stage; that is, it is evolving toward different kinds of wetland vegetation in the course of natural ecosystem development. These deflation plains (elevation c. 18-20 feet) are wet or flooded in winter and spring and dry out during the summer. The topsoil (sand) may be dry during the late summer.

Values - Fisheries - none. Wildlife - low to medium. Wildlife usage: birds, breeding, feeding numerous small birds use the shrub vegetation, birds of prey hunt over the dunes and deflation plains, especially marsh hawks. Includes Nature Conservancy Site for Clatsop County #6 and 60 (in part). The main value of this area is as part of a large coastal ecosystem. Preservation of these values are consistant with use of the area for recreation, provided the vegetation cover is not destroyed.

Management - The site should be managed to preserve its natural values as part of a young sand dune ecosystem.

WARRENTON - Site #2 - Goal 17

(Overlay - 1" to 400', #3)

Location - FSSP, south and east of Battery Russell.

Size - 65 acres.

Vegetation Types - 4 and 8

Riparian Vegetation - none

Soils - 15A (freshwater marsh)

Site Description - Part of a system of deflation plain wetlands, dominated by willows, and by sedges, and which extends into Clatsop County and Hammond. The southern part of the site has some disturbance, since it was formerly used as a sewage disposal area for the State Park Campsite. The site is seasonally flooded and the soils remain saturated during the summer, with small areas of semi-permanent standing water.

Values - Fisheries - none. Wildlife - some use of wetland habitat by birds and mammals. Included in Nature Conservancy Site 60. This wetland is part of the large complex of dunes, deflation plains and other marshes which occupy the western half of the City of Warrenton.

Management - The site should be managed to preserve its natural values.

WARRENTON - Site #3 - Goal 17

(Overlay - 1" to 400', #5)

Location - Coffenbury Lake, FSSP

Size - 70 acres

Vegetation Types - 1A, 1B and 2

Riparian Vegetation - Well developed, c. 10,000 feet x 50 feet wide.

Soils - Lake sediments.

Site Description - A long, narrow coastal lake between high forested sand dunes. Small drainage basin, inflow and outflow, probably as seepage through the sand dunes.

Values - Fisheries - recreational, stocked with cut-throat and rainbow trout. Wildlife - some waterfowl value, breeding and overwintering of ducks and geese. Part of Nature Conservancy Site 60.

Management - Should be consistent with maintaining its high recreational value and should preserve open water for swimming, fishing and boating. Riparian vegetation should be protected except to provide access for water-dependent activities and the small areas of marsh and swamp, mostly at the southern end, should be preserved.

WARRENTON - Site #4 - Goal 17

(Overlay - 1" to 400', #8)

Location - This wetland site is a southerly extension of Coffenbury Lake from which it is separated by an unsurfaced road built on fill. Southwards the site extends to the City limits at DeLaura Beach Road and includes the shallow Leinenweber Lake and also Kyle Lake.

Size - About 50 acres.

Vegetation Types - 1B, 7, 9.

Riparian Vegetation - About 1,000 feet x 50 feet, situated on the west side of Leinenweber Lake.

Soils - Lake sediments, 8A (dune soils), 15A (freshwater marsh), 24E (Westport fine sand).

Site Description - A southward continuation of the Coffenbury Lake deflation plain in which the water becomes much shallower with extensive patches of hooker willow dominated swamp, and also forested swamp at the southern end. The area is probably permanently flooded.

Values - Fisheries - some sport fishing of warm water fish in the shallow lakes. Wildlife - high waterfowl and non-game bird value, suitable habitat for the breeding of ducks and green herons.

Management - The site should be managed to maintain the natural wetland values for fish and birds described above. The riparian vegetation should be preserved.

WARRENTON - Site #5 - Goal 17

(Overlay - 1" to 400', #5)

Location - Mostly in Fort Steven's State Park, west of Ridge Road, between camping area entrance and Camp Kiwanilong entrance.

Size - About 100 acres.

Vegetation Types - 1B, 2, 3, 4, 8, 9, 10

Riparian Vegetation - None

Soils - 15A (freshwater marsh) and lake sediments.

Site Description - A large inaccessible wetland site surrounded by forested dunes. A number of small lakes are present, of which Abbott Lake is the largest (the adjacent Creep and Crawl Lake is described under Site #6). These are in the process of filling in with vegetation and are variously dominated by floating and floating-leaved aquatic plants, and by very wet sedge vegetation. These small lakes make up only a small portion of the 100-acre site; the remainder is occupied by extensive forested swamps surrounding these lakes, and dominated by mainly Sitka Spruce and by alder and willows. The small lakes are permanently flooded, while the surrounding swamps have mostly saturated soils, and may flood occasionally.

Values - Fisheries - little sports fishing occurs at present because of inaccessibility, though populations of warm water game fish are present. Wildlife - lakes are important undisturbed wetland ecosystems, supporting a range of natural wetland values including fishes, water birds and mammals. In addition, the forested swamps have many of the values of coastal spruce forest ecosystems. Included in Nature Conservancy Site #60.

Management - Site #5 should be managed to preserve the numerous natural values described above.

WARRENTON - Site #6 - Goal 17

(Overlay - 1" to 400', #5 and #8)

Location - In the SE part of Fort Stevens State Park, and extending southwards beyond the Park boundary. This site includes Crabapple and Creep and Crawl Lakes (Note: these lakes are incorrectly named on the 7½' quad sheet).

Size - About 80 acres.

Vegetation Types - 1A, 1B, 2, 4, 8

Riparian Vegetation - c. 16,000 feet x 50 feet wide along Crabapple and Creep and Crawl Lakes.

Soils - Lake sediments.

Site Description - Two shallow lakes, formed in old deflation plains and separated by a narrow low dune ridge. Crabapple Lake is broad, with marshy swampy islands, and supports a lush growth of water plants in the summer. Creep and Crawl Lake is narrow, deeper, has less marsh, and many snags. Both are hydrologically dependent on the water table in the sand dune system, and have no obvious inflow or outflow channels.

Values - These coastal lakes have value for recreational fishing. Access is by small boat ramps in the State Park. Part of Nature Conservancy Site #60. They are also important waterfowl breeding habitat.

Management - This site should be managed for low intensity recreation and to maintain the wetland values described above. Riparian vegetation should be preserved.

WARRENTON - Site #7 - Goal 17

(Overlay - 1" to 400', #8)

Location - Long Lake in Camp Kiwanilong, west of Ridge Road between the Camp entrance and DeLaura Beach Road.

Size - 17 acres (Lake - 12 acres).

Vegetation Types - 1A

Riparian Vegetation - 7,000 x 50 feet wide on both sides of the lake.

Soils - Lake sediment.

Site Description - A long narrow, relatively deep lake between high dune ridges. No wetlands apart from the lake area; riparian vegetation is forest or scrub. Hydrologically dependent on the water table in the sand dune system with no inflow or outflow channels.

Values - Fish, waterfowl, recreational.

Management - The lake should be managed for water-dependent recreation and educational usage, including swimming, boating, fishing and wildlife observation. Riparian vegetation should be maintained except where access is needed for water-dependent recreation or other water-dependent use.

WARRENTON - Site #8 - Goal 17

(Overlay - 1" to 400', #8)

Location - Pond Lily Lake, west of Long Lake (see W. Site #8) and north of DeLaura Beach Road, in Camp Kiwanilong.

Size - About 30 acres.

Vegetation Types - 1B, 2, 3, 4, 12.

Riparian Vegetation - About 7,000 feet x 50 feet on east and west shores, mostly Sitka Spruce forest.

Soils - Lake sediments.

Site Description - A fine example of a shallow coastal lake in a former deflation plain, filling in with wetland vegetation. All the wettest vegetation types are well represented, together with a young *Sphagnum* bog. The forested dune shore to the west of Pond Lily Lake is a fine example of an old dune stabilized by coastal spruce forest and could be managed as significant shoreland habitat.

Values - Fisheries - some warm water game fish, but the lake is mostly too shallow for fishing. Habitat for waterfowl and non-game bird species and aquatic furbearing mammals. High educational values.

Management - This site should be managed to maintain the high natural values described above. The wetland ecosystem and the associated riparian vegetation should be preserved.

WARRENTON - Site #9 - Goal 17

(Overlay - 1" to 400', #18)

Location - Wild Ace Lake, west of Ridge Road and north of DeLaura Beach Road.

Size - Approximately 34 acres.

Vegetation Types - 1A, 2, 9, 11

Riparian Vegetation - c. 3,600 x 50 feet, mostly along the lake shore.

Soils - Lake sediments.

Site Description - A compact wetland site, connected to Cemetery Lake by a culvert under the road fill. The shallow lake is surrounded by extensive marshes which are more or less permanently inundated. The area is very marshy and inaccessible, except by canoe.

Values - Some fish, probably underexploited through lack of access and shallow water. Wildlife values high - waterfowl and aquatic furbearers. High value as a natural wetland ecosystem. Nature Conservancy Site #14.

Management - This site should be managed to preserve its natural values, protecting the wetlands and riparian vegetation.

WARRENTON - Site #10 - Goal 17

(Overlay - 1" to 400', #2, 4, 5, 8)

Location - East of Ridge Road between Hammond and the County Road which passes the Sanitary Landfill.

Size - Approximately 400 acres.

Vegetation Types - 1A, 1B, 2, 3, 4, 5, 8, 9, 10, 11, 13, 14.

Riparian Vegetation - c. 4,500 x 50 feet around Shag Lake and associated emergent wetlands.

Soils - Lake sediment and Brallier muck.

Site Description - A large and very diverse wetland system. These broad deflation plain wetlands are bounded to the east by the easternmost sand dunes and where the dunes are discontinuous, merge with the Columbia River Foodplain. To the north, this wetland system continues into Hammond (see H 2). The southern half of the site is the wettest, with extensive tracts of flooded sedge marsh and low *Spiraea* shrub, and including a small coastal lake, Shag Lake. The northern half of the site is covered with willow and forested wetlands. This area was formerly agricultural land, reportedly used for growing peas on the drained Brallier muck. It was later abandoned and the failure of the drainage system (due in part to beaver activity), has caused a reversion to wetland vegetation indistinguishable from the region's natural plant communities. In recent times, there has been some disturbance

through logging of the surrounding dune ridges and the forested swamps, but the area maintains a high overall natural wetland value.

Values - Some fishing in Shag Lake, which is reportedly stocked with cut-throat trout. Wetlands have high value as habitat for birds and mammals, and as natural and diverse wetland habitats. Nature Conservancy lists part of this site as Clatsop County #13 (the Shag Lake area).

Management - This area should be managed to protect its considerable natural values as wetland habitat. Suitable uses include hunting, fishing and wildlife observation.

WARRENTON - Site #11 - Goal 17

(Overlay - 1" to 400', #5)

Location - West of S. W. Juniper Avenue: Clear Lake

Size - About 25 acres.

Vegetation Types - 1A, 2, 4, 9, 11.

Riparian Vegetation - c. 5,000 x 50 feet around the lake and emergent wetlands.

Soils - Lake sediments.

Site Description - A small, relatively deep coastal lake, situated in a depression surrounded by high sand dunes which isolate it from site #10 to the west and from the Skipanon Creek/Columbia River Floodplain to the east. The lake has steep shores with forested riparian vegetation everywhere except at the south end, where there is a tract of emergent marsh and forested swamp.

Values - The lake has some value as warm-water fish habitat, while the marshes are significant fish and wildlife habitat.

Management - The area has high recreational and scenic value for people living in the immediate vicinity. The marshes should be managed for their natural values. Riparian vegetation should be preserved.

WARRENTON - Site #12 - Goal 17

(Overlay - 1" to 400', #5)

Location - Cemetery Lake, west of Ocean View Cemetery.

Size - Approximately 40 acres.

Vegetation Types - 1B, 2, 3, 8, 11

Riparian Vegetation - Very little. The riparian functions on the west side of the lake are fulfilled by a fringe of forested swamp.

Soils - Lake Sediment, Brallier muck.

Site Description - A shallow coastal lake with associated wetlands, formerly continuous with Smith Lake to the south, before construction of the DeLaura Road Causeway. The east bank of the lake has been altered: the cemetery extends to the edge of the water and most of the riparian vegetation has been removed. Moorages have been constructed. The rest of the lake shore is marshy and inaccessible and is in a natural condition.

Values - The lake supports some fishing by local people on the east side. Wetland values are high to the north, south and west. This site has some educational value, since it is one of the few coastal lakes with a good viewpoint (in the cemetery), and is also an aesthetic resource.

Management - The area should be managed to retain these natural low-intensity recreational and aesthetic values.

WARRENTON - Site #13 - Goal 17

(Overlay - 1" to 400', #4, 6, 7)

Location - Several, see map. Alder/Tansy Creeks, Skipanon Slough, Holbrook Slough, Adams and Vera Slough.

Size - Not measured.

Vegetation Types - 1A (1B, 5, 8, 14)

Riparian Vegetation - Extensive, a 30' corridor along the banks of the sloughs.

Soils - Lake sediments.

Site Description - Larger diked sloughs and their associated riparian vegetation in the Goal 17 areas of Warrenton. These are: The Skipanon Slough system, the Alder Slough/Tansy Creek, Holbrook Slough and Adams Slough/Vera Slough (Partly outisde G 17 area). These sloughs are the original natural drainage channels of the Columbia floodplain. Now diked, they form fresh water lakes which drain the surrounding land and discharge through tidegates into the estuary.

Values - Fish, breeding water birds, recreational values, restoration potential in some cases.

Management - Should be managed for wildlife and low-intensity recreation values described above; restoration to the estuary would be appropriate.

WARRENTON - Site #14 - Goal 17

(Overlay - 1" to 400", #5)

Location - Skipanon River between the 8th Street Dam, south to the former Highway 101 bridge.

Size - About 30 acres.

Vegetation Types - 1A, 9

Riparian Vegetation - Some. C. 500 x 50 feet. The forested wetlands area also serves as riparian vegetation.

Soils - Brallier muck and river sediments.

Site Description - This is a largely non-tidal section of the Skipanon River, above the 8th Street dam. It is composed of the river itself, and some forested swamps, which occupy bends in the river and islands.

Values - The river has fisheries value, and the forested wetlands function as wildlife habitat and also as riparian vegetation. The area has scenic and recreational values.

Management - The scenic and natural values of the site should be maintained. The top of the dike between harbor bridge and former Highway 101 bridge would make a fine footpath/bikepath.

WARRENTON - Site #15 - Goal 17

(Overlay - 1" to 400', #7)

Location - The Skipanon River and associated wetlands, south of the former Highway 101 bridge and west of the Highway 101 realignment.

Size - Approximately 60 acres.

Vegetation Types - 1A, 5, 8, 9

Riparian Vegetation - c. 2,000 x 50 feet on the west bank of the Skipanon River from former Highway 101 bridge south to the city limits. A further 2,500 x 50 feet occur south of the city limits and therefore appear to be mostly or all in the County.

Soils - Brallier muck and river sediment.

Site Description - The Skipanon River (mostly non-tidal, above the 8th Street dam) and associated riparian vegetation and marshes. The marshes (and swamps) are on the former pasture, which has been abandoned and has reverted to wetlands. Part of the area was formerly diked, but the dike is now in disrepair. The vegetation appears to be successional, that is, it is still reacting to the change from pasture back to wetland.

Values - Fisheries and education - Warrenton High School maintains a salmon hatchery at this site. The juvenile salmon presumably feed in the Skipanon and in the small channels, which penetrate the marshes, before their release into the estuary. The marshes also have some use by waterbirds. Elk usage of the area is probably reduced since the construction of the Highway 101 realignment, which separates this site from forests to the east.

Management - This site should be managed to maintain or improve fisheries, water-quality, and wildlife/waterfowl values of the Skipanon River.

WARRENTON - Site #16 - Goal 5

(Overlay - 1" to 400', #7)

Location - Within Warrenton UGB, southern part (undeveloped) of the Alumax site T8N R10W S34 N½.

Size - c. 100 acres.

Vegetation Types - Most important are: 4, 5, 8, 9, 11

Riparian Vegetation - Upland vegetation (spruce/hemlock/alder forest) bordering on vegetation types 4 and 5 and 11 above sedge marshes and low scrub) is riparian. Similar vegetation bordering types 8 and 9 is not, since most riparian functions are fulfilled by the tall, woody marsh vegetation. c. 5,000 x 50 feet in locations indicated on the overlay.

Soils - The soil at this site is mostly Brallier muck of undetermined depth.

Site Description - A long, narrow swamp which occupies the valley of the Old Skipanon Creek. Drainage is through an old tidegate into the Skipanon River, at the western end of the site. The Skipanon River at this point has a partly tidal, partly non-tidal regime, depending

upon management of the 8th Street dam by Warrenton High School. Drainage of the site is poor, and impounded water accumulates in drainage channels, and in wet sedge marshes and willow swamps. The western part of the site was formerly in agricultural usage, but has been abandoned and has reverted to natural wetland vegetation. The vegetation types resemble those found in the deflation plain wetlands of the Clatsop Plains. This site, however, although on the edge of a sand-dune system, is not a deflation plain wetland: historically, it is probably part of a former tidal lagoon which became filled in with peat as the tidal circulation was reduced and the alluvial plain built up to the west, at the beginning of the post-glacial period. Until recently, it had some tidal influence from the Skipanon River. Similar areas in Warrenton include parts of Site #10.

Values - Fisheries: none. Wildlife: high. Unlike the deflation plain wetlands further west, this site is heavily used by elk, which inhabit the surrounding forests. These appear to use the site for feeding and resting. The lack of human disturbance at this site makes it important for the breeding and feeding of marsh birds. During a site visit, a bittern and herons were noted as well as a large number of yellowthroat and long-billed marsh wrens. There are probably many other species present. Also, at the east end of the site is the only known active osprey nest in the area, which, according to ODFW policy, should receive the same protection as a bald eagle nest site (a primary zone of 300 m radius and a secondary zone of an additional 100 m radius).

Scientific and Educational Value - The site is a good example of a valley bog, although inaccessible at present, and may have a fossil record of the development of the area's vegetation preserved in its peat and sediment deposits.

Management - This site is a significant wetland with high natural and scientific interest. It should be managed to preserve these values.

SITE DESCRIPTIONS - HAMMOND

HAMMOND - Site #1 - Goal 17

(Overlay - 1" to 400', #2)

Location - The western edge of the town, south of 3rd Avenue, west of Russell Drive.

Size - About 45 acres.

Vegetation Types - 4, 8, 10.

Riparian Vegetation - None.

Soils - Warrenton loamy fine sand.

Site Description - A deflation plain wetland with very wet sedge marsh and patches of open water, willow swamp and alder swamp. This site drains through an artificially constructed channel through the sand dune to the west, or directly through the sandy soil whenever the water level falls below the outlet.

Values - A good example of deflation plain wetland with mature marsh and swamp vegetation. Natural habitat for wetland bird and animal species.

Management - This site should be managed to protect the natural values described above, and for low-intensity recreation.

HAMMOND - Site #2 - Goal 17

(Overlay - 1" to 400', #2)

Location - Hammond Bog.

Size - About 225 acres.

Vegetation Types - 4, 5, 8, 9, 10, 13, 14

Soils - Mostly Brallier muck. Also Warrenton loamy fine sand and Clatsop silty clay loam.

Site Description - A large area of swamps and marshes continuous with Warrenton Site #10. Together, these two sites (Hammond #2 and Warrenton #10) form a large and significant tract of wetland habitat, with good examples of all of the deflation plain vegetation types except *Sphagnum* bog. The Hammond site supports extensive willow and alder swamps, and sedge marshes. The site was formerly in agricultural use and peas were raised on the drained Brallier peat: the outline of the old fields can still be seen on aerial photographs. The fields were abandoned and

rapidly converted to natural wetland habitat when the drainage system failed, mainly due to the activities of the large indigenous population of beavers. The site now drains to the north and to the east.

Values - A large tract of natural and semi-natural wetland habitat. The site supports large populations of water birds, particularly mallard, and also mammals such as deer and beaver.

Management - The site should be managed as natural wetland habitat, and for low intensity recreation.

HAMMOND - Site #3 - Goal 17

(Overlay - 1" to 400', #2)

Location - West of Lake Drive.

Size - About 40 acres.

Vegetation Types - 5, 8, 10.

Soils - Warrenton loamy fine sand.

Site Description - A deflation plain wetland system, wettest at the southern end, where there is willow swamp and semi-permanently flooded emergent marsh. The northern end is swamp with saturated soil and seasonal flooding.

Values - This deflation plain is a part of the extensive Clatsop Plains/ Warrenton sand dune system, and has high value as habitat for waterfowl, other marsh birds, deer and aquatic furbearing mammals.

Management - The natural values of this site should be protected.

HAMMOND - Site #4 - Goal 17

(Overlay - 1" to 400', #2)

Location - West of the Mooring Basin.

Size - About 13 acres.

Vegetation Types - 8.

Riparian Vegetation - None.

Soils - Warrenton loamy fine sand.

Site Description - A willow dominated deflation plain wetland with soils saturated or innundated at all times. There are some other wetlands adjacent to the site, forest and shrub dominated, which were found not to be significant because of disturbance and drier hydrological regime.

Values - Part of a large sand dune system, important to waterfowl and other marsh birds.

Management - Natural wetland values of this site should be protected.

SITE DESCRIPTIONS - GEARHART

GEARHART - Site #1 - Goal 17

(Overlay - 1" to 400', #12)

Location - Neacoxie Creek, runs north through the City of Gearhart and its Urban Growth Area. North of 6th Street, the Creek is non-tidal and is described here as a significant wetland. The tidal portion south of 6th Street has already been described by Neal Maine (1979) in the "Necanicum Estuary Inventory." This Goal 16 area has some Goal 17 riparian vegetation which has been mapped for this survey.

Size - About 23 acres.

Vegetation Types - 1B, 8.

Riparian Vegetation - The Goal 17 area is lined by riparian vegetation in places. The total riparian tract measures about 8,800 feet x up to 50 feet. The Goal 16 area has about 5,000 feet x up to 50 feet (see map).

Soil - Marsh.

Site Description - This long, narrow deflation plain once extended from the Necanicum Estuary to Coffenbury Lake in Fort Stevens State Park, but several sections are now drained or filled. The Gearhart Section is a long, narrow ribbon of more or less open or water-weed covered water, lined with willow swamp and by the escarpments of sand-dune ridges.

Values - Waterfowl and warm-water fish.

Management - Neacoxie Creek should be managed to protect its wetland and riparian values.

GEARHART - Site #2 - Goal 17

(Overlay - 1" to 400', #12)

Location - Immediately west of Highway 101, from the drive-in theater to the northern edge of the urban growth boundary, interrupted in the middle by a filled area which divides the site into a northern and a southern section.

Size - Northern Section, c. 16 acres; Southern Section, c. 21 acres.

Vegetation Types - 1B, 2, 4, 5, 8.

Riparian Vegetation - None

Site Description - A diverse wetland system, some of the area is semi-permanent standing water while the remainder is seasonally flooded and saturated at other times. There is no visible outlet and the system must drain through the sand dunes. The northern section is two narrow, semi-permanent parallel lakes lined with willow swamp. The southern portion is broader and includes open water and sedge marshes partly lined with willow swamp.

Values - Waterfowl and possibly some warm-water fish.

Management - The site should be managed to protect its natural wetland values.

GEARHART - Site #3 - Goal 5

(Overlay - 1" to 400', #12)

Location - East of the old railroad and north of Palmberg Sand & Gravel yard.

Size - About 15 acres.

Vegetation Types - 5, 8, with patches of reed canary grass.

Riparian Vegetation - None.

Soils - Brallier Muck.

Site Description - This is the southern end of a 400 acre wetland site, most of which lies in Clatsop County (CP 16). This site is the best example of native peat-bog habitats in the area, with good examples of *Sphagnum* bog, *Spiraea* bog, sedge marsh and willow swamp, of which the latter two vegetation types are represented in the Gearhart portion. The site shows evidence of former cultivation, but has now reverted to natural wetland with saturated, seasonally inundated and

intermittently exposed soils. The site is heavily used by marsh birds and raptors, and also by elk which enter freely from the forest lands to the east.

Values - This 400 acre site has high scientific interest as the County's best example of a coastal peat bog. It has some value for water fowl and is heavily used by elk. The Gearhart portion is swamp/marsh, is wetter than the rest of the site and has heavier waterfowl and lower elk usage.

Management - The site should be managed to protect its natural wetland and scientific values.

GEARHART - Site #4 - Goal 5

(Overlay - 1" to 400', #12)

Location - East of McCormick Gardens Road, down past the airport, where it joins the Goal 17 Stanley Lake Wetlands. Two portions of this site are in the Gearhart Urban Growth Boundary.

Size - The two Gearhart portions measure: North, 2 acres and South, 7 acres out of a total site area of 130 acres.

Vegetation Types - 5, 8, also cat-tail and reed canary grass marshes.

Riparian Vegetation - None.

Soils - Brallier Muck.

Site Description - An area of emergent marshes and low shrub/sedge marshes with a variety of marsh plants in an area which is seasonally inundated to semi-permanently flooded. There is also some willow swamp. These wetlands line the creek which flows east of the airport to join the Stanley Lake outlet and discharges through a tidegate into Neawanna Creek.

Values - Waterfowl and marsh bird usage, probably warm-water fish in the creek.

Management - The site should be managed to protect its values as a natural wetland ecosystem.

SITE DESCRIPTIONS - SEASIDE

SEASIDE - Site #1 - Goal 17

(Overlay - 1" to 400', #14 and 16)

Location - Circle Creek wetlands, west of the Necanicum River and south and west of the golf course. This Goal 17 wetland has c. 140 acres in the City of Seaside, 18 acres in the Seaside UGB, and 20 acres in Clatsop County.

Size - Total area of 178 acres (see above for breakdown by jurisdiction).

Vegetation Types - 2, 8, 9.

Riparian Vegetation - None.

Soils - Brenner silt loam, Nestucca silt loam.

Site Description - This site is a poorly drained, low-lying part of the Necanicum floodplain. It is separated from the ocean by the bar which supports Ocean View Way, and from the Necanicum River, into which it drains. It is mostly separated by the more elevated land adjacent to the river. Site is a typical natural river floodplain wetland for this region. The vegetation is mostly willow and spruce swamp, and the site has some fine old-growth spruce trees. It is enhanced by areas of emergent marsh and shallow water-lily covered lakes along Circle Creek, which meanders through the site.

Values - Fisheries - none. Wetland use by birds, deer, elk and other animals, high. Scientific: a good example of a natural riverine flood plain wetland.

Management - This site should be managed for its natural wetland values: the old growth spruce trees should be protected.

SEASIDE - Site #2 - Goals 17 and 5

(Overlay - 1" to 400', #14)

Location - Upper Neawanna, south of Sundquist Road and east of the Mill Ponds, in the Seaside UGB.

Size - Seaside UGB portion is 27 acres.

Vegetation Types - 8. Also emergent marshed which resemble the tidal marshes of the Neawanna described by Maine (1979), on page B-16, marsh type #13.

Riparian Vegetation - None.

Soils - Brenner silt loam.

Site Description - This site is adjacent to the Goal 16 area of the Neawanna River described by Maine. As mapped, a small and undetermined area at the North end of the site is estuarine. This site is part of a large headwater swamp on the Neawanna River in the Seaside UGB and in Clatsop County. Two existing industrial uses make this a difficult area to map: in the Seaside UGB, the mill ponds have been excluded from the wetland site, while in Clatsop County, gravel is being extracted. The area of active and proposed gravel extraction is also excluded. Overall, the site resembles S 1, with extensive willow and spruce swamps enhanced by patches of emergent marsh and small lily ponds. The site is dissected by several small creeks.

Values - Fisheries - a natural coho run of undetermined size is reported for the Neawanna by Maine. These probably breed in this headwater swamp. The area has high value as wetland habitat for birds and mammals.

Management - The natural wetland values of this site should be protected, except for the excluded areas where existing industrial uses are occurring.

SEASIDE - Site #3 - Goal 17 and 5

(Overlay - 1" to 400', #13 & #14)

Location - Mill Creek and Stanley Lake marshes, from Seaside Airport south to the new entrance road to Trails End. City of Seaside and Seaside UGB.

Size - 67 acres.

Vegetation Types - 1B, 2, 4, 5, 8, 14

Riparian Vegetation - None.

Soils - Brallier muck, Bergsvik muck, Brenner silt loam.

Site Description - This site comprises a shallow coastal lake (Stanley Lake) and associated wetlands. Since Stanley Lake expands and floods much of this site during wet seasons, most of the area falls under Goal 17. The site consists of the permanently flooded lake area, surrounded by very wet Sitka sedge marshes and extensive areas of willow

swamp and slough sedge marshes. Some of the marsh areas were formerly farmed, but have now reverted to natural wetland, though in some areas a disturbed marsh flora is still present. The area has heavy use as wetland habitat by birds, particularly waterfowl, and is also reported to have a salmon run by Maine. He included Stanley Lake under Goal 16 because of some salinity intrusion through the tidegate under Highway 101. It is probably more correct to regard the area as a Goal 17 wetland, since the tidal influence appears to be negligible.

Values - Waterfowl: some value as a salmon spawning area (coho) and probably some warm-water fish.

Management - The area should be managed to protect its natural wetland values.

SEASIDE - Site #4 - Goal 17

(Overlay - 1" to 400', #14 & #16)

Location - Necanicum River, from head of tide, south to City limits.

Vegetation Types - None.

Riparian Vegetation - A zone of riparian vegetation, comprising shrubs and trees is present along both banks of the Necanicum River. The width of this zone varies from zero, where pasture runs right down to the water line, to a maximum of 50' wide where sufficient woody vegetation is present. In most places, the riparian zone is a narrow (10-20') band on the river bank.

Site Description - The Necanicum River has important natural values, particularly for salmonoids and some species are stocked. Water quality is enhanced by the riparian vegetation described above. The portion of the river in Clatsop County has similar values.

Management - The site should be managed to protect its fisheries values and to protect the riparian vegetation.

SITE DESCRIPTIONS - CLATSOP COUNTY (PLAINS)

CLATSOP COUNTY - Site #CP 1 - Goal 17

(Overlay - 1" to 400', #1 & #3)

Location - Clatsop Spit, west of Battery Russell and the old military road west of Swash Lake, south to Warrenton City Limits.

Size - 1,330 acres.

Vegetation Types - 6 and 7.

Riparian Vegetation - None.

Soils - Sand dune soils.

Site Description - This enormous site is a mosaic of young deflation plain wetlands and sand dunes mostly of rather low elevation. The deflation plains are mostly dominated by slough sedge and hooker willow; they are flooded in winter and spring by high water tables, and also by very high tides. In summer, the sandy soil may be saturated or moist. A well developed young dune/deflation plain flora is present. The uplands are dominated by grass, principally introduced beach grass, and also some scrub. Black-tailed deer are present together with many smaller aquatic and terrestrial mammals. The area is important to avifauna, particularly migrating and overwintering populations. Many rare species have been recorded. It is important habitat for raptors, and has a resident population of marsh hawks and occasional use by many other species.

Values - The area is important to pelagic birds during stormy weather. Endangered snowy plovers have nested here, particularly west of parking lot C. The area has been identified as important habitat by the Nature Conservancy, and as one of the State's most important bird-watching areas.

Management - The natural values of this site should be preserved. This protection is compatible with low-intensity recreation. Use of off-road vehicles should be discouraged in the sand dunes, deflation plains and estuarine intertidal areas. Suitable designations are natural aquatic and shoreland, and conservation aquatic and shoreland. Also, the salt marsh adjacent to parking lot C (Goal 16), which is very important to water birds, should be protected.

CLATSOP COUNTY - Site #CP 2 - Goal 17

(Overlay - 1" to 400', #3 and #2)

Location - Areas surrounding Swash Lake to the east and south.

Size - About 175 acres.

Vegetation Types - 9, 10, 7

Riparian Vegetation - A zone of scrub and trees up to 50' wide around the eastern end of Trestle Bay: about 5,600 feet.

Soils - Sand dune soils.

Site Description - This area supports relatively mature sand-dune vegetation, with a mosaic of wetland and upland areas. The deflation plain wetlands are forested and large areas are inundated by the highest tides. Because the major hydrological influence is the sand-dune water table, these wetlands were judged to be Goal 17, not Goal 16. Isolated dunes and dune ridges in this site support spruce/hemlock forest and are significant as riparian and upland habitats for birds and mammals. This site is in a complex area of great habitat diversity, closely associated with the Swash Lake estuarine area. It is important to deer, aquatic furbearers and to wetland bird species. The site also includes three areas of forested swamp on the south side of Jetty Road.

Values - Part of natural mature sund-dune ecosystem, in close proximity to the estuary.

Management - The natural values of this site should be preserved.

CLATSOP COUNTY - Site #CP 3 - Goal 17

(Overlay - 1" to 400', #8, 9, 10, 11, 12)

Location - The fore-dunes between the Warrenton City Limits and Gearhart UGB.

Size - About 650 acres.

Vegetation Types - None, significant shoreland (dune grassland)

Riparian Vegetation - None.

Soils - Sand-dune soils.

Site Description - The values of the Clatsop Plains foredunes as significant wildlife habitat are given in the introduction to this project. This coastal habitat is of recent origin, and was stabilized by the

USDA, forming a semi-natural coastal grassland. There are also some areas of scrub and low trees, which provide additional habitat diversity.

Values - Part of a coastal sand-dune ecosystem, significant grassland.

Management - This area should be preserved as semi-natural grassland habitat. Apart from a limited number of access road to the beach, this area is suitable for low-intensity recreation. Further development of housing on these dunes is likely to be incompatible with protecting their natural values. Off-road vehicle use of the area should be controlled to prevent the loss of vegetation cover.

CLATSOP COUNTY - Site #CP 4 - Goal 17

(Overlay - 1" to 400', #8 & #9)

Location - The first deflation plain, east of the westernmost dune ridges. Extends from the City of Warrenton limits to the north, southwards to Camp Rilea.

Size - 120 acres.

Vegetation Types - 6 and 7.

Riparian Vegetation - None.

Soils - Sand dune soils.

Site Description - A large deflation plain of relatively recent origin. At c. 18-22 feet above MSL, these wetlands are flooded at wet times of the year, particularly winter and spring, and dry out during the summer. The sandy soil has poor moisture retaining capacity. The vegetation is mostly dominated by slough sedge and hooker willow, while numerous small isolated dunes support upland vegetation. The main value of these wetlands is that they are part of a large, more or less natural coastal ecosystem: they are less valuable per acre than wetlands further inland. Wildlife use is by amphibians, small mammals, deer and many bird species, particularly birds of prey.

Values - Breeding and feeding of wetland birds, scientific/educational value as part of a coastal ecosystem.

Management - Preservation of these natural values is compatible with some recreational use: use of the beach areas requires a limited number of access routes to traverse these wetlands.

CLATSOP COUNTY - Site #CP 5 - Goal 17

(Overlay - 1" to 400', #9 & #10)

Location - Deflation plain wetlands (including Slusher Lake) west of Sunset Lake.

Size - About 104 acres.

Vegetation Types - 1B, 6, 7.

Riparian Vegetation - A zone up to 50' wide and about 4,000 feet long surrounds perennially and seasonally inundated areas (see maps).

Soils - Sand dune soils.

Site Description - West and south of Camp Rilea, the first and second deflation plains, behind the foredune area, are discontinuous. Instead of the large slough-sedge areas found further north, these are hollows in the dunes filled with slough sedge and hooker willow wetlands, and often containing coastal lakes. The largest of these is Slusher Lake, but there are several others which are perennially flooded. These lakes have some warm water fish and waterfowl values, while the associated swamps and marshes are used by waterfowl and other wetland birds. South of this site, the first deflation plain peters out gradually in a series of small, seasonally inundated puddles. These were not found to be significant.

Values - This site has waterfowl and some fisheries value and is part of a large coastal ecosystem.

Management - The natural values of this site should be preserved.

CLATSOP COUNTY - Site #CP 6 - Goal 17

(Overlay - 1" to 400', #8)

Location - West of Ridge Road, south of Columbia Beach Road to Camp Rilea.

Size - 96 acres.

Vegetation Types - 1B, 2, 4, 5, 8, 9.

Riparian Vegetation - These shallow lakes are lined with a 50' wide fringe of riparian vegetation, extending for about 35,000 feet.

Soils - Marsh soils and lake sediments.

Site Description - A large shallow lake occupying two parallel deflation plains with a discontinuous dune ridge between them. This is a diverse wetland system, with large expanses of shallow water, sedge marshes,

willow and spruce swamp and riparian vegetation. Since this area is permanently flooded, it supports populations of warm-water fish. The shallow marshy nature of this lake makes it unsuitable for fishing, but it is used extensively by waterfowl, particularly American widgeon. It probably supports breeding populations of waterfowl, such as mallard and wood duck, as well as other wetland bird species. The southward extension of this lake is narrow and long and is lined with trees. It should also contain warm-water fish, and is important to breeding water birds. An isolated four acre "puddle" (c. 400 feet west of the main site) with standing water, sedge and willow swamp, is also included in this site. It also has some importance to wetland birds.

Values - Important to waterfowl and aquatic mammals.

Management - This is a fine example of a shallow coastal lake and should be managed to maintain its natural values. Care should be taken to ensure that excessive eutrophication of this lake from septic tank leachate does not occur. The very extensive and well-developed riparian vegetation should be preserved.

CLATSOP COUNTY - Site #CP 7 - Goal 17

(Overlay, 1" to 400', #8 & #9)

Location - Smith Lake

Size - c. 98 acres.

Vegetation Types - 1B, 2, 4, 8.

Riparian Vegetation - The lake is lined with riparian vegetation (mostly trees) in a belt up to 50' wide and about 11,000 feet long.

Soils - Lake sediments and marsh soils.

Site Description - This site consists of two parallel deflation plains. The smaller one to the west is shallow, weed-filled water surrounded by swamps and marshes. The larger one to the east is connected to the first in several places by swamps, and contains the large but rather shallow Smith Lake. This lake is mostly open water which becomes weed filled in summer; fringing marshes and swamps are narrow except at the southern end. It has heavy recreation usage from the surrounding property owners, and is reported to support several species of warm-water game fish. It is also an important overwintering area for waterfowl, principally coot and American widgeon, which may number many hundreds.

Values - Fisheries, recreational warm-water game fish, overwintering waterfowl.

Management - The important fisheries and waterfowl values should be protected, while allowing for continued recreational use and other uses (such as water rights). Efforts should be made to preserve the remaining riparian vegetation which has been heavily impacted by lake shore developments. Further eutrophication of the lake should be prevented and management such as water-weed removal could be considered if it becomes excessivly choked with vegetation.

CLATSOP COUNTY - Site #CP 8 - Goal 17

(Overlay - 1" to 400', #9)

Location - South of Warrenton High School, East and West of the railroad.

Size - About 67 acres.

Vegetation Types - 4, 5, 8, 9, 10.

Riparian Vegetation - 1,000 feet x 50 feet along the Skipanon to the south of the wetland area.

Soils - Brallier muck.

Site Description - An area of mostly forested wetlands with some emergent marsh, adjacent to the Skipanon River.. Besides fulfilling riparian functions, these wetlands are extensively used by wetland and upland avifauna, by aquatic furbearers and by deer.

Values - Some wildlife value; a riparian zone along the Skipanon River.

Management - The natural values of this site should be protected.

CLATSOP COUNTY - Site #CP 12 - Goal 17

(Overlay - 1" to 400', #10 & #11)

Location - West Lake. This lake is crossed by Highway 101 and the associated wetlands extend southwards beyond the southern end of the Delmoor Loop.

Size - About 126 acres.

Vegetation Types - 1B, 2, 4, 8, 13

Riparian Vegetation - A zone up to 50' wide is present in places around the lake, length c. 11,000 feet.

Soils - Lake sediments and Brallier muck.

Site Description - A coastal lake of medium depth, with its associated marshes and swamps. At high water periods, these wetlands are inundated with lake water. This lake is reported to support recreational fishing for warm-water game fish. Waterfowl, particularly coot, overwinter on this lake; probable breeding species are coot, hooded merganser, wood duck, pied-billed greve and mallard. Purple herons are sometimes seen here.

Values - Warm-water game fish and waterfowl.

Management - The natural values of this site should be preserved.

CLATSOP COUNTY - Site #CP 11 - Goal 17

(Overlay - 1" to 400', #9, #10 & #11)

Location - Sunset Lake.

Size - About 130 acres.

Vegetation Types - 1A, 1B, small areas of marsh swamp.

Riparian Vegetation - Scrub and trees, a zone up to 50' wide is present but has been heavily impacted by agricultural and suburban developments.

Soils - Lake sediments.

Site Description - One of the largest and deepest coastal lakes. Sunset Lake is about 16,500 feet long, up to 640 feet wide and up to 19 feet deep. This lake supports populations of warm-water fish and there is a large recreational fishery. Waterfowl are often abundant, besides the large domestic flocks, and in bad weather, the lake is used for shelter by pelagic ocean species.

Values - Recreational fishing and overwintering and breeding of waterfowl; boating and swimming. Fish are stocked.

Management - The natural values of this lake need to be protected to ensure its continued recreational value. Eutrophication may be a problem in the future if the number of septic tanks increases, but does not appear to be a problem at present. The continuing loss of riparian vegetation is a serious problem: further loss should be prevented and extensive restoration of riparian vegetation would be appropriate. The proliferation of single-purpose docks may become a problem here.

CLATSOP COUNTY - Site #CP 10 - Goal 17

(Overlay - 1" to 400', #8, #9 & #10)

Location - A long narrow coastal lake (c. 15,600 ft.) interrupted by at least 6 road fills. Extends from Columbia Beach Road to Smith Lake southward through Camp Rilea, between the golf course and Highway 101, and beyond Sunset Beach Road.

Size - About 73 acres.

Vegetation Types - 1B, 2, 3, 4, 8, 11 (wet var.).

Riparian Vegetation - This system of shallow lakes is lined by a zone of riparian vegetation up to 50' wide and 20,000 feet long.

Soils - Marsh soils and lake sediments.

Site Description - At their widest places these lakes have extensive sedge and water-lily marshes with weed-filled water and swampy patches. Where they are narrow, they become weed-filled water overhung by willows and riparian vegetation. The shallow water presumably supports populations of warm-water fish. Aquatic fur-bearing mammals such as beaver and nutria are present. The site supports a great diversity of water birds. Breeding waterfowl include mallard, wood duck and hooded merganser, with these and many other species overwintering here. Other residents include bittern and kingfishers. These lakes apparently received little disturbance, but are becoming choked with water weed in places, probably from septic tanks and fertilizer leachates.

Values - The lakes are important to breeding, migrating and overwintering waterfowl and marsh birds, and to aquatic furbearers.

Management - This is a fine example of shallow coastal lakes with associated marshed, swamps and riparian vegetation. These natural values should be protected.

CLATSOP COUNTY - Site #CP 9 - Goal 5

(Overlay - 1" to 400', #7 & #9)

Location - Along the Skipanon River: south of Warrenton and SE of Highway 101 realignment.

Size - About 98 acres.

Vegetation Types - 5, 8, 11 (dry var.), 9.

Riparian Vegetation - About 2,000 feet x 50 feet along the Skipanon, north of the wetlands.

Soils - Brallier muck.

Site Description - This peat bog site was apparently farmed in the past, but has since reverted to native wetland vegetation. The Skipanon River which passes through this site, supports populations of warm-water fish. The swamps to the east of the Skipanon are extensively used by elk. The bog area is important habitat for wetland avifauna and probably supports populations of aquatic furbearers.

Values - This is a good example of a coastal peat bog, though it is probably of lower value than CP 16.

Management - The Goal 5 process should be applied to this site to assess the possibility of protecting its riparian and natural wetland values.

CLATSOP COUNTY - Site #CP 13 - Goal 17

(Overlay - 1" to 400', #10 and Gearhart Quad.)

Location - Taylor Lake, north of Cullaby Lake.

Size - About 17 acres.

Vegetation Types - 1A, 1B, 9, 10, 8

Riparian Vegetation - 2,500 feet x 50 feet wide around the lake (see quad sheet).

Soils - Brallier muck, lake sediments.

Site Description - This fairly deep, clear lake supports populations of warm-water game fish and has some use for sport fishing. A forested swamp to the SW within 500 feet of the lake was judged to be significant wetland, and the lake is lined with a forested riparian zone. The forested wetland area is used by deer and elk, aquatic furbearing mammals, and is likely to be important habitat for breeding and feeding of wetland birds. There is also a small marshy area to the east of the lake. The lake was described as Nature Conservancy Site #15 for Clatsop County and the NC also described the surrounding hillside as part of the site. Except for the 50' riparian zone, this hillside was not included in this study, since an evaluation of the natural resources of Clatsop Ridge was beyond its scope.

Values - Warm-water game fish; some value to wetland birds.

Management - This site is little disturbed, more or less pristine wetland area despite its relatively small size. The marshes, swamps and riparian vegetation around the lake should be preserved.

CLATSOP COUNTY SITE #CP 14 - Goal 17

(Overlay - 1" to 400', #10 and #11 and USGS Gearhart Quad Sheet.)

Location - Cullaby Lake.

Size - 280 acres.

Vegetation Types - 1A, 5, 8, 9, 11 (dry var.)

Riparian Vegetation - 20,000 feet x 50' wide, particularly on the eastern side of Cullaby Lake.

Soils - Brallier muck, lake sediments.

Site Description - Cullaby Lake has the largest area of any coastal lake in the Clatsop Plains: it appears to be the remnant of a much larger lake or lagoon which has been filling in with peat since its separation from the ocean. It currently has a high level of recreational usage, and supports a recreational warm-water game fishery. It has some value to overwintering and breeding waterfowl. The south end of the lake was described as having a great variety of avifauna by the Nature Conservancy (Clatsop County Site #16). In addition, peat bogs on the western side of the lake within the Goal 17 area were found to be significant. Some of these previously supported agriculture, probably cranberry growing, but have since reverted to scrub or emergent wetlands and are used extensively by wetland avifauna and by raptors.

Values - Warm-water game fishery; waterfowl and wetland birds.

Management - The natural values of the lake should be protected in order to maintain its high recreational value. The riparian vegetation, fringing marshes and significant bog areas should all be protected.

CLATSOP COUNTY - Site #CP 15 - Goal 5

(Overlay - 1" to 400', #10 & #11)

Location - Between Cullaby Lake and Highway 101.

Size - About 230 acres.

Vegetation Types - 5, 8, 9, 11 (dry var.)

Riparian Vegetation - None.

Soils - Brallier muck.

Site Description - This large peat bog site is a westerly extension of the significant Goal 17 peat bog areas which line the west side of Cullaby Lake. The peat, which has filled in a former lake basin, has powerful water-retaining properties, and the surface is saturated for much of the year. It can, however, be used for agriculture, particularly cranberry growing and some of the site appears to have been so used in the past. It has now reverted to native wetland vegetation. These peat bogs are important to wetland animals, particularly avifauna, and the southern end of this site is extensively used by elk.

Values - Wetland animals; natural and semi-natural peat bog wetlands.

Management - This site is a good example of a coastal peat bog. Examples of this wetland type should be preserved.

CLATSOP COUNTY - Site #CP 16 - Goal 5

(Overlay - 1" to 400', #11 & #12)

Location - East of Highway 101 from the south end of the Dellmoor Loop Road, south to Palmberg Gravel works.

Size - About 380 acres (including 15 acres in Gearhart G 3).

Vegetation Types - 4, 5, 8, 9, 11 (dry var.) 12, 13.

Riparian Vegetation - None

Soils - Brallier muck.

Site Description - This site is the best example of a coastal peat bog on Brallier muck in the County. The northern end approaches the raised bog condition dominated in places by the moss Spagnum, a rare community in this area, and also by various shrubs and stunted trees. To the south, the site becomes much wetter and considerable areas are at least seasonally inundated. The southern half in particular, is used by breeding waterfowl, while the central and northern portions have heavy elk use. There is a great diversity of avifauna, throughout, including many wetland species despite the scarcity of open water. The site shows evidence of former cultivation, but has since reverted to native wetland vegetation.

Values - Wetland animals, particularly avifauna and elk. The site has high scientific and educational value as a fine example of a peat bog:

the post-glacial vegetation history of the area is probably contained in fossils in the deep peat.

Management - The high natural values of this site should be protected. Preservation of this site as the best example of a coastal peat bog in the area would be appropriate.

CLATSOP COUNTY - Site #CP 17 - Goal 17

(Overlay - 1" to 400', #11 & #12)

Location - West of Highway 101, North of Gearhart UGB, North and South of DelRey Beach Road and north and south end of Surf Pines Road. A northwards extension of Gearhart Sites #1 and 2.

Size - 30 acres.

Vegetation Types - 1B, 4, 5, 8, 14.

Riparian Vegetation - None

Site Description - This site is a continuation of the long, narrow deflation plain described under "Gearhart Site #1" in this report. Together, these two sites link Sunset (Neacoxie) Lake to the Neacoxie estuary. Also included are the small northwards extensions of Gearhart Site #2, immediatly west of Highway 101, and which, although part of a separate deflation plain system, have very similar characteristics to this one. These areas have shallow lakes, presumably with some warm-water fish, marshes, and willow swamps, with wetland birds. The northern end has been impacted in the past through attempts to drain the site and the destruction of riparian vegetation.

Values - Part of an extensive deflation plain/coastal lake system which extends from the Necanicum estuary northwards to Sunset Lake. Before extensive filling in Camp Rilea, it extended to Coffenbury Lake. The system has fisheries, waterfowl and other wetland values.

Management - The natural wetlands values of this site should be preserved.

CLATSOP COUNTY - Site #CP 18 - Goals 17 and 5

(Overlay - 1" to 400', #11 and USGS Gearhart Quad.)

Location - 2 small lakes and adjacent wetlands on Cullaby Creek, 4,000 feet south of Cullaby Lake.

Size - 120 acres (Goal 17), 40 acres (Goal 5).

Vegetation Types - 1B, 4, 5, 8, 9, 2.

Riparian Vegetation - About 4,000 feet x 50 feet along Cullaby Creek.

Soils - Brallier muck.

Site Description - This area has great habitat diversity, with open water, marsh and swamp habitats, all well represented. The swamp/upland boundary to the NE of this site was not accurately determined. The lakes are connected to Cullaby Lake via Cullaby Creek and support populations of warm-water game fish. The surrounding marshes and swamps are important to breeding waterfowl and other wetland birds, and have some importance to overwintering waterfowl. The swamp areas are extensively used by elk. The upper part of Cullaby Creek, south of the Goal 17 area, has about 40 acres of scrub and forested swamps. Since this area is adjacent to the Goal 17 area and shares similar natural values, it is logical to manage the two areas as a single unit.

Values - Warm-water fish, breeding wetland birds, habitat diversity.

Management - The natural values and habitat diversity of this site should be protected.

CLATSOP COUNTY - Site #CP 19 - Goal 5

(Overlay - 1" to 400', #12 & #13)

Location - North of the road to the Crown Site, up to the Palmberg Gravel Company, east of Highway 101 and Seaside Airport.

Size - About 130 acres (5 acres in Seaside UGB, 9 acres in Gearhart UGB-G4).

Vegetation Types - 5, 8, 9, also marshes dominated by cat-tails and reed canary grass.

Riparian Vegetation - None.

Soils - Brallier muck.

Site Description - A system of very wet marshes lining Mill Creek with adjacent swampy areas to the east. These marshes were apparently farmed in the past, but the water table has subsequently risen so that the area now supports native marsh vegetation and swamp. The site has a large area of emergent wetland, and is therefore suitable habitat for the breeding of wetland birds, including waterfowl, such as mallard. Woodduck probably nest in the swamps. Populations of elk and aquatic furbearing mammals are present.

Values - A large area of emergent and forested wetland, probably an important site for wetland birds and for elk.

Management - The natural habitat values of this site should be protected.

CLATSOP COUNTY - Site #CP 20 - Goal 5

(Overlay - 1" to 400', #14)

Location - Southeast of Seaside, south of the Mill ponds, east of Highway 101.

Size - About 132 acres (27 in Seaside UGB - Site #S 2).

Vegetation Types - 1B, 2, 5, 8, 9.

Riparian Vegetation - None.

Site Description - This headwater swamp on the Neawanna is dissected by several small creeks, which support a small natural run of coho salmon (Maine). The swamps which also act as riparian zones around these creeks and the mill ponds are important elk habitat and are important habitat for nesting and feeding wetland birds species, probably including some waterfowl breeding.

Values - Natural wetland values: wetland avifauna, fish, including salmon spawning.

Management - The preservation of part of this site is pre-empted by an existing permit for gravel extraction: the exact area to which this permit applies was not determined. The natural values of this site should be protected as far as possible.

SITE DESCRIPTIONS - CLATSOP COUNTY (LEWIS & CLARK & YOUNGS RIVER)

CLATSOP COUNTY - Site #LY 22 - Goals 17 and 5

(Overlay - See attached map)

Location - Youngs River, Lewis and Clark River, tidegated sloughs (see map, 1:24,000). About 22 sloughs, including Johnson, Peterson, Green, Barrett, Jeffers, Knowland, Cook, Binder, Casey, Tucker Sloughs, and others not named on the USGS Quad.

Size - Not determined.

Vegetation Types - 1A, 1B, 5, 8.

Riparian Vegetation - Extensive, but not mapped. A zone up to 30' wide (where present) of trees and shrubs lines the shores of these sloughs.

Soils - Lake sediments.

Site Description - These former tidal sloughs are now tidegated and are effectively lakes. They now serve to drain floodplain pasture, and also have considerable natural values. They are deep enough to support populations of warm-water fish, and also have value to waterfowl, particularly nesting woodduck.

It is debatable how much of this resource is covered by Goal 17. The best solution is to treat the whole site as a Goal 17 resource.

Values - Warm-water fish and waterfowl.

Management - The sloughs should be protected, while provision should be made for their function as drainage channels. The riparian vegetation should be protected.

CLATSOP COUNTY - Site #LY 23 - Goal 17

(Overlay - See attached map)

Location - Youngs River/Lewis and Clark River: wetlands, wildlife habitat and riparian vegetation. Wetland sites are Haven Island and near Fort Clatsop.

Size - Not determined.

Riparian Vegetation - A band of riparian vegetation up to 50' wide is present in many places along these two rivers (see map, 1:24,000 feet for major tracts).

Site Description - (1) A forested swamp c.11 acres, probably with some tidal interference, lies to the north of Fort Clatsop adjacent to the Lewis and Clark River. (2) South of Fort Clatsop and west of the road, a 550 acre poorly drained floodplain site has reverted to marsh and may have some tidal influence. (3) Haven Island, a 60 acre site in Youngs River of which about 20 acres are wetland and the remainder is significant wildlife habitat on account of its isolated location in the river, remote from human disturbance, which gives it importance to waterfowl and to aquatic furbearers.

Values - These sites are important habitat for waterfowl and aquatic mammals, particularly so because of proximity to parts of the Columbia River Estuary.

Management - These areas should be protected as significant wetland and wildlife habitat. Restoration to the Estuary would be suitable in sites (1) and (3). Riparian vegetation should be protected.

SITE DESCRIPTIONS - CLATSOP COUNTY (EASTERN COUNTY)

CLATSOP COUNTY - Site #EC 26 - Goals 17 and 5

(See CREST Plan)

Location - Columbia River dredge-spoil islands; east and west Sand Island, Lois and Mott Islands, Rice Island, Miller Sands, Jim Crow Sands.

Vegetation Types - Mostly uplands; wetland vegetation types 6 and 7 are present on West Sand Island.

Riparian Vegetation - 50' wide zone surrounds Lois and Mott Islands, the older part of Miller Sands and parts of East and West Sand Island.

Soils - Dredge spoils.

Site Description - These sites, mostly upland, have considerable value to estuarine wildlife. In particular, unstabilized sandy areas are used by breeding seagulls on East Sand Island, Rice Island and the sand spit on Miller Sands.

These islands also support populations of aquatic furbearers, and are especially important to these animals at high tide. Trees on these islands are important for the roosting of birds of prey, including bald eagles and herons. Caspian terns probably nest on Miller Sands and possibly elsewhere.

Values - These islands, which are inaccessible and relatively undisturbed uplands, are important to estuarine wildlife because they provide habitat diversity.

Management - These areas are all designated "Conservation Shoreland" in the CREST Plan. This is a suitable designation to protect the values

of these sites. Continued dredge spoil disposal is compatible with wildlife values, particularly if spoiling avoids the nesting period of seabirds in colony areas. Revegetation of these sandy uplands should be avoided where possible, to maintain this valuable nesting habitat.

CLATSOP COUNTY - Site #EC 27 - Goal 17

(See CREST Plan.)

Location - Tongue Point.

Size - Not measured.

Riparian Vegetation - 50' wide zone along the shoreline.

Site Description - Mature forest and riparian vegetation: scenic and historical area; bald eagle nesting site. Already designed "Natural Shoreland" in the CREST Plan: this is suitable to protect natural values.

CLATSOP COUNTY - Site #EC 28 - Goals 17 and 5

Location - John Day River: 5 wetland areas (see attached map).

Size - 16, 30, 49, 25, and 62 = 182 acres.

Vegetation Types - 1A, 4, 5, 9, 11 (wet var.) - See Clatsop Plains Study.

Riparian Vegetation - Extensive riparian zones (50' wide) line the marshes and the John Day River (see map).

Site Description - The five sites are as follows:

(1) On the north side at c.RM15, a well developed hackberry swamp straddles Highway 101 (16 acres).

(2) On the south side, post RM2, a 30 acre hackberry, sedge and spruce swamp occupies the valley of a small tributary.

(3) At c.RM3.5, a small creek runs southwards and the upper reach is tidegated. Of the tidegated portion, the northern part is poorly managed wetland pasture, while the southern end is natural swamp vegetation.

(4) At the head of the River, beyond RM4, are extensive swampy areas. The SE arm is a long marsh/swamp in pristine condition (c. 25 acres). This is one of the few areas where a natural transition from tidal to non-tidal marsh can be seen; it also shows a good wetland/upland transition, since some of the surrounding forest is mature.

(5) The upper, tidegated portion of the John Day spreads into 3 creeks across a broad floodplain. Part of this is badly managed wetland pasture, while the remainder is swamp and marshes supporting natural vegetation. This was not included as a restoration site but would be very suitable for this purpose. The CREST Plan did note potential for fisheries enhancement, however. These wetlands have important function as feeding and nesting habitat for birds, and as habitat for aquatic furbearers, deer and elk. They have small populations of warm-water fish in the tidegated sloughs. Those fisheries values would be greatly enhanced by restoration, and this is an area where relatively minor actions, involving the loss of marginal agricultural land, would result in major benefit to the estuary. Potential also exists for an extended riparian zone in the mature upland forests which surround these sites.

Management - Suitable designations would be: (1) Conservation or Natural Aquatic; (2) Conservation or Natural Aquatic; (3) Conservation Aquatic; (4) Natural Aquatic; (5) Conservation Aquatic.

Riparian vegetation should be preserved; the restoration of Sites 1, 2, 3, 5 to the estuary is recommended.

The John Day River is a short, tidal slough into which drain numerous small creeks, each with its own short floodplain. The result of this is a complex area with very high habitat diversity, and important riparian functions. These are the estuarine functions which have been most extensively impacted in the past, and the area therefore has very high restoration potential. This was recognized in the CREST Plain, which included some of these sites in mitigation/restoration areas, namely:

(1) was included in 31 (M)
(2) was included in 32 (M)
(3) was included in 35 (M)

NOTE: Shoreline corrections: Tidal swamps which were not identified in the CREST Plan are marked "T" on the map of this area. These wetlands are in the Goal 16 area.

CLATSOP COUNTY - Site #EC 29 - Goal 17

(See attached map)

Location - John Day Point to Knappa Dock

Riparian Vegetation - Up to 50' wide zone along the CR and around areas of fringing marshes.

Site Description - Significant wetlands were identified in the following locations:

(1) Two small marsh areas east of John Day Point - probably some tidal influence (c. 10 acres).

(2) Swamps around Twilight Creek (c. 10 acres).

(3) Swamps on Mary's Creek (c. 30 acres).

(4) Lake near Ferris Creek (c. 6 acres).

(5) Small lake east of Ferris Creek (c. 6 acres).

(6) Fresh water marshes (non-tidal) on Svensen Island (c. 70 acres).

(7) Small swamps and marshes at Eddy Point (c. 20 acres).

All of these sites are wetlands closely associated with the Columbia River which provide habitat diversity for waterfowl and mammals, and may have some tidal influence.

Management - Suitable designation for these sites is "Conservation Aquatic." Bald Eagle nests near Callander Island and Mary's Creek should be protected.

CLATSOP COUNTY - Site #EC 30 - Goals 17 and 16

(See attached map)

Location - Brownsmead.

Riparian Vegetation - Up to 30' wide zone, where it occurs.

Site Description - Sloughs in Brownsmead, tidegated. These have been identified in the CREST Plan and designated "Conservation Aquatic," which offers adequate protection. These sloughs have variable amounts of riparian vegetation, from none up to a zone 30' wide.

In addition, there is a 40 acre wetland site on Gnat Creek (see attached map), an extension of the Goal 16 and Gnat Creek Marshes, and some associated riparian vegetation (50' wide zone), and also 30' wide riparian zone along Gnat Creek and its tributaries.

Management - The Gnat Creek swamp site should be protected for its natural values; riparian vegetation should be preserved. No change is necessary in the designation of the tidegated sloughs.

CLATSOP COUNTY - Site #EC 31 - Goal 17

(See attached map)

Location - Between Aldrich Point and the western end of Puget Island, riparian vegetation and significant shoreland (upland) areas.

Size - Not measured.

Riparian Vegetation - In this area riparian vegetation extends 50' from the shoreline of the estuary, and on small tributary creeks up to the head of tide. A 30' band of riparian vegetation extends along tributary creeks above the heads of tide.

Along the Columbia River, the riparian zone is extensively interrupted by the Burlington Northern Railroad which mostly follows the estuary shoreline.

Shoreland (upland) resources in this area are: bald eagle nest sites and their protection zones at Aldrich Point; the Bradwood Cliffs old growth area (described by the Nature Conservancy, Site #1). This 40 acre site is one of the last areas of old growth in the County.

Site Description - Bradwood Cliffs - about 40 acres of old growth forest on bluffs by the Columbia River. This site is one of the few remaining tracts of old growth forest in the county and should be preserved. A suitable designation would be "Natural Shoreland."

Management - The riparian zone should be preserved, except where access is required for water-dependent developments. The bald eagle sites should be protected. The Bradwood Cliffs site should be preserved.

CLATSOP COUNTY - Site #EC 34 - Goals 17 and 5

(See attached map)

Location - Tenasillahe Island

Size - About 1,700 acres.

Riparian Vegetation - Some riparian vegetation (up to 30' wide zone) lines the sloughs.

Site Description - All of the diked portion of Tenasillahe Island is significant under Goal 17 (up to 1,000' from the dike) and Goal 5. Upland areas are critical habitat for the endangered Columbia white-tailed deer, and are actively managed for this species by the USFWS. This area is significant shoreland and biological habitat. The sloughs on the island and some forested swamp areas are significant wetland. These areas, by providing habitat for warm-water fish, for waterfowl, and for other avifauna, enhance the wildlife values of the area. In addition, there are bald eagle nest sites on the eastern side of the island and the protection zones around these are in the significant shorelands area.

Values - Non-tidal freshwater wetlands, warm-water fish, endangered species habitat.

Management - This site should be actively managed to ensure the survival of the white-tailed deer; the wetlands and the bald eagle nest areas should be preserved. Riparian vegetation should be preserved.

CLATSOP COUNTY - Site #EC 35 - Goal 5

(See attached map)

Location - Driscoll Slough marshes, between Wauna Mill and Westport.

Size - About 360 acres.

Vegetation types - Tidal and non-tidal emergent marshes, hackberry swamp, spruce swamp, willow swamp.

Riparian Vegetation - About 3,500 feet along the Columbia River.

Site Description - These tidal swamps, supporting natural climax floodplain vegetation, are one of the last remnants of a vast system of tidal marshes and swamps which once covered many thousands of acres in Columbia County and the eastern end of Clatsop County as far as Bradley Park. The loss of these and similar floodplain areas was a major reason for the decline of the Columbia White-tailed deer. This site has not, however, been identified as critical habitat for the White-tailed deer. In the upper estuary area, in which this site is included, a CREST report notes that 80% of the tidal swamps have been destroyed in the past century. The swamps are laced with tidal sloughs, except for a small area in the NE corner which is cut off from tidal

circulation by fills. These tide channels, fringed by forested swamps, are productive warm-water fish habitat, and are also likely to be important nursery area for juvenile chinook salmon. The area is important to waterfowl and marsh birds, and probably supports breeding populations of mallard and wood duck. This habitat type is of prime importance to aquatic furbearers, such as muskrat, nutria, beaver, river otter, and racoon. Disturbance at this site includes extensive filling for industrial sites and road and railroad causeways.

Management - This site is a good example of an increasingly scarce tidal wetland habitat type. It should be managed to preserve its natural values as forested wetland if possible.

APPENDIX (SHORELINE CHANGES)

During this survey, some areas were identified where shoreline changes to the CREST Plan were needed, because an area had been incorrectly included or excluded from the estuary.

WARRENTON - Site #18 - Goal 16

Location - Middle Skipanon, CREST Plan Subarea 42-05, west bank, south of Harbor Drive Bridge.

Site Description - An area of river bank was incorrectly described as Goal 16 marshes in the CREST Plan. This area should in fact be shorelands. The corrected shoreline is shown on the attached map.

CLATSOP COUNTY - Site #LY 24 - Goal 16

Location - Lewis and Clark River T7N R9W, Section 18.
Youngs River T7N R9W, Section 22.

Vegetation Types - High marsh and swamps.

Site Description - These areas (see map, 1:24,000) occur in the tidal portions of the Lewis and Clark and Youngs Rivers and are effectively undiked. They are therefore covered by Goal 16 and the estuary shoreline should be redrawn to include them.

CLATSOP COUNTY - Site #EC 32 - Goals 16 and 17

(See attached map 1:24,000)

Location - Tidal marshes and swamps east of Aldrich Point on both sides of the road.

Size - About 46 acres.

Vegetation Types - High marsh and willow swamp.

Riparian Vegetation - Approximately 50' x 6,000'.

Soils - Tideland.

Site Description - Columbia River Goal 16 tidal marshes and swamps with a fringe of Goal 17 riparian vegetation. This site was overlooked in the CREST Plan, which calls most of it "shoreland." It probably possesses the usual attributes of high marsh and willow swamp; important habitat for aquatic furbearing mammals and waterfowl. The tide channel probably has some value to fish.

An additional feature of this site is that, despite its being bisected by the railroad, it is one of the few areas in the estuary which show a transition from floodplain marshes and swamps to relatively undisturbed upland forests.

Management - This site should be managed to protect its natural estuarine values: suitable designation would be "Natural Aquatic."

CLATSOP COUNTY - Site #EC 33 - Goal 16

(See attached map 1:24,000)

Location - Hunts Creek Marshes.

Size - About 74 acres.

Vegetation Types - Sitka Willow swamp, spruce swamp.

Riparian Vegetation - None, but riparian vegetation extends above the head of tide on Hunt Creek.

Site Description - The lower reach of Hunt Creek is tidal, and has no tidegate. The tidal section of this creek and its associated swamps are therefore covered by Goal 16. This was apparently overlooked during the CREST Plan since much of this site is not even within the CREST planning area. Likely values of this site are: warm-water fish, may have a small salmon run; waterfowl nesting; important habitat for aquatic furbearers.

Management - This site should be managed as estuarine wetland: a suitable designation would be "Conservation 1, Aquatic."

20 December 1982

MEMORANDUM

Cannon Beach - Elk Creek Wetlands

Visited November 1, 1982 by Duncan Thomas & Rainmar Bartl.

Exact determination of observed wetland boundary is difficult, since no base map was available for the area West of highway 101, and the color 1.4. aerial photo coverage was incomplete.

Photos used in the survey were

COE 77-2341 (B & W)

COE 80-1066 (CIR)

A sketch map of the wetlands on 1" to 400'

Crown Zellerbach maps is attached.

Area 1): Wet of HWY 101, South of elk Creek

These wetlands consist of an area of brackish high marsh adjacent to the sewage lagoon and an area of forested swamp between the sewage lagoon and Elk Creek. These wetlands are linked to Elk Creek by a network of tidal channels. These wetlands all fall under Oregon Statewide Planning Goal 16, as part of the Elk Creek Estuary. The vegetation and drainage system show that these areas would be periodically inundated by tidal water.

Area 2): West of HWY 101, north of Elk Creek

These wetlands are composed of a high marsh area managed as pasture, an area of swamp, separated from the creek by a natural levee and a high marsh island in the creekl. These wetlands technically fall under Goal 16, on account of periodic flooding by tidal water. They are, however, heavily distrubed, and are a very poor example of tidal wetlands.

Area 3): East of HWY 101

This is a large expanse of palestine spruce and alder swamp, with patches of short and emergent dominated marshes. The wetland exists largely because of

poor drainage characteristics of the site, though there is some tidal influence in the northwest portion. Technically, this area is a complex mix of Goal 16, 17 and 5 wetlands. For convenience, I propose that the tidal portion of Elk Creek should be Goal 16, and the remainder of the mapped area should be covered by Goal 17 and should be designated as a significant wetland.

There is a large area to the south and east of the mapped wetland, which also has poor drainage characteristics. The field survey showed however, that this area did not support extensive wetland vegetation. The herb layer was mostly dominated by Polystichum munitum, a predominantly upland species. The wetlands in this area were found to be not significant.

Soil types at the proposed site vary mainly with elevation and consequently the amount of saturation. Surface soil is generally dark brown silt-loam to a 12- to 15-inch depth. The upper subsoil consists of a dark grayish brown silty clay-loam with predominant gray and red mottles from a 48-inch depth near the higher ground of the creek bank to near ground surface in the lower depressions. The red mottles normally reflect the degree of iron oxidation caused by permanent or nearly permanent water saturation. Soils in the low elevations of the wetlands consist of Brallier or Coquille muck. The soil in the high elevations, mainly along Ecola Creek, probably result from silt deposited during the periodic flooding of the creek.

Prevailing westerly winds and moist air masses from the Pacific Ocean contribute greatly to the weather pattern in Cannon Beach. An average annual rainfall of 77 inches occurs mainly from October through March. Monthly temperatures average 52°F. The warmest months, July, August, and September, have average daily maximum temperatures of 67.1°F, 67.9°F, and 68.3°F, respectively. The coldest month, January, usually produces ten days with temperatures at 32°F or below. For further climatic information, see Facilities Plan Addendum No. 1.

3.2.2 Biological Conditions - Plant and Animal Inventory

The biota and ecology of the Cannon Beach area have been influenced by a variety of factors over time, including soil type, a maritime climate with much rainfall and moderate temperatures, and activities of man.

Mankind has had a profound effect on the establishment of the present plant and wildlife communities in the Cannon Beach area and especially on the study site (as discussed in Section 3.2.1). Initially, much of the present downtown area of Cannon Beach was comprised of wetlands similar to those presently found in the strip of lowland which follows the north bank of Ecola Creek from its mouth to the Highway 101 embankment. Because of their low elevation, these wetlands were flooded by the ocean at high tides, by Ecola Creek during winter runoff and, at times, by both sources at once. In addition, these wetlands received drainage from Ecola Creek as it drained the lower portions of the watershed.

Because long-term changes in water table elevation alter plant communities, it appears the historical flora on the study site, especially in the low areas, was different from those which presently exist. Plants indicative of more xeric (dry) sites in coastal spruce forests such as sword fern, oxalis, and Oregon fairybells (all of which grow on the elevated portions of the sites) were reduced in types and numbers; plants which could grow in more mesic (wet) sites, termed hydrophylic plants, such as skunk cabbage, slough sedge, and lady fern, increased in numbers. Presently, scattered growths of sword fern, salmonberry, hemlock, spruce, mustard and grass occur on tops of hummocks of slough sedge, spruce stumps, and fallen spruce and alder trees.

Ecological succession occurs when one biotic community replaces another. Both plant and animal communities continually change until a more stable climax community is reached. Usually plant succession precedes animal succession as the former is usually the main component of wildlife habitat. With the ascendance of man's activities as a prime component in a particular area's vegetation type, successional patterns frequently do not reach their climax or final state and continually revert to previous stages. The same process occurs in nature as a result of flooding rivers, avalanches, landslides, and forest fires. The yearly flooding of the study site by Ecola Creek probably flushes out much of the organic debris which would otherwise accumulate in the lower portions of the site. This prevents the formation of a humus layer which could support a variety of plants which are less tolerant of saturated soils.

The change of the lowland area from a dry or occasionally wet habitat to a permanently wet habitat has had a profound influence on the vegetative and animal communities which live in the project area.

3.2.2.1 Vegetation

Franklin and Dyrness (1973) consider Cannon Beach to be in the Picea sitchensis (Sitka spruce) Zone which extends along the greater portion of the coastline of Washington and Oregon within a two-to three-kilometer strip. Their descriptions of this zone broadly reflect the plant composition of the site with several exceptions. These authors record western red cedar and devil's club as being major constituents of Sitka spruce forests; only a few very scrubby cedars and no devil's club were found on the project site.

According to the Fish and Wildlife Service wetland classification system (Cowardin, et al., 1979), the entire project area is a palustrine wetland covering four broad classes. The palustrine system includes wetlands dominated by trees, shrubs and/or emergent plants and referred to as swamps, marsh and bog.

Spruce/Elderberry

System:	Palustrine
Class:	Forested wetland
Subclass:	Needle-leaved evergreen/broad-leaved deciduous
Dominance Type:	Picea sitchensis/Sambucus racemosa
Water Regime:	Saturated

Alder/Spruce

System:	Palustrine
Class:	Forest wetland
Subclass:	Broad-leaved deciduous/needle-leaved evergreen
Dominance Type:	Alnus rubra/Picea sitchensis
Water Regime:	Seasonally flooded

Sedge/Alder

System:	Palustrine
Class:	Emergent/forested wetlands
Subclass:	Persistent/broad-leaved deciduous
Dominance Type:	Carex obnupta/Alnus rubra
Water Regime:	Semipermanently exposed

Sedge/Twinberry

System:	Palustrine
Class:	Emergent/scrub-shrub wetlands
Subclass:	Persistent/broad-leaved deciduous
Dominance Type:	Carex obrupta/Lonicera involucrata
Water Regime:	Intermittently exposed

A number of plants in Oregon are either listed as endangered species, proposed to be listed as such, or are being watched closely for changes in distribution. A great many of these plants occur on the south side of rocky promontories. Sitka spruce and alder/sedge swamps are not well known habitats for these plants, (Hohn, 1981). No endangered or threatened plants are known to exist on the project site.

The field portion of a vegetation analysis undertaken by a KCM ecologist from May 27 through May 29, 1981 revealed the existence of several different plant communities on the project site (see Figure 2). The plant communities and their associated species are listed in Table 1. Budget restrictions dictated that only one field inventory be conducted. Discussions with the concerned resource agencies led to agreement that the best time for this inventory would be late Spring. Because the field work was conducted in late Spring, a few plants which grow on the project site and bloom at other times of the year were not observed.

TABLE 1
VEGETATION COMMUNITIES
OF CANNON BEACH WETLAND

Blackberry/Alder

Himalayan blackberry	(*Rubus discolor*)
evergreen blackberry	(*Rubus laciniatus*)
red alder	(*Alnus rubra*)
twinberry	(*Lonicera involucrata*)
Sitka spruce	(*Picea sitchensis*)
crab apple	(*Pyrus fusca*)
Scotch broom	(*Cytisus scoparius*)
cow parsnip	(*Heracleum lanatum*)
horsetail	(*Equisetum arvense*)
coltsfoot	(*Petasites frigidus*)
buttercup	(*Ranunculus sp.*)
clover	(*Trifolium sp.*)
slough sedge	(*Carex obnupta*)
soft rush	(*Juncus effusus*)
grass	(Gramineae)
wild mustard	(Cruciferae)
vetch	(*Vicia sp.*)

Spruce/Elderberry

Sitka spruce	(*Picea sitchensis*)
red elderberry	(*Sambucus racemosa*)
buttercup	(*Ranunculus sp.*)
red huckleberry	(*Vaccinium parvifolium*)
vine maple	(*Acer circinatum*)
Douglas maple	(*Acer douglasii*)
hemlock	(*Tsuga heterophylla*)
curled dock	(*Rumex crispus*)
wood rush	(*Luzula sp.*)
sword fern	(*Polystichum munitum*)
cow parsnip	(*Heracleum lanatum*)
oxalis	(*Oxalis oregana*)
wild cucumber	(*Marah oreganus*)
montia	(*Montia parvifolia*)
Siberian miner's lettuce	(*Montia siberica*)
bracken	(*Pteriduim aquilinum*)
slough sedge	(*Carex obnupta*)
grass	(Gramineae)
violet	(*Viola spp.*)
crab apple	(*Pyrus fusca*)
foxglove	(*Digitalis purpurea*)
lily of the valley	(*Maianthemum dilatatum*)
tansey ragwort	(*Tanacetum vulgare*)
large-leaf aven	(*Geum macrophyllum*)
common thistle	(*Circium vulgare*)

Spruce/Elderberry (Cont.)

Scouler's corydalis	(*Corydalis scouleri*)
tooth-leaved monkey flower	(*Mimulus dentatus*)
yerba buena	(*Satureja douglesii*)
Oregon fairybells	(*Disporum oregonum*)
woodrush	(*Luzula sp.*)
cascara	(*Rhamnus purshiana*)
evergreen huckleberry	(*Vaccinium ovatum*)

Alder/Spruce

red alder	(*Alnus rubra*)
Sitka spruce	(*Picea sitchensis*)
crab apple	(*Pyrus fusca*)
salmonberry	(*Rubus spectalilis*)
red huckleberry	(*Vaccinium parvifolium*)
lily of the valley	(*Maianthemum dilatatum*)
montia	(*Montia parvifolia*)
Siberian miner's lettuce	(*Montia siberica*)
oxalis	(*Oxalis oregana*)
cow parsnip	(*Heracleum lanatum*)
salal	(*Gaultheria shallon*)
slough sedge	(*Carex obnupta*)
bedstraw	(*Galium boreale*)
wild cucumber	(*Marah oreganus*)
squashberry	(*Viburnum pauciflorum*)
gooseberry	(*Ribes sp.*)
tooth-leaved monkey flower	(*Mimulus dentatus*)
hedge nettle	(*Stachys mexicana*)
Fendler's waterleaf	(*Hydrophyllum fendleri*)
green-tinted heuchera	(*Heuchera chlorantha*)
violet	(*Viola spp.*)
woodrush	(*Luzula sp.*)
wild mustard	(Cruciferae)

Sedge/Alder

slough sedge	(*Carex obnupta*)
red alder	(*Alnus rubra*)
skunk cabbage	(*Lysichitum americanum*)
lady fern	(*Athyrium filix-femina*)
water parsley	(*Oenanthe sarmentosa*)
spleenwort	(*Asplenium sp.*)
Pacific cinquefoil	(*Potentilla pacifica*)
narrow-leaf skullcap	(*Scutellaria angustifolia*)
woodrush	(*Luzula*)
Brewer's bittercress	(*Cardamine breweri*)
angled bittercress	(*Cardamine angula*)

TABLE 1 (continued)

Sedge/Twinberry

slough sedge	(*Carex obnupta*)
twinberry	(*Lonicera involucrata*)
skunk cabbage	(*Lysichitum americanum*)
water parsley	(*Oenanthe sarmentosa*)
wild mustard	(Cruciferae)
red alder	(*Alnus rubra*)
Sitka spruce	(*Picea sitchensis*)
deadly nightshade	(*Solanum dulcamara*)
maidenhair fern	(*Adiantum pedatum*)
water fern	(*Azollamexicana*)
coast boykinia	(*Boykinia elata*)
American wintercress	(*Barberea orthoceras*)

It is likely the greatest determinant of which plants will predominate on a particular site in the project area is the amount of soil saturation. Some plants which tolerate a wide range of moisture levels and disturbance occur in more than one community. Frequently these plant communities are not clearly delineated, but gradually grade from one to another.

3.2.2.1.1 Blackberry/Alder

The blackberry/alder plant community occupies approximately 15% of the project area, mostly along the dike which supports Highway 101. Because of the slope and higher elevation, the soil does not tend to be saturated during the growing season except in the small ditch which runs along the Highway. Ground cover includes grasses and clover along the drier roadway, slough sedge, horsetail, cow parsnip, and buttercups in the lower ditch. Trailing and evergreen blackberry and twinberry comprise the shrub layer. Young alders, spruce, and crab apple grow on the higher ground east of the small ditch.

3.2.2.1.2 Spruce/Elderberry

The spruce/elderberry association, covering about 20% of the project area, mainly occurs within the southeastern portion of the site along Ecola Creek and on higher ground. It does not appear that this area is as susceptible to winter flooding as the down-creek portion of the site. The spruce trees, some with diameters of over 6 feet, dominate the upper story. Vine maple, crab apple, large red elderberry shrubs, and small hemlock trees provide a middle layer of vegetation. The ground is covered with buttercup, oxalis, sword fern, wild cucumber, and curled dock.

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3.2.2.1.3 Alder/Spruce

The alder/spruce plant community covers about 19.0% of the project area along the natural levee adjacent to the creek and in the wetter area west of the spruce/elderberry association. The ground is more susceptible to flooding than that of the spruce/elderberry community. Dry sloughs are much in evidence. Alder is the dominant tree, with spruce scattered throughout the area. Usually the alders on the higher ground are larger, with diameters of one & one-half feet or greater. The shrub layer consists of crab apple, salmonberry, and huckleberry. Montia, Siberian miner's lettuce, oxalis, cow parsnip, and slough sedge comprise the herbaceous layer.

3.2.2.1.4 Sedge/Alder

Sedge and small alder trees probably best characterize approximately 11% of the project area between the large slough which contains water throughout the year and runs next to the Highway and Ecola Creek. Because of its elevation and proximity to the large slough, it is relatively well drained, with a matrix of small channels and depressions which usually become dry in the summer.

3.2.2.1.5 Sedge/Twinberry

The sedge/twinberry association occupies the wettest and largest portion of the site on ground, approximately 35% of the project area. The soil in this location probably has one or two feet of water over it most of the year. Numerous large spruce stumps indicate a mature forest once grew throughout this area. In addition, smaller spruce and alder stumps indicate the former presence of a second-growth forest which succumbed not to logging, but to high water tables. Presently a scattering of young alders and spruce grow on hummocks and nurse logs throughout this swamp. Twinberry, growing luxuriantly in this wet habitat, provides a thick shrub layer. Skunk cabbage and

slough sedge dominate the ground cover. Many deep channels and depressions filled with water are evident, along which water parsley grows abundantly.

3.2.2.2 Wildlife

Wildlife, because of its secretive, mobile nature, is harder to observe than plants, and therefore is difficult to analyze in a short ecological survey. Since vegetation and moisture levels are prime components of habitat, the different vegetative communities roughly correspond to habitat types. Because most animals are mobile, they frequently utilize several different habitat types in carrying out life processes. These habitat changes can occur daily and seasonally. Deer remain in thick brush during the day and feed in clearings during the morning and evening hours. Elk usually summer higher up in watersheds and winter at lower elevations where food is more available.

Ecola Creek and its surrounding watershed provide excellent habitat for a very rich and diverse assemblage of wildlife. Many of the animals are listed in Table 2. Large populations of black bear, mink, muskrat, beaver, river otter, raccoon, coyote, and spotted skunks reside along the creek. Although at times quite abundant, the bobcat population has been reduced because of past over-trapping (Teeple, 1981).

Primarily during the winter, a herd of Roosevelt elk, which varies in size, but averages about 18 to 20 animals, wanders over the lower watershed of Ecola Creek, including the project area. During late spring and summer, this herd generally grazes further up the watershed at higher elevations where the cows calve. Elk trails, tracks, and droppings were highly evident on the higher portions of the project site adjacent to the creek. Elk tracks and pellet groups were found in the lower wet areas, but not as frequently nor were they as concentrated. Several elk crossing sites were evident along the creek. Plants which had obviously been grazed included, by order of frequency, sword fern, skunk cabbage, and slough sedge.

VI FINDINGS AND POLICIES FOR RURAL SHORELANDS

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1. Introduction:

The sets of findings included in this section pertain to all areas (Parts I through IV) defined as estuarine and coastal shorelands. Additional findings for "other" uses will be made at the time of the proposed action. For example if the Department of Planning and Development receives a Conditional Use Permit request for an "other use" in a RA-5 or EFU zone, the request will be reviewed to determine whether this "other use" can be permitted pursuant upon making "a finding by the governing body of the county that such uses satisfy a need which cannot be accommodated at other upland locations or in urban or urbanizable areas and are compatible with the objectives of this goal to protect riparian vegetation and wildlife habitat. The findings in this section pertaining to home occupations, cottage industries in existing structures, utilities necessary for public service and certain Public or Semi-public Uses in Rural Shorelands, certain temporary uses and signs are located here so that these findings need not be made during plan implementation.

2. Goal 17 Use Requirements for Rural Shorelands:

"Shorelands in rural areas...shall be used as appropriate for:

(a) farm uses as provided in ORS Chapter 215;
(b) propagation and harvesting of forest products consistent with the Oregon Forest Practices Act;
(c) private and public water-dependent recreation developments;
(d) aquaculture;
(e) water-dependent commercial and industrial uses and water-related uses only upon a finding by the governing body of the county that such uses satisfy a need which cannot be accommodated on shorelands in urban and urbanizable areas;
(f) subdivisions, major and minor partitions and other uses only upon a finding by the governing body of the county that such uses satisfy a need which cannot be accommodated at other upland locations or in urban or urbanizable areas and are compatible with the objectives of this goal to protect riparian vegetation and wildlife habitat; and
(g) a single family residence on existing lots, parcels or units of land when compatible with the objectives and implementation standards of this goal."

3. Findings for Private and Public Water-dependent Recreation Developments:

Clatsop County finds that there are shoreland areas other than protected major marshes, significant wildlife habitat coastal headlands, exceptional aesthetic resources, and historic and archaeological sites, that are other than farm or forest in nature and are currently being used or could be used for private and public water-dependent recreation developments.

4. Findings for Exception of "Built and Committed" Rural Shorelands from Goal 17 Rural Shoreland Use Requirements 3e and 3f:

Clatsop County finds that there are shoreland areas which are not urban under the definition of "urban lands" provided on page 24 of the State-wide Planning Goals and Guidelines, yet which are "built and committed" to a type and degree of development which is not rural farm or forest in nature. These include the following areas which are not rural as defined by the Goals, because they are not characterized by sparse settlement, small farms or acreage homesites:

(a) areas which are not necessary, suitable or intended for urban use (e.g. Falcon Cove-Cove Beach, Arcadia Beach, Fern Hill, John Day, Burnside); and
(b) communities which are necessary, suitable or intended for urban use (Arch Cape, Shoreline Estates at Cullaby Lake).

Clatsop County also finds that there are individual land parcels outside of the communities listed above which are committed to uses other than the following:

(a) farm uses;
(b) propagation and harvesting of forest products;
(c) private and public water-dependent recreation development;
(d) aquaculture; and
(e) water-dependent commercial and industrial uses.

Clatsop County finds that these built and committed communities and individual land parcels are committed to subdivisions and major and minor partitions which are necessary to accommodate the uses which occur within these areas.

The Goal 2 Element of the Clatsop County Comprehensive Plan describes the criteria used to identify "built and committed" areas, provides maps showing the location of these rural shoreland areas, and provides site-by-site committment findings.

5. Findings for "Other Uses" on Rural Shorelands Within the Exclusive Farm Use-38 (EFU-38), Forest-80 (F-80), Forest-38 (F-38) and Agriculture Forest-20 (AF-20) Zones:

Clatsop County finds that:

(a) Farm uses as provided for in ORS Chapter 215, and propagation and harvesting of forest products consistent with the Oregon Forest Practices Act are permitted uses in rural shoreland areas (subject to Goal 17 Coastal Shoreland Use finding requirement for shoreland areas identified as major marshes, significant wildlife habitat, coastal headlands, exceptional aesthetic resources and historic and archaeological sites);

(b) Rural shoreland areas which qualify as agricultural or forest lands, and which are not "built and committed" to, or needed for uses other than agricultural or forestry use, have been included within the EFU-38, F-80, F-38, or AF-20 zones. These zones meet the requirements of Goals 3 and 4 for protecting farm and forest land for farm and forest use;

(c) Goal 17 Use Requirements for Rural Shoreland Areas (see Section _____) define "other uses" as any use other than:

1) farm uses;
2) propagation and harvesting of forest products consistent with the Oregon Forest Practices Act;
3) private and public water-dependent recreation developments;
4) aquaculture; and
5) water-dependent commercial and industrial uses.

(d) Goal 17 requires that "other uses" in rural shorelands be allowed only upon findings by the governing body that such uses satisfy a need which cannot be accommodated at other upland locations or in urban or urbanizable areas. Other upland locations include non-shoreland locations outside of a given parcel of land and non-shoreland locations within a given parcel of land.

(e) The following Permitted or Conditional Development and Uses provided for in the Exclusive Farm Use (EFU-38) zone are "other uses" which are necessary in conjunction with commercial farm use and must be located on the land parcel which is used for farm use:

1) one family dwelling, or mobile home on a parcel 38 acres or greater when necessary to carry out a farm use;
2) farm buildings, other than dwellings customarily provided in conjunction with farm use, including roadside stands selling farm products produced or property owners or leased for farm use by the owner of the property on which the roadside stand is located;

4) commercial developments that are in conjunction with farm use such as a veterinarian office, feed and seed store, farm machinery sales and repair shop, winery, or farmer's market and that serve a need of farm operation in the area.

(f) The following Permitted Development and Use Permitted with Review or Conditional Develpment and Uses provided for in the Forest-80 (F-80) zone are necessary in conjunction with commercial forest use, and must be located on the land parcel which is used for forest use:

1) forestry operations;
2) office, maintenance and storage facilities necessary for the management and protection of forest lands;
3) primary processing;
4) forest residence subject to approval and siting criteria; and
5) temporary mobile home for a period not to exceed one year used during the construction of a residence for which a building permit has been issued, and when located at the construction site.

(g) The following Permitted Development and Use Permitted with Review or Conditional Development and Uses provided for in the Forest-38 (F-38) zone are necessary in conjunction with commercial forest use, and must be located on the land parcel which is used for forest use:

1) forestry operations;
2) office, maintenance and storage facilities necessary for the management and protection of forest lands;
3) primary processing;
4) forest residence subject to approval and siting criteria; and
5) temporary mobile home for a period not to exceed one year used during the construction of a residence for which a building permit has been issued, and when located at the construction site.

(h) The following Permitted or Conditional Development and Uses provided for in the Agriculture Forest-20 (AF-20) zone are necessary in conjunction with commercial farm or forest use, and must be located on the land parcel which is used for resource use:

1) forestry operations;
2) office, maintenance and storage facilities necessary for the management and protection of forest lands;
3) primary processing;
4) forest residence subject to approval and siting criteria; and
5) temporary mobile home for a period not to exceed one year used during the construction of a residence for which a building permit has been issued, and when located at the construction site.

(i) Findings that the uses in e-h above satisfy a need which cannot be accommodated on non-shoreland locations within a given parcel of land and can only be made on a case-by-case basis.
(j) In cases where agricultural or forest productivity varies within a given parcel of land, location of the uses in e-h above on non-shoreland locations may impact resource productivity to a greater extent than location of these uses within coastal shorelands.
(k) There are benefits derived from maintaining productivity of resource lands within the EFU-38, F-80, F-38, and AF-20.
(l) Compatibility of the uses listed in e-h above with the objective of Goal 17 to protect riparian vegetation will be achieved through application of Sections of the Clatsop County Land and Water Development and Use Standards Document.

6. Findings for "Other Uses" on Rural Shorelands Within the Recreation Management (RM) Zone and Open Space, Parks and Recreation (OPR) Zone:

Clatsop County finds that:

(a) The RM and OPR zones are intended for existing state and private campgrounds and day use facilities. The RM and OPR zones are also appropriate for other areas which have significant natural and open space values;
(b) Within coastal shorelands, an important function of the RM zone is to provide for low-density coastal recreational developments on large acreage tracts;
(c) Goal 17 Use Requirements for Rural Shoreland Areas define "other uses" as an use other than:

1) farm uses;
2) propagation and harvesting of forest products consistent with the Oregon Forest Practices Act;
3) aquaculture; and
4) water-dependent commercial and industrial uses.

(d) Goal 17 requires that "other uses" in rural shorelands be allowed only upon a finding by the governing body that such uses satisfy a need which cannot be accommodated at other upland locations or in urban or urbanizable areas. Other upland locations include non-shoreland locations outside of a given parcel of land, and non-shoreland locations within a given parcel of land.
(e) The following permitted uses or conditional development and uses provided for in the RM zone are "other uses" which are necessary in conjunction with large acreage, low density coastal recreational developments, and must be located on the land parcel which is used for coastal recreational developments;

1) recreational improvements and additions necessary to serve the same visitor capacity served by the existing facilities provided that off-site impacts are not disturbed; and

2) general maintenance and operation of existing recreation facilities.

Compatability of the uses listed in e above with the objectives of Goal 17 to protect riparian vegetation will be achieved through application of the Sections of the Clatsop County Land and Water Development and Use Ordinance Standards Document.

7. Findings for Specific "Other Uses" on Rural Shorelands:

1. Home Occupations on Rural Shorelands:

Clatsop County finds that:

(a) Allowing the establishment of home occupations on surplus floor area within an existing dwelling increases employment opportunities for the residents of Clatsop County, and reduces the operating costs of small businesses by eliminating the need to rent or purchase additional floor space in order to establish a business;
(b) There is a need to provide for additional employment opportunities in rural areas within Clatsop County (see Economic Element of the Clatsop County Comprehensive Plan);
(c) Since home occupations must occur within a dwelling, they must locate on the same land parcel as the dwelling or farm use (i.e., there are no alternative locations for these uses outside of the given land parcel);
(d) Compatibility of home occupations with the objectives of Goal 17 to protect riparian vegetation will be achieved through application of the Protection of Riparian Vegetation Standards in Section S4.500 of the Clatsop County Land and Water Development and Use Ordinance.
(e) Home occupations are compatible with Goal 17 requirements for protection of wildlife habitat, since they can be accommodated within existing structures on a given parcel of land, and do not increase density of development within the land parcel.

2. Cottage Industries in Existing Structures on Rural Shorelands.

Clatsop County finds that:

(a) Allowing the establishment of cottage industries on surplus floor area within an existing dwelling or accessory structure increases employment opportunities for the residents of Clatsop County and reduces the operating costs of small businesses by eliminating the need to rent or purchase additional floor space in order to establish a business.
(b) There is a need to provide for additional employment opportunities in rural areas within Clatsop County (see Economic Element of the Clatsop County Comprehensive Plan);
(c) Since cottage industries may occur within a dwelling or in an outbuilding accessory to a dwelling they must locate on the same land parcel as the dwelling, (i.e., there are no alternative locations for these uses outside of the given land parcel);
(d) Compatability of cottage industries with the objectives of Goal 17 to protect riparian vegetation will be achieved through application of the Protection of Riparian Vegetation Standards in Section S4.500 of the Clatsop County Land and Water Development and Use Ordinance.

(e) Cottage industries are compatible with Goal 17 requirements for protection of wildlife habitat, since they can be accommodated within an existing dwelling or in an outbuilding accessory to a dwelling on a given parcel of land and do not increase density of development within the land parcel.

3. Utilities necessary for Public Service and certain Public or Semi-public Uses in Rural Shorelands.

Clasop County finds that:

(a) Electrical distribution lines, water, sewer or gas lines and water and sewage treatment plants are necessary to provide normal domestic service to residential dwellings and to other permitted uses within rural shorelands;
(b) There is a need to provide for normal domestic energy facility and utility service within rural shorelands. This need can not be met on upland locations or in urban or urbanizable areas;
(c) Compatibility of energy facilities and utilities with the objectives of Goal 17 to protect riparian vegetation will be achieved through application of the Protection of Riparian Vegetation Standards in Section S4.500 of the Clatsop County Land and Water Development and Use Ordinance.
(d) Compatibility of development on rural shorelands with the Goal 17 requirements for protection of wildlife habitat depends primarily on the density of development provided for, which is determined by the minimum lot size requirements. If development densities within an area are consistent with the protection of wildlife habitat, the incremental disruption of wildlife habitat produced during the installation of energy facilities and utilities which are necessary to serve existing or permitted development should also be consistent with protection of wildlife habitat.

4. Mobile home or Recreational Vehicle Used During the Construction of a Permitted Use for which a Building or Placement Permit Has Been Issued.

Clatsop County finds that:

(a) Mobile homes and recreational vehicles are sometimes used as interim housing or as temporary office space during the construction of a permitted use;
(b) Temporary mobile home or recreational vehicle placement does not preclude uses which are allowed as permitted or conditional uses within rural shorelands;
(c) Mobile home or recreation vehicle placement is subject to the following requirements;

1) Department of Environmental Quality requirements for subsurface sewage disposal;
2) Clatsop County zoning ordinance requirements in:

a) Section S3.190, Mobile Home Siting Criteria;
b) Section S4.500, Protection of Riparian Vegetation Standards;
c) Section S3.700, Geologic Hzard Requirements;
d) Section 5.500, Temporary Use Permit Section for temporary placement of a mobile home or recreational vehicle.

(d) The requirements listed in (c) above, and the temporary nature of the recreation vehicle placement will serve to prevent adverse impacts to rural shorelands.

5. Signs

Clatsop County finds that:

(a) Areas of exceptional aesthetic and scenic quality have been identified in Section _____ of the Ocean and Coastal Lake Shoreland Element of the Clatsop County Comprehensive Plan;
(b) The placement of signs is subject to the requirements in Section S2.300 of the Clatsop County Land and Water Development and Use Ordinance.
(c) The placement of signs in rural shoreland areas which have not been identified as areas of exceptional aesthetic and scenic quality does not produce adverse impacts on rural shorelands.

8. Findings for Major and Minor Partitions on Rural Shorelands in the Exclusive Farm Use-38 (EFU-38), Forest-80 (F-80), Forest-38 (F-38) and Agriculture Forest-20 (AF-20) Zones.

Clatsop County finds that:

(a) Farm uses as provided for in ORS Chapter 215, and propagation and harvesting of forest products consistent with the Oregon Forest Practices Act are permitted uses in rural shoreland areas (subject to Goal 17 Coastal Shoreland Use finding requirement for shoreland areas identified as major marshes, significant wildlife habitat, coastal headlands, exceptional aesthetic resources and historic and archaeological sites);
(b) Rural shoreland areas which qualify as agricultural or forest lands, and which are not "built and committed" to, or needed for uses other than agricultural or forestry use, have been included within the F-80, EFU-38, F-38, and AF-20 zones. These zones meet the requirements of Goals 3 and 4 for protecting farm and forest land for farm and forest use;
(c) The 80-acre minimum lot size provided for in the Forest-80 (F-80) zone, 38 acre minimum lot size provided for in the Exclusive Farm Use-38 (EFU-38) and Forest-38 (F-38) and the 20 acre minimum lot size provided for in the Agriculture Forest-20 (AF-20) zone is consistent with the continuation of large-acreage farm and forest use;

9. Rural Shoreland Policies:

Shorelands in rural areas (other than those designated as major marshes, significant wildlife habitat, coastal headlands, exceptional aesthetic resources and historical and archaeological sites) shall be used, as appropriate, for:

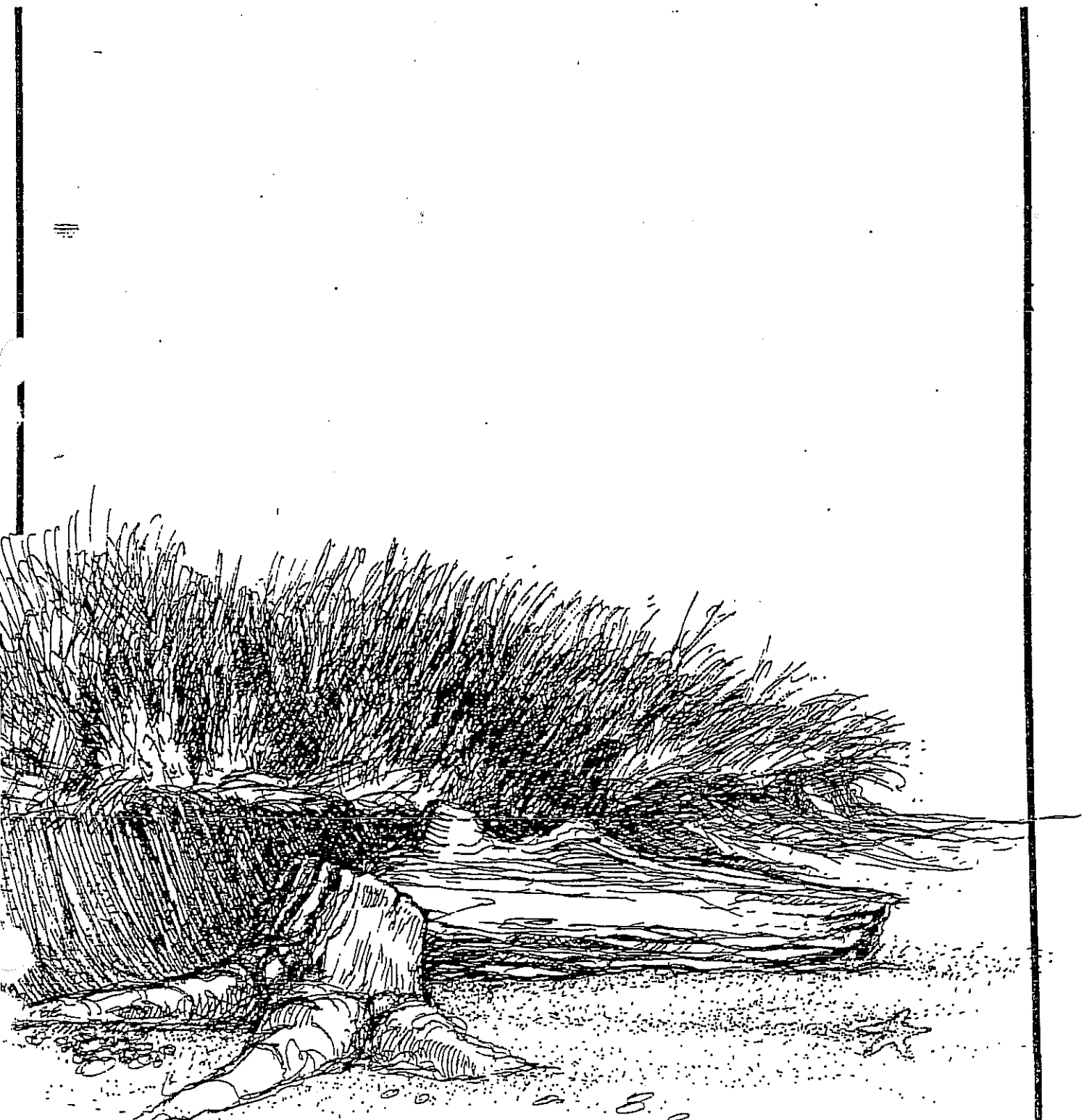
(a) farm uses (as provided in ORS 215);
(b) propagation and harvesting of forest products consistent with the Oregon Forest Practices Act;
(c) private and public water-dependent recreational developments and open space;
(d) aquaculture;
(e) single-family dwellings on existing lots, parcels or units of land;
(f) water-dependent commercial and industrial uses and water-related commercial, industrial and recreational uses, only if such uses satisfy a need which cannot be accommodated at other upland locations or in urban or urbanizable areas.
(g) subdivisions, major and minor partitions and other uses only upon a finding by the governing body of the county that such uses satisfy a need which cannot be accommodated at other upland locations or in urban or urbanizable areas.

Clatsop County shall review alternative upland locations for "other uses" within a given land parcel within rural shorelands on a case-by-case basis. In determining the suitability of alternative upland locations for "other uses" within a given land parcel in the Exclusive Farm Use (EFU- 38), Forest-80 (F-80), Forest-38 (F-38), or Agriculture Forest-20 (AF-20) zones, consideration shall be given to the productivity of resource land. "Other uses" within these zones shall be located so that productivity of resource land is maintained.

Goal 18

CLATSOP COUNTY
GOAL 18
COUNTY-WIDE ELEMENT

BEACHES & DUNES



Goal 18 - Beaches and Dunes

Goal 18

To conserve, protect, where appropriate develop, and where appropriate restore the resources and benefits of coastal beach and dune areas; and

To reduce the hazard to human life and property from natural or man-induced actions associated with these areas.

Beaches and Dunes Policies

1. Uses permitted on the beach, the area located west of the statutory Vegetation Line as established and described by ORS 390.770, or the line of established upland shore vegetation, whichever is further inland, shall be consistent with the requirements ORS 390.605 - 390.725 and Oregon Administrative Rules adopted pursuant thereto. Residential development and commercial and industrial buildings are prohibited. The County will coordinate its actions in beach areas with the Oregon Department of Parks and Recreation.

2. Uses permitted on active foredunes, on other foredunes which are conditionally stable and are subject to ocean undercutting or wave overtopping, and on interdune areas (deflation plains) that are subject to ocean flooding shall be limited to low intensity uses which have minimal impact on the dune system and which have a minimal monetary value. Residential developments and commercial and industrial buildings are prohibited.

3. The County, in making land use decisions in beach and dune areas, other than older stabilized dunes, shall consider the impact of the proposed development on the site and on adjacent areas, and the methods that are proposed for protecting the site and adjacent areas from any potential adverse effects of the proposed development.

4. The stability of all types of dunes, in relationship to the potential for wind erosion, is based on the maintenance of its vegetative cover. For this reason, the county shall implement a wind erosion control program that minimizes site disturbance, provides for temporary and permanent sand stabilization, and requires the continued maintenance of newly established vegetation.

5. On active and conditionally stable dunes, pedestrian, bicycle, equestrian and vehicular circulation shall be managed to minimize adverse impacts to dunes and their stabilizing vegetation

6. Land use actions (i.e. Comprehensive Plan changes, zone changes, subdivisions and partitions, planned developments, conditional use permits) shall be reviewed by the Planning Commission or the Department of Planning and Development so that the

proposed activity(ies) will not result in the drawdown of the groundwater supply which could lead to any or all of the following:

a. the loss of stabilizing vegetation,
b. the loss of water quality,
c. salt water intrusion into the water supply,
d. result in the permanent drawdown of the dune lakes.

7. Foredunes shall be breached only on a temporary basis for emergency purposes such as fire control, cleaning up oil spills, or alleviating flood hazards. Breaches in foredune areas shall be restored in a manner that is consistent with the character of the area prior to the foredune breaching.

8. Foredune grading for view enhancement or to prevent on-going sand inundation may be allowed for structures in foredune areas that were committed to development on or before January 1, 1977 and where an overall plan for managing the foredune grading is prepared. Before construction can begin, the foredune grading plan must be adopted as an amendment to the Comprehensive Plan.

9. The extensive modification of dune areas other than that permitted by an approved plan for foredune grading for view enhancement, is strongly discouraged because the shape of unmodified dune forms is an essential element in defining the physical character of the Clatsop Plains.

10. Clustering of development is encouraged so that development occurs on the most stable dune areas, with less stable areas retained as open space.

11. The County will provide for the appropriate management of dune areas within Fort Stevens State Park through the adoption of the Fort Stevens State Park Master Plan.

12. Removal of vegetation which provides wildlife habitat shall be limited. Unnecessary removal of shoreline vegetation shall be prohibited.

13. In order to establish construction feasibility, within the dune construction area, and to provide recommendations on methods to mitigate potentially hazardous conditions, a site specific investigations by registered professional geologist or certified engineering geologist shall be required for the issuance of a development permit in all beach and dune areas that the Planning Director considers to have a hazard potential.

14. On-site sewage disposal systems shall be prohibited in active foredunes, on other foredunes which are conditionally stable and are subject to ocean undercutting or wave overtopping, and on interdune areas (deflation plains) that are subject to ocean flooding

15 Beachfront protective structures shall be permitted only where development existed on or before January 1, 1977.

16. Where appropriate, developers may be required to dedicate easements for public access to the beach.

17. The county supports studies designed to increase scientific knowledge about the processes that have shaped and will continue to shape the dunes of the Clatsop Plains.

Beaches and Dunes Recommended Actions

1. To avoid desiccation of the groundwater lakes and encroachment of sea water, a water management program which is consistent with the water budget equation for the Clatsop Plains should be developed. The County should request technical and financial assistance from state and federal agencies in evaluating water development potentials.

2. The County, in cooperation with other local jurisdictions, should consider a cost/benefit comparison of developing the Clatsop Plains aquifer as a water source with other sources of water supply.

BACKGROUND REPORT & EXCEPTIONS

GOAL 18

BEACHES AND DUNES

Adopted January 3, 1979 Ordinance 78-25
Amended by Ordinance 03-08

BACKGROUND (INVENTORY) DATA
GOAL 18

1. Geology

Bedrock in the Clatsop Plains area is the Astoria Formation. This unit is Oligocene to late Miocene in age and includes sandstone and silty shale massive to cross-bedded, with gentle westerly dips and extensive faulting, as well as local intrusions (Beaulieu, 1971). The unit is "fine grained< tightly compacted, and relatively impermeable (Frank, 1970). This bedrock underlies the Clatsop Plains sand dune area as a depth of 125 to over 400 feet. This same bedrock unit also underlies the hills to the east of the Clatsop Plain.

2. Beach and Dune Formation, Accretion, Erosion and Migration

The report titled "Coastal Erosion Hazard Zones Along the Clatsop Plains Oregon: Gearhart to Fort Stevens," prepared by Jonathan Allen and George Priest in 2001 provides the following description of the Clatsop Plains:

The Clatsop Plains are a barrier-beach ridge system that has prograded (advanced) seaward over the past 4000 years. Between 4050 years BP and AD 1700, the coastline is estimated to have accreted an average rate of 0.7 m/yr. (2.3 ft/yr.) (Woxell, 1998). From 1700 (when the last major subduction zone earthquake occurred), to 1885 (Prior to jetty construction), the Clatsop plains accreted at a slightly reduced rate of 0.5 m/yr. (1.6 ft/yr.), with an average rate of 3.3 m/yr. (10.8 ft/yr.) (Woxell). During the last 120 years the Clatsop Plains have continued to prograde seaward, but at rates exceeding several meters per year due to large sand supplies from the Columbia River, and as a result of jetty construction at the mouth of the Columbia River (Gelfenbaum and others 1999). These rates ranged from 2.0 to 5.8 m/yr. (6.6 to 19 ft/yr.), with an average rate of 3.3 m/yr. (10.8 ft/yr.) (Woxell, 1998). Since about the mid-1920s the rate of coastal erosion advance slowed, while erosion has been the dominant shoreline response along the northern end of the Clatsop Plains (i.e. about 6 km (3.7 miles) of Clatsop Spit is presently eroding. The recent phase of erosion may be a function of either: a change in the sedimentation budget of the Columbia River cell, periodic climate shifts (e.g. the Pacific Decadal Oscillation) which cause sediments to be re-distributed along the coast (e.g. 25 years of relatively persistent El Nino conditions since the mid-1790s), or as a result of an increase in the frequency and magnitude of storms in the North Pacific (e.g. Graham and Diaz, 2002) an hence, increased wave energies along the Oregon coast (e.g. Allen and Komar, 2000a 2000b).

The dunes "basic pattern has been towards the development of a smooth arcuate coastline resulting form the large quantities of sand (delivered by the Columbia River) that are distributed in a balanced response to both north-flowing winter currents and the south-flowing summer currents". (Schlicker, 1972). See Figure 1.

During pauses in accretion, submarine sand bars have grown in size to emerge as new beach areas. Beach ridges have developed as sand has piled up immediately inland from

the beach proper by storm wave and by entrapment of blown sand by dune grass. Formed in this way, the beach ridges were left behind as parallel rows of stabilized dunes as the beach migrated seaward.

The beaches and dunes were first inventoried and classified according to their stability in the document, Beaches and Dunes of the Oregon Coast developed by the USDA Soil Conservation Service and the Oregon Coastal Conservation and Development Commission (OCCDC March, 1975). The OCCDC report mapped the dunes into three broad associations: active dunes, recently stabilized dunes, and older stabilized dunes. The extent, distribution and mapping of these dune forms are found in Beaches and Dunes of the Oregon Coast. Interdune areas or deflation plains were included in OCCDC mapping but not as a separate association. They were updated in a subsequent study, Significant Shoreland and Wetland Habitats in the Clatsop Plains by Duncan Thomas.

In the past, Clatsop County has relied ~~relies~~ upon the following documents for its inventory and classification of beaches and dunes:

1. Beaches - - Beaches and Dunes of the Oregon Coast. by USDA Soil Conservation Service and OCCDC, March 1975.
2. Dunes –
    a. Beaches and Dunes of the Oregon Coast by USDA Soil Conservation Service for Older Stabilized Dune and Recently Stabilized Dune Forms;
    b. Stability of Coastal Dunes, Clatsop County, Oregon, by Leonard Palmer 1978 for Active Dune forms;
    c. Significant Shoreland and Wetland Habitats in the Clatsop Plains, by Duncan Thomas for Interdune (or Deflation Plain) Forms; and
    d. Horning Geosciences Report, by Tom Horning September 22, 1998 (Ordinance 02-05).

These documents formed the basis for the Goal Exceptions that the county adopted in conjunction with establishing the Surf Pines construction setback line (Ordinance 83-17) and the analysis that formed the basis for establishing the Pinehurst construction line by Ordinance 92-90. The Horning Report established the portions of Tax Lot 300, the Charlton property, which were no longer within the active dune area.

Since the publication of the above reports, a new and more detailed report analyzing the characteristics of the Clatsop Plains has been prepared. That report "Coastal Erosion Hazard Zones Along the Clatsop Plains Oregon: Gearhart to Fort Stevens," prepared by Jonathan Allen and George Priest in 2001 is briefly discussed here and is adopted by reference into this document. As described in the executive summary of the report:

" This report describes and documents a range of coastal hazard zones distinguished for the Clatsop Plains. In particular, the report focuses on identifying maximum potential erosion distances for dune-backed shorelines using the geometric model developed by Komar and others (1999). Four hazard zones have been identified for the Clatsop Plains, an active hazard zone high, moderate and low risk zones that respectively depict

decreasing risks of becoming active the next 60-100 years. The landward boundary of the low hazard zone defines the outermost limit of expansion of the active hazard zone associated with a catastrophic event such as a great earthquake on the Cascadia subduction zone, coupled with severe storms."

The findings and scenarios contained in the report, "Coastal Erosion Hazard Zones Along the Clatsop Plains Oregon: Gearhart to Fort Stevens," have been used to establish the parameters of the county's regulations for beach and dune areas on the Clatsop Plains.

Insert Figure 1
DOMINANT SURFACE AND SUBSURFACE CURRENTS

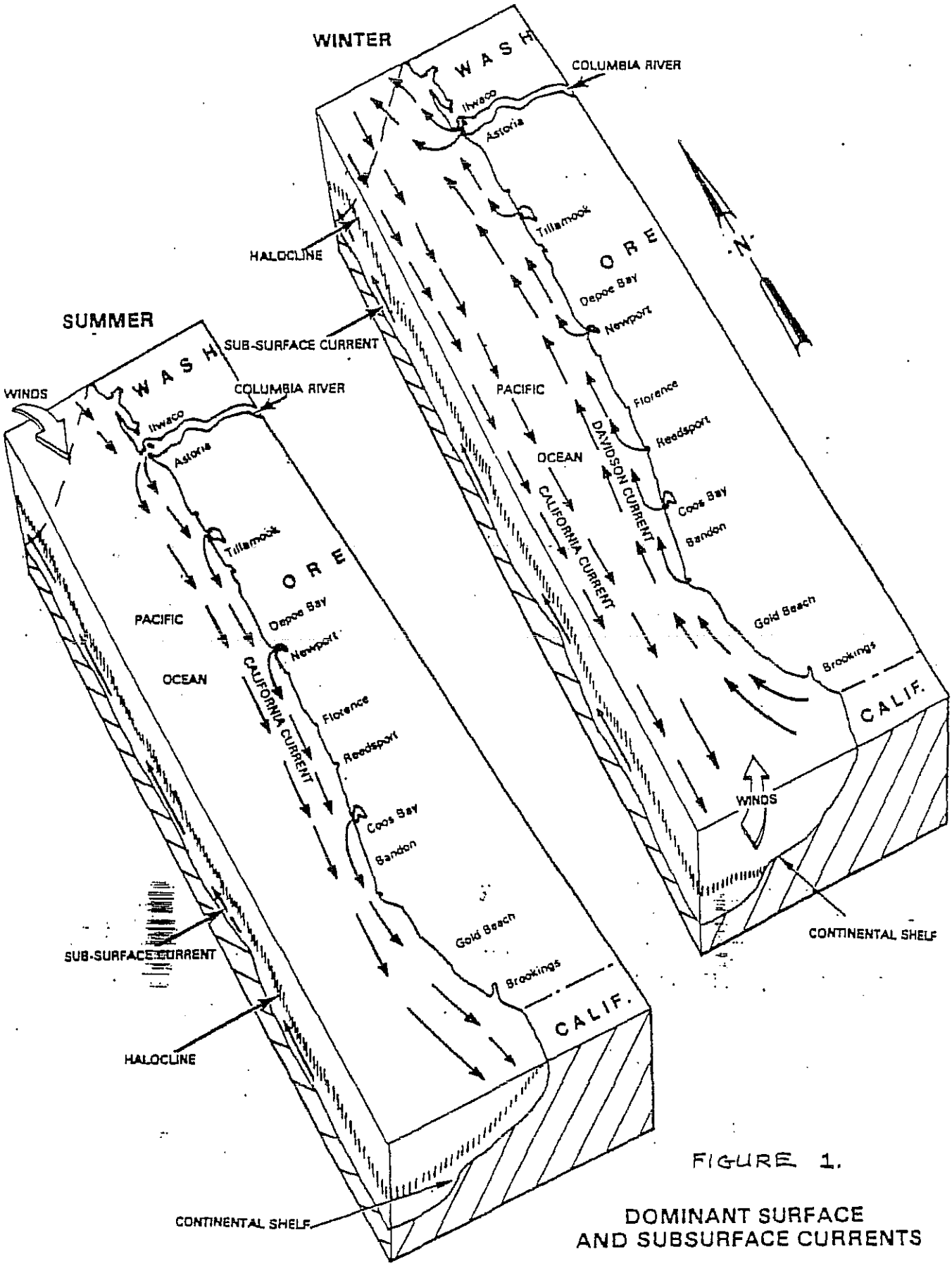


FIGURE 1.

DOMINANT SURFACE AND SUBSURFACE CURRENTS

This Plate was provided through the courtesy of The Portland District, U.S. Army, Corps of Engineers.

4. Vegetation, Wildlife, Wetlands and Riparian Vegetation[2]

Vegetation:

Vegetation in the Clatsop Plains varies extensively in accordance with numerous ecological changes associated with exposure, groundwater level, elevation, and disturbance by man. On the most generalized level, the entire Clatsop Plains areas can be categorized as being in the Sitka Spruce/Western Hemlock zone. However, due to natural and man-caused major changes and the aforementioned ecological variables a relatively small portion of the Clatsop Plains is in climax conifer forest.

Within the Clatsop Plains two types of successional trends can be identified, namely, plant successions on coastal sand dunes and successions on burned and logged areas. Both of these natural successional trends have been altered considerably by the introduction of nonindigenous species and planting programs. Several specialized habitats with unique successional trends also exist on the Clatsop Plains in limited areas. These include forested swamps, wet meadows, bogs, riparian vegetation, and salt marshes.

Community types on the coastal sand dunes can be identified on the basis of environmental conditions, primarily moisture and soil stability. On the dry active dunes indigenous vegetation consists of seashore lupine, yellow sand verbena, sea lyme-grass, red fescue, dune bluegrass, seashore bluegrass, and beach silver-top. Stabilized dry sand dunes with developed soils are characterized by the presence of kinnikinnick, black twin-berry, salal, evergreen huckleberry, western rhododendron, shore pine, and Sitka Spruce.

Inland from the dry foredunes and sandflats and between the ridges of former foredunes are several types of deflation plain communities. Unlike the active sand dunes, the deflation plain environment is not one of sand deposition, but of an abundance of water. Many of the plants in the deflation plains are adapted to grow in wet places. However, the deflation plains are not uniformly wet, but rather there is a gradation from the higher dry edges to the very wet, marshy bottoms. Also, there are hummocks and small areas of raised ground even in the lowest areas. The plants and plant communities reflect these differences in the elevation of the ground surface in relation to the water table. Frequently as little as six inches vertical height will separate two rather distinct groupings of plants.[3]

[2]For the complete discussion and inventory of vegetation and wildlife (including lists of species found here and rare and endangered species) refer to Biological Inventory of the Clatsop Plains by John Stockham and James R. Pease, 1974, Oregon State University and Significant Shoreland and Wetland Habitats in the Clatsop Plains by Duncan Thomas, 1982.

[3]Description of deflation plain communities modified from Wiedemann, Alfred M., Dennis, La Rae J., Smith, Frank H., Plants of the Oregon Coastal Dunes, O.S.U. Book Stores, Corvallis, 1969.

Clatsop County
Goal 19
County-Wide Element

Ocean Resources

Adopted May 24, 2012 - Ordinance 12-04

GOAL 19
Ocean Resources

This plan element implements statewide planning goal 19 within the territorial waters of Clatsop County. Goal 19 reads as follows:

> To conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social value and benefits to future generations.
>
> To carry out this goal, all actions by local, state, and federal agencies that are likely to affect the ocean resources and uses of Oregon’s territorial sea shall be developed and conducted to conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social values and benefits and to give higher priority to the protection of renewable marine resources—i.e., living marine organisms—than to the development of non-renewable ocean resources.
>
> Ocean Stewardship Area: The State of Oregon has interests in the conservation of ocean resources in the Ocean Stewardship Area, an ocean area where natural phenomena and human uses can affect uses and resources of Oregon's territorial sea/ The Ocean Stewardship Area includes the state's territorial sea, the continental slope, and the adjacent ocean areas. Within the Ocean Stewardship Area, the State of Oregon will:
>
> - Use all applicable state and federal laws to promote its interests in management and conservation of ocean resources;
> - Encourage scientific research on marine ecosystems, ocean resources and uses, and oceanographic conditions to acquire information needed to make ocean and coastal-management decisions;
> - See co-management arrangements with federal agencies when appropriate to ensure that ocean resources are managed and protected consistent with the policies of Statewide Planning Goal 19, Ocean Resources, and the Territorial Sea Plan; and
> - Cooperate with other states and governmental entities directly and through regional mechanisms to manage and protect ocean resources and uses.
>
> The Ocean Stewardship Area is not intended to change the seaward boundary of the State of Oregon, extend the seaward boundaries of the state's federally approved Coastal Zone Management Act, affect the jurisdiction of adjacent coastal states, alter the authority of federal agencies to manage the resources of the United States Exclusive Economic Zone, or limit or otherwise change federal agency responsibilities to comply with the consistency requirements of the federal Coastal Zone Management Act.
>
> Information and Effects Assessment Required. Prior to taking an action that is likely to affect ocean resources or uses of Oregon's territorial sea, state and federal agencies shall assess the reasonably foreseeable adverse effects of the action as required in the Oregon Territorial Sea Plan. The effects assessment shall also address reasonably foreseeable adverse effects on Oregon's estuaries and shorelands as required by Statewide Planning Goal 16, Estuarine Resources; Goal 17, Coastal Shorelands; and Goal 18, Beaches and Dunes.

Navigation and commercial and recreational fishing are significant uses in Clatsop County's territorial sea. Clatsop County does not regulate commercial or recreational fishing in the ocean through its Comprehensive Plan or Zoning Ordinance. The County does not regulate commercial or recreational navigation in the ocean through its Comprehensive Plan or Zoning Ordinance. This does not diminish the importance of these activities to the County. Camp Rilea's safety zone extends into the territorial sea. Clatsop County does not directly regulate Camp Rilea's use of the safety zone. This does not diminish the importance of Camp Rilea to the County.

Goals:

To implement statewide planning goal 19 in Clatsop County's territorial sea.

To assure that marine resource management and development in the County's territorial sea occurs in a manner that conserves beneficial use of these resources.

Policies:

1. Clatsop County's territorial sea shall include ocean beds, the water column, and the ocean surface. Beaches, headlands, islands and rocks above the high tide line, and estuaries are not included. The territorial sea shall be managed to conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social value and benefits to current and future generations.

2. The County shall rely on the Oregon Territorial Sea Plan's consultation process as a mechanism for providing input into development proposals in the territorial sea.

3. Ocean resources development in Clatsop County's territorial sea shall be designed, located, and managed in a manner that does not substantially impair the ocean's scenic value, as experienced from the shoreline, or from public parks, highways, public streets, or scenic overlooks in the coastal zone.

4. Ocean resources development in Clatsop County's territorial sea shall be designed, located, and managed in a manner that is respectful of, and addresses the interests and concerns of, residents, visitors, businesses and property owners in the coastal zone, both now and in the future.

5. Clatsop County shall participate in state and federal rule-making and decision-making that affects the County's marine resources, or might conflict with the Comprehensive Plan.

6. The County accepts the background information and analysis in the 1994 Oregon Territorial Sea Plan and 2009 amendments (appendix A).

7. Ocean resources development in Clatsop County's territorial sea shall be designed, located, and managed in a manner that does not negatively impact or effect local government property taxes.

8. The cumulative impacts and effects, both beneficial and harmful, of ocean resources development will be considered when evaluating development proposals in the territorial sea.

RECORDED

MAY 26 2005

Doc #200505027

IN THE BOARD OF COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

ORDINANCE NO. 05-05

(AN ORDINANCE AMENDING THE CLATSOP
(COUNTY COMPREHENSIVE PLAN AND
(THE LAND AND WATER DEVELOPMENT
(AND USE ORDINANCE #80-14 AS
(AMENDED AND ADOPTED BY THE
(COMMISSIONERS AND ADOPTING
(CERTAIN FINDINGS.

The Board of County Commissioners of Clatsop County, Oregon ordains as follows:

SECTION 1. SHORT TITLE

This ordinance shall be known as the Dredge Material Management Plan Amendment of 2005, adopting standards for the disposal of dredge materials.

SECTION 2. FINDINGS

In the interest of the welfare of the citizens of Clatsop County and pursuant to the Home Rule Charter of Clatsop County, the Board of Commissioners hereby recognizes a need to amend the Clatsop County Comprehensive Plan.

The adoption procedure for this ordinance complies with the Post Acknowledgment rules of the Land Conservation and Development Commission. The County Planning Commission sought review and comments and conducted public hearings following the requirements of ORS 215.050 and 215.060. The Planning Commission held public hearings on March 8, 2005. The Board received and considered the Planning Commission's recommendations on this request and held a public hearing on this ordinance pursuant to the Charter of Clatsop County on May 11, 2005.

SECTION 3. CONFORMITY WITH THE LAW.

This ordinance shall not substitute for nor eliminate the need to conform with the laws or rules of the State of Oregon, or its agencies, or any other ordinance, rule or regulation of Clatsop County.

SECTION 4. INCONSISTENT PROVISIONS.

This ordinance shall supersede, control and repeal any inconsistent provision of the Clatsop County Comprehensive Plan, and any other Clatsop County ordinance or regulation.

SECTION 5. SEPARABILITY.

If any portion of this ordinance is held invalid or unconstitutional by a court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

SECTION 6. EFFECTIVE DATE.

This ordinance shall be in full force and effective 30 days after adoption.

SECTION 7. ADOPTION CLAUSE.

The Board of Commissioners hereby adopts the Dredge Material Management Plan Update, set forth in Exhibit "A" attached hereto and by reference herein made a part of this ordinance in its entirety.

ADOPTED this 25th day of May 2005.

THE BOARD OF COUNTY COMMISSIONERS
FOR CLATSOP COUNTY, OREGON

By Richard M. Lee
Richard Lee, Chair

By _____
Recording Secretary

Effective Date: June 24th, 2005

APPROVED AS TO FORM: _____
Clatsop County Counsel

EXHIBIT "A"

Ordinance No. 05-05

Proposal To Amend Clatsop County's Planning And Zoning Provisions For Dredged Material Disposal

April 7, 2005

Introduction

This is a proposal to amend Clatsop County's acknowledged comprehensive plan, related land use ordinances, comprehensive plan map, and zoning map. The proposed amendments deal mainly with disposal of materials dredged from the Columbia River. Throughout this document, the entire set of amendments is referred to collectively as "the proposal" or "the plan amendment."

The purpose of this proposal is to update Clatsop County's policies, regulations, and maps for dredged material disposal (DMD), and to make them all consistent with CREST's July 2002 Columbia River Estuary Dredged Material Management Plan (CREDMMP). (CREST is the Columbia River Estuary Study Taskforce.)

This proposal consists of six parts:

1. A summary list of amendments being proposed;
2. Amendments to Clatsop County's Comprehensive Plan, Volume 4, "Estuarine Resources and Coastal Shorelands Element" (adopted on December 19, 1990, by Ordinance No. 90-13);
3. Amendments to Clatsop County's Land and Water Development and Use Ordinance 80-14 (LWDUO);
4. Amendments to Clatsop County's Combined Comprehensive Plan and Zone Map (adopted on December 19, 1990, by Ordinance No, 90-13).
5. Findings of Fact, Applicable Criteria, and Conclusions of Law Regarding the Proposed Amendments
6. Appendices: Supporting documents and information pertaining to this proposal.

Parts 2-4 contain the following information for each policy of the comprehensive plan, section of the LWDUO, or map that is to be amended:

- a description and explanation of what is being proposed;
- the actual text of the proposed amendments, with proposed additions shown in ***bold italic*** print and deletions shown in ~~strikethrough~~ print.

Part 5 contains the following:

- applicable state and local criteria to be applied to the proposed amendments;
- an analysis of the applicable criteria and how they are met by adoption of the proposed amendments;
- findings of fact and conclusions of law resulting from the analysis.

Part 6 contains supporting documents and information in four appendices.

Together, the above materials make up the record of evidence and findings of fact in support of the proposed amendments.

Throughout this report, all new material that is to be added to the plan or land-use regulations is shown in ***bold italic print***. All wording to be deleted is shown in ~~strikethrough print~~. Additions also are highlighted; the highlighting shows up as light gray when printed on a black-and-white printer and as yellow on a computer display.

Part 1: Summary of the Main Amendments Proposed

1. Amend Clatsop County Plan Policy P 20.5 to add the following paragraph: "CREST's Columbia River Estuary Dredged Material Management Plan (CREDMMP) is an essential source of information for Clatsop County's DMD planning and policies. The county will consider the CREDMMP in adopting and amending its DMD plan and will periodically revise that plan to keep it consistent with the CREDMMP."

2. Amend county planning and zoning maps to:

- designate Welch Island as a new dredged materials disposal (DMD) site;
- rezone part of Welch Island from Aquatic Conservation 2 to Coastal Shorelands;
- enlarge Miller Sands to reflect its growth in recent years;
- designate new DMD site at Tenasillahe Island, river mile 37.6;
- designate DMD site at Tenasillahe Island, river mile 38.3 (formerly two sites in CREST's CREDMMP, now combined);
- put DMD Overlay District on all sites designated for DMD by this plan amendment; and
- remove DMD Overlay District from all sites this amendment does not designate for DMD.

3. Amend Comprehensive Plan Policy P 20.5 to eliminate all provisions for "Priority II DMD Sites," to delete the modifier "Priority I" throughout, and to change the requirement for an assessment of DMD site capacities every five years to periodic assessments conduct in conjunction with CREST CREDMMP updates.

4. Amend Comprehensive Plan Policy P 40 to:

- add paragraphs describing CREST's 2002 CREDMMP;
- delete or modify outdated references to previous CREST plans;

5. Amend comprehensive plan and land use regulations throughout to:

- change "dredge spoils" to "dredged materials";
- update references to CREST DMMP to specify latest (July 2002) version.

6. Amend Section 1.03 of the LWDUO to add definition for *beneficial use*, and to amend definitions for *beach nourishment*, *dikes*, *dredging*, and *flow-lane dredged material disposal*.

7. Amend Comprehensive Plan P 30, *Columbia Estuary Subarea Plans*, throughout to update names for DMD sites, making them consistent with new naming system used in 2002 CREDMMP.

8. Amend plan and LWDUO to ensure all references to adopted plan and zoning maps are clear and consistent.

9. Amend sections of Comprehensive Plan P 30, *Columbia Estuary Subarea Plans*, for subareas with provisions related to DMD:

- **30.2 Baker Bay** (includes three DMD sites: West Sand Island 3.1, East Sand Island 5.8, and East Sand Island 6.8) — update site names per CREST's new naming system (e.g., change "CC-S-3.1" to "O-3.1," etc.) here and in all subarea plans;
- **30.3 Estuary Channels** (includes two DMD sites: Area "D" 8.5; Harrington Sump 21.0) — update site names;
- **30.4 Estuary Sands** (includes one DMD site: Rice Island 21.2) — update reference to CREST CREDMMP and update site name for Rice Island.
- **30.5 River Channels** (no DMD sites) — Clarify reference to Harrington Sump 21.0 on page 65.
- **30.6 Snag Islands** (includes two DMD sites: Miller Sands and Pillar Rock/Jim Crow Sands) — Clarify description of DMD sites on page 69 and update reference to CREST's 2002 CREDMMP.
- **30.8 Upper Marsh Islands** (includes two DMD sites, Welch Island and Fitzpatrick Island) — Amend text on pages 74 and 75 to update references to Welch Island and to the 2002 CREDMMP.
- **30.9 Tenasahille Island** (now shows three DMD sites, one at 36.8 and two at 38.3) — Amend text on page 77 to delete 36.8, add 37.6, combine the two at 38.3, and to update references to the CREDMMP.
- **30.12 Lewis and Clark River** (now mentions two DMD sites, at 12.7 and 12.9) — Delete DMD sites 12.7 and 12.9 (per CREDMMP and CREST).
- **30.16 John Day River** (now mentions two DMD sites, at 8.6 and 18.8) — Delete DMD sites 8.6 and 18.8. Note that "8.6" is a typo that should have been "18.6."
- **30.17 John Day Point** (includes one DMD site, Svenson Island, 24.0) — update name to "O-24.0."
- **30.21 Bradwood** (includes one DMD site, Bradwood 38.9) — on page 123 change "CC-S-38.9" to "0-38.9."
- **30.22 Wauna/Westport** (now includes two DMD sites, Westport and River Ranch) — Add Wauna Mill 40.8 as DMD site, and update page 128 to give current references to sites names and to CREDMMP.

Part 2: Proposed Amendments to Clatsop County's Comprehensive Plan, Volume 4, "Estuarine Resources and Coastal Shorelands Element"

A. Plan Policy P 20.5

The county's plan and land use regulations currently maintain two categories of DMD sites: Priority I and Priority II. This two-tier system is set forth in Plan Policy P 20.5, Sections 13 through 15. (See text below.) As explained in Policy 20.5, Section 14, a Priority I site is a site considered "essential for meeting anticipated five-year disposal needs." P 20.5, Section 15, describes Priority II sites as those not required to meet disposal needs over the next five years but "which may be required to meet longer range needs."

The amendment proposed here would eliminate all provisions for Priority I and II sites, leaving the county with only one category of DMD sites: those planned and zoned for disposal of dredged materials. The amendment also would change the policy that requires the county to evaluate DMD site capacity every five years. It would specify that the county will do some evaluations periodically, in conjunction with updates of the CREST DMMP.

The purpose of these amendments to P 20.5 is to simplify the county's policies and ordinance provisions for disposal of dredged materials. The purpose also is to give greater certainty to owners of Priority II sites, who currently are subject to a requirement for a "30-day freeze . . . on preemptive development requests." The amendment would eliminate that requirement.

The proposed amendments to Policy 20.5 are shown here:

9. When identifying land dredged material disposal sites, emphasis shall be placed on sites where ~~(not in priority order)~~:

*(a) The local comprehensive plan land use designation is ~~d~~**D**evelopment, provided that the disposal does not preclude future development at the site;*

(b) [rest of section unchanged and omitted here]

10. [Section 10 unchanged and omitted here]

*11. Flow-lane disposal ~~sites~~ shall only be allowed in ~~d~~**D**evelopment-designated areas within or adjacent to a channel where:*

(a) Sediments can reasonably be expected to be transported down-stream without excessive shoaling,

(b) *Interference with recreational and commercial fishing operations, including snag removal from gillnet drifts, will be minimal or can be minimized by applying specific timing restrictions,,*

(c) *Adverse hydraulic effects will be minimal.*

(d) *Adverse effects on estuarine resources will be minimal, and*

(e) *The disposal ~~site~~ depth is,* ***for waters downstream from the Astoria-Megler Bridge,*** *between 20 and 65 feet below MLLW,* ***and, for waters upstream from the Astoria-Megler Bridge, at 20 feet below MLLW or deeper.***

12. *~~Beach nourishment sites shall only be designated on sandy beaches currently experiencing active erosion.~~ Dredged material disposal at beach nourishment sites shall only be used to offset the erosion and not to create new beach or land areas. Beach nourishment sites shall not be designated in areas where placement or subsequent erosion of the dredged materials would adversely impact tidal marshes or productive intertidal or shallow subtidal areas. ~~Designation of new beach nourishment sites shall require an exception to Statewide Planning Goal 16.~~*

13. *Dredged material disposal sites with adequate capacity to accommodate anticipated dredging needs for at least a five year period shall be identified and designated. ~~Additional sites may also be designated. All dredged material disposal sites shall receive a Priority I or II designation with respect to its suitability and importance for meeting five-year dredging needs.~~*

14. *~~Priority I~~ Dredged Material Disposal Sites*

Sites ~~which are~~ essential for meeting anticipated ~~five-year~~ disposal needs shall ***be planned and zoned for dredged materials disposal*** *~~receive a Priority I designation~~. ~~Priority I shoreland~~* ***Designated disposal*** *sites shall be protected from incompatible and preemptive uses to ensure adequate sites will remain available to accommodate ~~five-year~~ disposal needs. Incompatible and preemptive uses include:*

(a) *Uses requiring substantial structural or capital improvements (e.g., construction of permanent buildings, water and sewer service connections);*

(b) *Uses that require alteration of the topography of the site, hereby affecting the drainage of the area or reducing the potential useable volume of the dredged material disposal site e.g., extensive site grading or excavation, elevation by placement of fill materials other than dredged spoils);*

(c) Uses that include changes made to the site that would prevent expeditious use of the site for dredged material disposal. Such uses would delay deposition of dredged material on the site beyond the period of time commonly required to obtain the necessary federal, state and local dredging and dredged material disposal permits (approximately 90 days);

(Note: Examples of non-preemptive or compatible uses of shoreland dredged material disposal sites are: unimproved parking lots, equipment storage yards, materials marshalling yards, log storage and sorting yards, and undeveloped recreation areas, campgrounds or recreational vehicle parking areas.)

Incompatible or preemptive uses shall not be allowed at shoreland ~~Priority I~~ dredged material disposal sites unless the site is removed from the dredged material disposal plan by ordinance amendment upon demonstration that either:

(d) The site has been filled to capacity and is available for other uses, or
(e) The site is, in fact, not required to accommodate anticipated five-year disposal needs, or
(f) A new ~~Priority I~~ site has been designated to replace the site being removed.

~~*15. Priority II Dredged Material Disposal Sites*~~

~~*(a) Dredged material disposal sites which are not required for anticipated five-year disposal needs but which may be required to meet longer range needs shall be given a Priority II designation. The importance of these sites, as compared with Priority I sites, does not justify efforts to reserve all or portions of each site from possible preemptive uses.*~~

~~*(b) A 30-day freeze shall be placed on preemptive development requests (as defined in 15(a), above), for the purpose of allowing affected government agencies or private interests to negotiate for the use of the property as a disposal site. The County may choose to run this freeze concurrently or in addition to the normal permit process. If there is no expressed interest in use of the site for dredged material disposal during the freeze period, the development request shall be reviewed under normal procedures. If the request is approved, the entire site or affected portions of the site shall be removed from the dredged material disposal plan by ordinance amendment.*~~

(15) ***CREST Dredged Material Management Plan***

CREST's Columbia River Estuary Dredged Material Management Plan (CREDMMP) is an essential source of information for Clatsop County's DMD planning and policies. The county will consider the CREDMMP in adopting and amending its DMD plan and will periodically revise that plan to keep it consistent with the CREDMMP.

16. In order to ensure the adequacy of identified dredged material disposal site capacities for anticipated ~~five-year~~ disposal requirements, an analysis of the dredge material disposal site inventory shall be completed ***periodically, in conjunction with each update of CREST's Columbia River Estuary Dredged Material Management Plan*** *~~every five years~~. ~~The analysis shall include:~~*

~~*(a) A determination of the Priority I sites utilized for dredged material disposal and the volume received by each site during the preceding period, noting also the project source of the dredged material and the interval separating the most recent from the next anticipated dredging event.*~~

~~*(b) A determination of the number and usable volume of Priority I sites remaining in the inventory, and the relationship between these sites and present or expected navigation-related dredging or water-dependent development projects in the following five year period, and the number and useable volume of Priority II sites identified in the inventory.*~~

~~*(c) An identification of the Priority II or other additional sites to be added to the Priority I inventory.*~~

~~*(d) An analysis of the adequacy of the dredged material site inventory shall include notification of, and communication of up-dated inventory information to affected property owners and local, state and federal governmental agencies. Of particular importance is the addition, deletion, or change in priority of dredged material disposal sites.*~~

~~*(e)*~~ *The County shall cooperate with other jurisdictions on the Columbia River Estuary in monitoring of dredged material site availability and in dredged material disposal plan update.*

B. Plan Chapter P 30, Columbia River Estuary Subarea Plans

Clatsop County's Comprehensive Plan contains individual policies for 22 subareas in the county portion of the Columbia River Estuary. For each subarea, these policies

make up a brief "subarea plan." This proposed amendment of Chapter P 30 would revise twelve of those subarea plans. The revisions would make the subarea plans consistent with CREST's July 2002 CREDMMP, delete several DMD sites, add several DMD sites, and change the nomenclature used to label DMD sites using CREST's new naming system (the letter "O" for Oregon, followed by the distance of the site in miles from the mouth of the Columbia River).

The purpose of this amendment is to update the county's plan and bring it into conformity with CREST's recently revised Columbia River Estuary Dredged Material Management Plan.

The proposed amendment consists of the following changes:

P 30.2, Baker Bay Subarea — On page 55, delete the last sentence, "~~Three dredged material disposal sites are listed in the 1986 Columbia River Estuary Dredged Material Management Plan: CC-S-3.1 (on West Sand Island), CC-B-5.8, CC-S-6.8 (on East Sand Island).~~" In place of the deleted sentence, add this statement: ***"The Baker Bay Subarea contains three dredged material disposal sites listed in CREST's* July 2002 Columbia River Estuary Dredged Material Management Plan *and designated by Clatsop County for disposal of dredged material: West Sand Island O-3.1; East Sand Island O-5.6; and East Sand Island O-6.8."***

P 30.3, Estuary Channels Subarea — On page 59, delete this sentence under "Aquatic Designations": "~~2. Dredged material disposal sites CC-E-8.5 (Area D) and CC-E-21.0 (Harrington Sump) listed in the Columbia River Estuary Dredged Material Management Plan are designated Development.~~" In its place, add this statement: ***"The Estuary Channels Subarea contains two dredged material disposal sites listed in CREST's* July 2002 Columbia River Estuary Dredged Material Management Plan *and designated by Clatsop County for disposal of dredged material: Area D O-8.5 and Harrington Sump O-21.0."***

P 30.4, Estuary Sands Subarea — On page 63, delete the last sentence under "Aquatic and Shoreland Designations, which reads, "~~Rice Island is a dredged material disposal site listed in the 1986 Columbia River Estuary Dredged Material Management Plan: CC-S-22.2/WK-S-21.2.~~" In its place, add this statement: ***"The Estuary Sands Subarea contains one dredged material disposal site listed in CREST's* July 2002 Columbia River Estuary Dredged Material Management Plan *and designated by Clatsop County for disposal of dredged material: Rice Island O-21.2."***

P 30.5, River Channels Subarea — On page 65, delete the last sentence, which reads, "~~Harrington Point Sump is an in-water dredged material disposal site listed in the 1986 Columbia River Estuary Dredged Material Management Plan: CC-E-21.0.~~" In its place, add this statement: ***"Harrington Sump O-21.0 is a dredged material***

disposal site listed in CREST's* July 2002 Columbia River Estuary Dredged Material Management Plan *and designated by Clatsop County for disposal of dredged material."

P 30.6, Snag Islands Subarea — On page 69, delete the last sentence under "Aquatic and Shoreland Designations": "~~Four dredged material disposal sites are listed in the 1986 Columbia River Estuary Dredged Material Management Plan: CC-B-23.1, CC-S-23.5 (Miller Sands), and CC-B-27.2, CC-S-27.2 (Jim Crow Sands).~~" In place of the deleted sentence, add this statement: ***"The Snag Islands Subarea contains two dredged material disposal sites listed in CREST's* July 2002 Columbia River Estuary Dredged Material Management Plan *and designated by Clatsop County for disposal of dredged material: Miller Sands O-23.5 and Pillar Rock/Jim Crow Sands O-27.2."***

P 30.8 Upper Marsh Islands Subarea — On page 74, delete the last sentence under "Shoreland Features": "~~Only Fitzpatrick Island is designated as a dredged material disposal site in the 1986 Columbia River Estuary Dredged Material Management Plan.~~" In its place, add this statement: ***"The Marsh Islands Subarea contains two dredged material disposal sites listed in CREST's* July 2002 Columbia River Estuary Dredged Material Management Plan *and designated by Clatsop County for disposal of dredged material: Fitzpatrick Island O-31.2 and Welch Island O-34.0."***

On page 75, under "Aquatic and Shoreland Designations," delete the last sentence: "~~The dredged material disposal site on Fitzpatrick Island (CC-S-31.2) is listed in the 1986 Columbia River Estuary Dredged Material Management Plan.~~" In place of the deleted sentence, add this statement: ***"The two dredged material disposal sites in this subarea, Fitzpatrick Island O-31.2 and Welch Island O-34.0, are listed in CREST's* July 2002 Columbia River Estuary Dredged Material Management Plan *and designated by Clatsop County for disposal of dredged material."***

P 30.9, Tenasahille Island Subarea

On page 77, under "Aquatic and Shoreland Designations," delete the last sentence: "~~The three dredged material disposal sites in this subarea designated in the *1986 Columbia River Estuary Dredged Material Management Plan* are on or adjacent to Tenasillahe Island: CC-B-36.8, CC-B-38.3, CC-S-38.3.~~" In place of the deleted sentence, add this statement: ***"The Tenasahille Island Subarea contains two dredged material disposal sites listed in CREST's* July 2002 Columbia River Estuary Dredged Material Management Plan *and designated by Clatsop County for disposal of dredged material: Tenasahille Island O-37.6 and Tenasahille Island O-38.3."***

P 30.12, Lewis and Clark River Subarea — On page 89, under "Aquatic and Shoreland Designations," delete the next-to-last statement: "~~4. The following dredged material disposal sites listed in the *1986 Columbia River Estuary Dredged Material Management Plan*: CC-S-12.9, CC-S-12.7.~~" Renumber the following statement "~~5~~" to "*4*." Add this one-sentence paragraph at the end of the page: ***Note: Former dredged material disposal sites at river miles 12.7 and 12.9 were removed from CREST's* July 2002 Columbia River Estuary Dredged Material Management Plan *and are no longer designated by Clatsop County for disposal of dredged material.***

P 30.16, John Day River Subarea — On page 110, under "Aquatic and Shoreland Designations," revise the last statement, removing references to DMD sites as follows: "3. The John Day River Boat Ramp, including parking lot; ~~dredged material disposal sites CC-S-8.6 and CC-S-18.8 (from the *Columbia River Estuary Dredged Material Management Plan*~~; and mitigation and restoration sites as designated in the *Mitigation and Restoration Plan for the Columbia River Estuary*. Add this one-sentence paragraph immediately following the revised statement: ***Note: Former dredged material disposal sites at river miles 18.6 and 18.8 were removed from CREST's* July 2002 Columbia River Estuary Dredged Material Management Plan *and are no longer designated by Clatsop County for disposal of dredged material.*** (The reference in the deleted passage to a DMD site at river mile "8.6" was a typographical error in the plan: it should have been "18.6.")

P 30.17, John Day Point Subarea — On page 113, amend the only sentence in the last paragraph under "Aquatic and Shoreland Designations" as follows: "The western half of Svenson Island has been designated a dredged material disposal site ~~(CC-S-24.0)~~***(O-24.0)*** in the ***July 2002*** *Columbia River Estuary Dredged Material Management Plan* and as a mitigation site in the *Mitigation and Restoration Plan for the Columbia River Estuary*."

30.21, Bradwood Subarea — On page 123 , amend the last statement on the page as follows: "2. The Bradwood industrial site; dredged material disposal site ~~CC-S-38.9~~ ***0-38.9***, from the ***July 2002*** *Columbia River Estuary Dredged Material Management Plan*; and a mitigation site as designated in the *Mitigation and Restoration Plan for the Columbia River Estuary*."

30.22, Wauna/Westport Subarea — On page 126, amend the second sentence in the last paragraph on the page as follows: "A portion of the site has been used for dredged material disposal and it is designated for this use in ~~the 1986~~ ***CREST's July 2002*** *Columbia River Estuary Dredged Material Management Plan*."

On page 128, delete the first sentence of the second paragraph: "~~Two dredged material disposal sites, CC-S-42.9 and CC-B-44.0, are listed in the 1986 *Columbia*~~

~~*River Estuary Dredged Material Management Plan.*~~" Replace that sentence with this statement: ***"The Wauna/Westport Subarea contains three dredged material disposal sites listed in CREST's*** **July 2002 Columbia River Estuary Dredged Material Management Plan** ***and designated by Clatsop County for disposal of dredged material: Wauna Mill O-40.8; Westport O-42.9; and River Ranch O-44.0."***

C. Plan Chapter P 40, Columbia River Estuary Dredged Material Management Plan

Chapter P 40 of the Clatsop County Comprehensive Plan is the county's adaptation of CREST's Columbia River Estuary Dredged Material Management Plan (CREDMMP). P 40.1 is that chapter's introduction. Most of the text currently in P 40.1 is taken verbatim from the introduction to CREST's 1986 CREDMMP. The amendment proposed here also repeats the CREDMMP introduction, but takes the text from the newer July 2002 CREDMMP. The amendment thus brings the county plan's text into conformance with the current (2002) CREDMMP adopted by CREST.

The amendment consists of these steps: Delete all material in P 40.1 (the six paragraphs on pages 129 and 130). Replace with the following:

P 40.1 Purpose and Plan Content
Clatsop County's designation of dredged material disposal (DMD) sites and its policies on DMD are based on the July 2002 Columbia River Estuary Dredged Material Management Plan(CREDMMP) prepared by the Columbia River Estuary Study Taskforce (CREST). Clatsop County has used CREST's plan as the main source of technical information for those parts of the county's comprehensive plan that deal with disposal of dredged material. The seven paragraphs below are quoted from CREST's 2002 CREDMMP.

"In 1979 the Columbia River Estuary Study Taskforce (CREST) completed a Dredged Material Management Plan for the Columbia River Estuary. The purpose of the plan was to establish policies and standards for regulating dredging and disposal in the estuary and to identify an adequate number of sites with sufficient capacity to meet projected disposal needs over a 20-year period. The original plan identified 98 dredged material sites located in Oregon and Washington, established priorities for their use, and recommended techniques for their protection and control. The sites were then protected through the comprehensive plans of Oregon and through the Shoreline Management Master Programs of the Washington jurisdictions. In 1986, CREST reevaluated and updated the plan to produce the Columbia River Estuary Dredged Material Management Plan (DMMP).

Since 1986, there have been changes in the dredged material disposal needs, limitations, and opportunities in the Columbia River estuary. Some identified sites

are now developed with permanent structures in place. Other sites have received more material than was outlined in the DMMP, are currently at capacity, are no longer used or are not practical for dredged material placement. In addition, opportunities for beneficial use of dredged material need to be incorporated into the DMMP. Furthermore, an analysis and update of the dredged material disposal site inventory is necessary to ensure the adequacy of identified dredged material disposal sites for any future construction and maintenance activities. Updating the policies and disposal site inventory to reflect the changes that have occurred over the past 14 years will ensure that the DMMP remains useful.

The purpose of this revised DMMP is to refine the dredging and disposal policies and to inventory an adequate number of disposal sites with sufficient capacity to accommodate projected disposal needs for at least a 5-year period. Many of the inventoried sites provide for disposal over a much longer timeframe. The Plan is designed to be incorporated into local comprehensive plans in Oregon and shoreline management master programs in Washington to update these documents with respect to changes in disposal needs and regulatory policies.

The plan recognizes that the vast majority of dredging and disposal policies in the estuary are related to the Federal deep draft navigation channel. The U.S. Army Corps of Engineers completed a Dredged Material Management Plan (USACE 1998) for channel maintenance in 1998. That plan identified dredged material disposal needs for a 20-year period. The updated site inventory incorporates Corps disposal sites identified in their DMMP.

The plan also accounts for the disposal needs of local dredging projects. These projects include the dredging of entrance channels as well as commercial and recreational boat basins by local Port authorities.

The Plan is also intended to serve as a guide to dredging project proponents and regulatory agencies in planning and reviewing dredging projects. In order to be useful, it focuses on disposal sites that are both in the proximity of dredging areas and appear approvable under existing regulatory and zoning requirements. In this way, the plan can be used to expedite the dredging project proponents' search for appropriate disposal sites and regulatory agencies' permit review process.

The Plan is not intended to be an exhaustive list of all possible disposal sites and, therefore it includes a procedure for the designation of new sites. Also, the Plan does not guarantee site availability. In some cases designated sites are privately owned and their use will require owner approval. The Plan does not obviate the need to obtain dredging and disposal permits. In all cases, use of a site for dredged material disposal will have to conform to local, state, and federal regulatory requirements."

Part 3: Proposed Amendments to Clatsop County's Land and Water Development and Use Ordinance (LWDUO)

This part contains sections of Clatsop County's Land and Water Development and Use Ordinance (LWDUO) to be amended by this proposal. Most sections are reproduced in their entirety below. For a few sections with long passages of text unaffected by this proposal, the unaffected material has been omitted. Such omissions are noted below.

Proposed amendments to Clatsop County's LWDUO are shown in the following way:

- New material to be added is printed in ***bold italics and highlighted.***
- Current provisions to be deleted are printed in ~~strikethrough~~.

Section 1.031. Natural Resource Definitions.

ACCRETION -- The build-up of land along a beach or shore by the deposition of waterborne or airborne sand, sediment, or other material.

AGITATION DREDGING -- Dredging by displacement of sediments out of a shoaled area using currents generated by a ship's propeller or large pump. Also referred to as propwash dredging and sandwave skimming, depending on the gear and techniques used.

AQUACULTURE -- The raising, feeding, planting and harvesting of fish, shellfish, aquatic plants or other aquatic organisms, including associated facilities necessary to engage in the use.

AQUATIC AREAS -- Aquatic areas include the tidal waters, including subtidal areas and wetlands of the estuaries and non-tidal sloughs, streams, and wetlands within the shorelands area boundary. The lands underlying the waters are also included. The upper limit of aquatic areas is the upper limit of aquatic vegetation or, where such a line cannot be accurately determined, Mean Higher High Water (MHHW) in tidal areas or Ordinary High Water (OHW) in non-tidal areas.

AVULSION -- A tearing away or separation by the force of water. Land which is separated from uplands or adjacent properties by the action of a stream or river cutting through the land to form a new stream bed.

BANKLINE ALTERATION -- Realignment of a stream bank or the entire stream, either within or without its normal high water boundaries.

BEACH -- Gently sloping areas of loose material (e.g., sand, gravel and cobbles) that extend landward from the low-water line (extreme low tide) to a point where there is a

definite change in the material type or landform, or to the line of year-round established vegetation.

BEACH ACCESS, PUBLIC OR PRIVATE -- Trails or roads which provide access for the public to the beach.

BEACH NOURISHMENT -- Placement of sand material on actively eroding beach sites identified in the Dredged Material Management Plan to maintain the historic beach profile. Beach nourishment does not include creation of new land area or beaches and must provide for the protection of estuarine resources (including habitat, nutrient, fish, wildlife, and aesthetic resources). Dredged material may be used for beach nourishment.

BENEFICIAL USE — The using of dredged material for some productive or beneficial purpose in a manner consistent with applicable laws, not harmful to the environment, and not in conflict with other uses authorized in this plan, such as fisheries and ports. "Beneficial use" includes the use of dredged materials to improve or enhance upland sites; to protect or stabilize beaches or shorelines; to enhance native and natural wildlife habitat; to enhance or create aquatic habitat; disposal at ocean beaches; or for construction purposes (for a road foundation, for example).

BOAT HOUSE -- A floating or pile-supported structure used for the protection and storage of a boat or boats.

BOAT RAMP OR LAUNCH -- An improved sloped surface extending from a shoreland area into an aquatic area suitable for removing a boat from the water and launching a boat into the water from a trailer.

BREAKWATER -- A protective navigational structure built of rock, concrete, steel, piling or constructed to float for the purpose of protecting the shore or facility behind the structure.

BRIDGE CROSSING -- The portion of a bridge spanning a waterway not including supporting structures or fill located in the water or adjacent wetlands.

BRIDGE CROSSING SUPPORT STRUCTURES -- Piers, piling, abutments, and similar structures necessary to support a bridge span but not including fill for causeways or approaches.

BULKHEAD -- A vertical wall of steel, timber or concrete used for erosion protection or as a retaining wall.

CHANNELIZATION -- Diversion of flow from shallow areas into the main channel by dredging, pile dikes or other means to the degree that circulation is markedly decreased and sedimentation increased in the shallow areas.

COASTAL SHORELANDS -- Those areas immediately adjacent to the ocean, estuaries, associated wetland and coastal lakes. The extent of shorelands shall include at least:

1. Areas subject to ocean flooding and lands within 100 feet of the ocean shore or within 50 feet of an estuary or coastal lake;
2. Adjacent areas of geologic instability where the geologic instability is related or will impact a coastal water body;
3. Natural or man-made riparian resources, especially vegetation necessary to stabilize the shoreline and to maintain water quality and temperature necessary for the maintenance of fish habitat and spawning areas;
4. Areas of significant shoreland and wetland biological habitats whose habitat quality is primarily derived from or related to the association with coastal water areas;
5. Areas necessary for water-dependent and water-related uses including areas of recreational importance which utilize coastal water or riparian resources; areas appropriate for navigation and port facilities, dredged material disposal and mitigation sites, and areas having characteristics suitable for aquaculture;
6. Areas of exceptional aesthetic or scenic quality, where the quality is primarily derived from or related to the association with coastal water areas.
7. Coastal headlands.
8. Dikes and their associated inland toe drains; and
9. Locations of archaeological or historical importance associated with the estuary.

DIKES -- With regard to flood protection, a structure designed and built to prevent inundation of a parcel of land by water. With regard to dredged material disposal, a structure consisting of sediments, rock, or other material designed to contain the dredged material and allow for settling of solids in a specific areas while it is being deposited and after deposition has occurred. A dike is considered new when placed on an area which: (1) has never previously been diked, or (2) has previously been diked, but all or a substantial part of the area is subject to daily inundation and tidal marsh has been established. Maintenance and repair refer to: (1) existing serviceable dikes (including those that allow some seasonal inundation), and (2) those that have been damaged by flooding, erosion, tide gate failure, etc., but where reversion to tidal marsh has not yet occurred, or where repair work is commenced within 36 months of the breach regardless if the area has reverted to estuarine habitat. **Dike** ***is synonymous with*** **levee** ***as defined in CREST's 2002 Columbia River Estuary Dredged Material Management Plan.***

DOCKS -- A pier or secured float or floats for vessel moorage, fishing, or other water use.

DREDGED MATERIAL -- Sediments, gravels and other solids removed from an aquatic area.

DREDGED MATERIAL DISPOSAL -- The deposition of dredged material in aquatic areas or land areas. Methods include land disposal (deposition in specific land areas or on the tops and landward sides of flood protection dikes) and in-water disposal (including beach nourishment, flowlane disposal, ocean disposal, estuarine open-water disposal, and agitation dredging).

DREDGING -- The extraction or displacement of aquatic sediment or other material for the purpose of ***maintaining or*** deepening a navigation channel, mooring basin or other navigational areas, obtaining fill material, or mining and mineral extraction.

DRIFT RIGHT -- A specific area or section of river bottom that has been cleared of snags and sunken debris and is shared and actively managed by a group of fisherman as their fishing grounds.

EFFLUENT -- With regard to water quality, treated or untreated liquid entering the estuary from a point source. With regard to dredging, water, including dissolved and suspended materials, which flows from a dredged material disposal site.

EMERGENCY -- Emergency conditions are limited to activities such as bankline or streamline alteration, dike repair, fill, and shoreline stabilization undertaken during high water and/or storm conditions. Emergency activities affecting removal of material from estuarine aquatic areas or filling of estuarine aquatic areas are those necessary for preventing irreparable harm, injury or damage to persons or property. The Oregon Division of State Lands requires notification within 24 hours following the start of emergency activities. Measures taken as a result of emergency conditions will be inspected following notification and denied or approved.

ESTUARY -- A body of water semi-enclosed by land, connecting with the open ocean, and within which salt water is diluted by freshwater derived from the land. The estuary includes: estuarine water, intertidal areas, and submerged lands. The Columbia River Estuary, for regulatory purposes, extends to the western edge of Puget Island as defined by the north/south line between Section 21 and 22, Township 8 North, Range 6 West on the Oregon side, to the Wahkiakum-Cowlitz County line on the Washington side, and to the head of tide for all tributaries.

ESTUARINE ENHANCEMENT -- An action which results in a long-term improvement of existing estuarine functional characteristics and processes that is not the result of a creation or restoration action.

ESTUARINE OPEN-WATER DREDGED MATERIAL DISPOSAL -- All types of in-water dredged material disposal within the estuary which do not fall into the classifications of flowlane disposal, beach nourishment, sump disposal, agitation dredging and disposal to provide fill material for an approved aquatic area fill project.

FLOW-LANE DISPOSAL -- Disposal of dredged material in the flow lane, in a location where the prevailing sediment transport is in a downstream direction.

FLOW-LANE DREDGED MATERIAL DISPOSAL -- Deposition of dredged material in or adjacent to a natural or maintained navigational channel in a location where the prevailing sediment transport will carry the material downstream. ***Note: Downstream from the Astoria-Megler Bridge, flow-lane disposal is allowed only in Development management units in water depths between 20 and 65 feet below MLLW. Upstream from the Astoria-Megler Bridge, flow-lane disposal is allowed only in Development management units in water depths of 20 feet below MLLW and deeper. See Plan Policy P 20.5(11)(e).***

INTERTIDAL -- Between extreme low water and the landward limit of aquatic vegetation, or where vegetation is absent, mean higher high water.

IN-WATER DISPOSAL -- The disposal of dredged material in the estuary, river or ocean.

IN-WATER DREDGED MATERIAL DISPOSAL -- Deposition of dredged materials in an aquatic area. Methods include beach nourishment, flowlane disposal, estuarine open-water disposal, in-water sump disposal, agitation dredging and ocean disposal.

JETTY -- A barrier to waterflow that is constructed of rock or concrete and used to stabilize the navigation channel and improve scour at the mouth of the estuary. Jetties must be able to withstand extreme wave conditions and may alter littoral drift.

LAND DISPOSAL -- Deposition of dredged material on upland areas or on shorelands, including on the top and landward sides of flood control dikes.

MINOR NAVIGATIONAL IMPROVEMENT -- Alterations necessary to provide water access to existing or permitted uses including dredging for access channels and for maintaining existing navigation but excluding fill and in-water navigational structures other than floating breakwaters or similar permeable wave barriers.

MITIGATION -- Any action that, to some degree, softens the impact of development on wetlands and aquatic areas. This may include all or any one of the following actions: (1) avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of an action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations; and (5) compensating for the impact by creation, restoration, or enhancement of wetlands and aquatic areas to maintain their functional processes, such as natural biological productivity, habitat, and species diversity, unique features and water quality. Any mitigation action or combination of actions may involve monitoring and remedial follow-up measures.

MOORAGE -- Piling or a dock, or both, used to secure a boat or barge.

NAVIGATION AIDS -- Beacons, buoys, range markers and other objects providing directional assistance.

NAVIGATION CHANNEL -- Authorized channel(s) maintained by the Corps of Engineers, and other natural or locally maintained channels.

NAVIGATIONAL STRUCTURES -- Jetties, groins, pile dikes, breakwaters, and other in-water structures designed to change or moderate hydraulic characteristics for the purpose of improving navigation.

NEW DREDGING -- Dredging in an area that has not been dredged before; or deepening an existing dredged channel, basin, or other facility beyond its previously authorized or approved depth; or dredging a channel, basin, or other facility that has not been in use or operation in the past five years.

OCEAN FLOODING -- The flooding of lowland areas by salt water owing to tidal action, storm surge, or tsunamis (seismic sea waves). Land forms subject to ocean flooding include beaches, marshes, coastal lowlands, and low lying interdune areas. Areas of ocean flooding are mapped by the Federal Emergency Management Agency (FEMA). Ocean flooding includes areas of velocity flooding and associated shallow marine flooding.

OFF-SITE -- With respect to mitigation, an area separated from the impact area by a significant distance and that offers little or no opportunity for reestablishing lost values and functions to organisms which originally benefited from the lost habitat.

[*Rest of section omitted and not affected by this proposal*]

Section 3.030. Special Purpose Districts.

A special purpose district is an overlay district which may be combined with any portion of any zone as appropriate to the purpose of the district. The regulations of a special purpose district ~~consists of additional sections of this Ordinance and additional standards. Some of these regulations are supplementary and others preempt~~ may add to or modify the ~~regulations~~ requirements of the underlying zone, and the regulations of the special purpose district and the zone shall all apply. Where ~~these regulations~~ the requirements of a special purpose overlay district and the underlying base zone conflict, the regulations that are more restrictive shall control. T~~t~~he boundaries of special purpose districts, except as indicated below, are shown on the Clatsop County Land and Water Development Map and Columbia River Estuary Resource Base Maps ***(amended by Ordinance No. 05-05).***

1. The boundaries of the Flood Hazard Overlay (FHO) district shall be the areas of flood hazards identified by the Federal Insurance Administration in a report entitled: Flood Insurance Study, Clatsop County, Oregon Unincorporated Areas, dated January, 1978 and accompanying Flood Insurance Rate Maps (FIRM) and Flood Boundary and Floodway maps dated effective July 3, 1978. This report and maps are hereby adopted by this reference as a part of this Ordinance.

2. The boundaries of the Geologic Hazards Overlay (GHO) district are identified in:

    a. The Hazards Background Report adopted July 23, 1980 and identified on the "Hazards" map in each of the Clatsop County Community Plans; and
    b. In a report entitled A Field Inventory of Geologic Hazards from Silver Point to Cove Beach, Clatsop County, Oregon dated February, 1978 and accompanying maps on file in the Clatsop County Department of Planning and Development. These reports and maps are hereby adopted by this reference as part of this Ordinance.

3. The boundaries of the Active Dune Overlay (ADO) district shall be the areas of active dunes identified in a report entitled Stability of Coastal Dunes, Clatsop County, Oregon, Second Draft, by Leonard Palmer, dated January, 1978 and accompanying orthophoto maps on file in the Clatsop County Department of Planning and Development. This report and maps are hereby adopted by reference as a part of this Ordinance.

4. The boundaries of the Beaches and Dunes Overlay (/BDO) District shall be the areas of all beach and dune landforms including active dune forms for which a "built and committed" exception has been taken, but not for other active dune

forms as identified in Section 3.030(3) above. Beach and dune landforms are identified in the Beaches and Dunes Background Report of the Clatsop County Comprehensive Plan and is hereby adopted by this reference.

5. The boundaries of the Dredged Material Disposal (/DMD) Overlay District, Mitigation Site Overlay Reserve (/MIT) District and Restoration Inventory Sites (/RI) Overlay District shall be the areas of Dredged Material disposal, Mitigation and Restoration identified on the Columbia River Estuary Resource Base Maps dated September 30, 1983 . These maps are hereby adopted by reference as a part of this Ordinance.

6. The boundary of the Coastal Shorelands boundary shall be the following:

   a. Elk Creek Estuary Coastal Shorelands boundary as identified on the Elk Creek Estuary Map of the Elk Creek Estuary section of the Estuarine Resources and Coastal Shorelands Element of the Clatsop County Comprehensive Plan dated September 30, 1983; and
   b. Necanicum River Estuary Coastal Shorelands boundary as identified on the Elk Creek Estuary Map of the Elk Creek Estuary section of the Estuarine Resources and Coastal Shorelands Element of the Clatsop County Comprehensive Plan dated September 30, 1983; and
   c. Columbia River Estuary Coastal Shorelands boundary as identified on the Columbia River Estuary Resource Maps dated ~~September 30, 1983~~ ***July 2002***; and
   d. Coastal Shorelands boundary as identified on the Ocean and Coastal Lake Shorelands Maps of the Ocean and Coastal Lake Shorelands of the Estuarine Resources and Coastal Shorelands Element of the Clatsop County Comprehensive Plan dated September 30, 1983.

These maps are hereby adopted by this reference as a part of this Ordinance, ***and as amended by Ordinance No. 05-05.***

Each special purpose district and the abbreviated designation suffix are listed in Table 3.030.

Section 3.620. Marine Industrial Shorelands Zone (MI).

Section 3.622. Purpose and Areas Included. The purpose of the MI zone is to manage Columbia River Estuary shorelands in urban and urbanizable areas and shorelands in rural areas especially suited for water-dependent development and to reserve these shorelands for water-dependent industrial, commercial, and high-intensity recreational use.

Marine Industrial Shoreland areas have unique characteristics that make them especially suited for water-dependent development. Characteristics that contribute to suitability for water-dependent development include:

1. Deep water close to shore with supporting land transportation facilities suitable for ship and barge facility.
2. Potential for aquaculture.
3. Protected areas subject to scour which would require little dredging for use as a marine; and
4. Potential for recreational utilization of coastal waters or riparian resources.

Uses of the MI zone shall maintain the integrity of the estuary and coastal waters. Water-dependent development uses receive highest priority, followed by water-related uses. Uses which are not water-dependent or water-related are provided for, only if they do not foreclose options for future higher priority uses and do not limit the potential for more intensive use of the area.

Section 3.624. Permitted Developments. The following uses and activities, and their accessory uses and activities, are permitted in the MI zone under a Type I procedure, Section 2.015, and subject to the provisions of Section 3.634, Development Standards:

1. Low-intensity water-dependent recreation.
2. Vegetative shoreline stabilization.
3. Navigational aids.
4. Passive restoration.
5. Grazing or other farm uses involving no structures.
6. Forestry activities.
7. Maintenance and repair to existing structures and facilities, including dikes.
8. Temporary dike for emergency flood protection, subject to state and federal regulations, limited to 60 days.
9. Dredged material disposal ***including beach nourishment*** at sites designated in the Comprehensive Plan.
10. Water-dependent industrial and port uses, including but not limited to:
    a. port facilities and/or shipping activities
    b. fuel storage and dispensing facilities
    c. vessel construction, maintenance or repair facilities
    d. marine railway facilities
    e. seafood receiving, processing and storage
    f. ice making and sales establishment
    g. integrated manufacturing and shipping facility where a significant portion of the operation is water-dependent
    h. other water-dependent industrial, or port uses meeting the criteria in Section S4.243(1), Water-dependent Use Criteria.

11. Property line adjustment.

Section 3.626. Review Developments. The following uses and activities, and their accessory uses and activities, may be permitted as Review Uses in the MI zone under a Type II procedure, Section 2.020, when authorized in accordance with Sections 5.040-051 Development and Use Permitted with Review, and subject to the provisions of Section 3.634, Development Standards:

1. Public utility structures.
2. Communication facilities.
3. Landfalls and access corridors for sewer line, water line, submerged cables or other pipeline crossing.
4. Structural shoreline stabilization.
5. Dredged material disposal at sites not designated in the Comprehensive Plan provided that the disposal does not preempt the use of the site for allowable water-dependent development activities.
6. Excavation to create new water surface area.

Section 3.628. Conditional Developments. The following uses and activities, and their accessory uses and activities, may be permitted as Conditional Uses in the MI zone under a Type II procedure, Section 2.020, when authorized in accordance with Sections 5.000-5.030 Conditional Development and Use, and subject to the provisions of Section 3.634, Development Standards:

1. Water-related industrial and commercial uses, including, but not limited to:
   a. administrative offices of a water-dependent business
   b. marine hardware sales and repair
   c. security guard quarters in conjunction with a water-dependent use
   d. marine craft and/or equipment sales
   charter fishing offices
   f. seafood market
   g. sports fish cleaning, smoking or canning
   h. cold storage and/or ice processing facilities independent of seafood processing facilities
   i. other water-related industrial and commercial uses meeting the criteria in Section S4.243(2), Water-related Use Criteria.
2. High intensity water-dependent commercial and recreational facilities including boat ramps, commercial moorages, and marinas for commercial and recreational marine craft.
3. New dike and tidegate construction.
4. Storm-water and treated wastewater outfalls.
5. Non-water-dependent, non-related uses involving minimal capital investment, including temporary uses.

6. Forest manufacturing.
7. Aquaculture facilities.
8. Mining and mineral extraction processing and differentiation.
9. Mitigation, restoration, creation and enhancement.
10. Marine research and education facility.
11. Land transportation systems.

Section 3.634. Development Standards.

1. All uses and activities shall satisfy applicable regional policies contained in the Comprehensive Plan, Estuarine Resources and Coastal Shorelands Element.

2. All uses and activities shall satisfy applicable Columbia River Estuary Shoreland and Aquatic Use and Activity standards contained in the Development and Use Standards Document.

3. All other applicable ordinance requirements shall be satisfied.

4. When a proposal includes several uses, the uses shall be reviewed in aggregate under the more stringent procedure.

5. Uses that are water-dependent must meet the criteria in Section S4.243(1). Uses that are water-related must meet the criteria in Section S2.243(2).

6. Uses and activities that are not water-dependent shall not preclude or conflict with existing or probable future water-dependent use on the site or in the vicinity. If non-water-dependent development is proposed in the MI zone under Section 3.626, Review Developments or under Section 3.628, Conditional Developments, the County shall provide mailed notice to state and federal agencies with statutory planning and permit issuance authority in aquatic areas, including the Oregon Division of State Lands, Oregon Department of Fish and Wildlife, US Fish and Wildlife Service, National Marine Fisheries Service, Army Corps of Engineers, and the Environmental Protection Agency.

7. Plan review and approval:

A building permit or other permit for construction or alteration of any structure or use in the MI zone will not be issued until plans have been reviewed and approved for conformity with the performance standards of this zone and the policies of the Comprehensive Plan, and for compatibility of the proposed structures or uses with surrounding uses considering factors such as transportation, access, signs, lighting, building placement and design, noise, air quality, vibration, storage, landscaping, adjoining uses and location of public utilities including water and sewer facilities.

Any activity or structures reviewed and approved by the Planning Director will be considered a permitted development with review satisfying Section 3.626. The approved activity or structure must be completed within the time frame specified in the approval, and not to exceed five years. If the permitted use status is lost due to inactivity or lack of construction within the time specified, a new plan must be submitted for review and approval.

8. All uses must meet applicable state and federal air quality and noise laws or regulations.

9. Storage: All materials, including wastes, shall be stored and maintained in a manner that will not attract or aid the propagation of insects or rodents or other animals or birds, or otherwise create a health hazard or nuisance.

10. Fencing: Will be allowed inside a boundary planting screen and where it is necessary to protect property of the use concerned or to protect the public from a dangerous condition, with the following provisions:

a. No fence shall be constructed in the required setback from the public right-of-way unless otherwise specifically approved by the Planning Director.

b. Fences shall be aesthetically compatible with the surrounding property.

11. Lighting: Exterior lighting shall be directed away from zones other than LI unless otherwise approved.

12. Density provisions:

a. The minimum lot area shall be one (1) acre.

b. The minimum lot width shall be 150 feet.

13. Setback requirements:

a. Where a lot abuts a zone other than LI, there shall be a front, side or rear yard setback of not less than 50 feet. Otherwise, the front, side, or rear yards may be reduced to zero.

b. Setbacks are not required where side, rear, or front property lines abut a railroad right-of-way.

c. Uses that are not water-dependent or water-related shall be set back 50 feet from mean higher high water or the line of non-aquatic vegetation.

14. Buffer: Where the MI zone adjoins a zone other than LI, there shall be an area of depth adequate to provide for a dense evergreen landscaped area which attains a minimum height of 8-10 feet, or such other screening measures as may be prescribed

by the Planning Director. In no case shall the buffer area have less width than the required 50 foot setback of this zone.

15. Height: There is no height limitation except within 100 feet of a zone other than LI in which case the maximum height shall be the same height as the abutting zone.

Section 3.636. State and Federal Permits. If any state or federal permit is required for a development or use, an applicant, prior to issuance of a development permit or action, shall submit to the Planning Department a copy of the state or federal permit.

Section 3.660. Conservation Shorelands Zone (CS).

Section 3.662. Purpose and Areas Included. This zone is intended to conserve Columbia River Estuary shorelands which provide important resource or ecosystem support functions and to designate areas for long term uses of renewable resources that do not require major alterations of the estuary, except for the purpose of restoration. They are managed for the protection and maintenance of water quality, fish and wildlife habitat, water-dependent uses, economic resources, aesthetic values and recreation. Uses of these shorelands shall be compatible with characteristics and uses of the adjacent estuarine waters.

Section 3.664. Permitted Developments. The following uses and activities and their accessory uses and activities, are permitted in the CS zone under a Type I procedure, Section 2.015, and subject to the provisions of Section 3.670, Development Standards:

1. Low intensity recreation.
2. Navigational aids.
3. Vegetative shoreline stabilization.
4. Emergency repair to existing functional and serviceable dikes.
5. Temporary dike for emergency flood protection, subject to state and federal requirements, limited to 60 days.
6. Agriculture.
7. Forest activities.
8. Dredged material disposal ***including beach nourishment*** at sites designated in the Comprehensive Plan.
9. Passive restoration measures.
10. Property line adjustment.

Section 3.666. Review Developments. The following uses and activities, and their accessory uses and activities, may be permitted as Review Uses in the CS zone under a Type II procedure, Section 2.020, when authorized in accordance with Sections 5.040-

5.051 Development and Use Permitted with Review, and subject to the provisions of Section 3.670, Development Standards.

1. Structural shoreline stabilization.
~~2. Dredged material disposal at sites not designated in the Comprehensive Plan provided that the proposed disposal site is not located in a Category I coastal shoreland.~~
~~3~~2. Maintenance and repair of existing structures and facilities, including dikes.
~~4~~3. Excavation to create new water surface area.
~~5~~4. Active restoration, mitigation.
~~6~~5. Individual dock or moorage or public recreational boat ramp with minimal on-shore facilities.

Section 3.668. Conditional Developments. The following uses and activities, and their accessory uses and activities, may be permitted as Conditional Uses in the CS zone under a Type II procedure, Section 2.020, when authorized in accordance with Sections 5.000-5.030 Conditional Development and Use, and subject to the provisions of Section 3.670, Development Standards.

1. Marine research and education facilities.
2. High intensity water-dependent commercial and recreational facilities including boat ramps, moorages, or marina facilities.
3. Aquaculture facilities.
4. Log storage and sorting yard.
5. Public utility structure.
6. Land transportation facilities.
7. Landfalls and access corridors for sewer line, water line, submerge cables or other pipeline crossing.
8. New dike and tidegate construction.
9. Storm water and treated wastewater outfalls.

Section 3.670. Development Standards.

1. All uses and activities shall satisfy applicable regional policies contained in the Comprehensive Plan, Estuarine Resources and Coastal Shorelands Element.

2. All uses and activities shall satisfy applicable Columbia River Estuary Shoreland and Aquatic Use and Activity Standards contained in the Development and Use Standards Document.

3. All other applicable ordinance requirements shall be satisfied.

4. Shoreline setbacks shall meet the requirements of development standards S4.237, Riparian Vegetation Protection.

5. When a proposal includes several uses, the uses shall be reviewed in aggregate under the more stringent procedure.

6. Uses that are water-dependent must meet the criteria in Section S4.243(1). Uses that are water-related must meet the criteria in Section S4.243(2).

7. Uses that are not water-dependent shall not preclude or conflict with existing or probable future water-dependent uses on the site or in the vicinity.

Section 3.674. State and Federal Permits. If any state or federal permit is required for a development or use, an applicant, prior to issuance of a development permit or action, shall submit to the Planning Department a copy of the state or federal permit.

Section 3.780. Aquatic Conservation One Zone (AC-1).

Section 3.782. Purpose and Areas Included. The purpose of the AC-1 zone is to conserve designated areas of the Columbia River Estuary for long term uses of renewable resources that do not require major alterations of the estuary, except for the purpose of restoration. This zone is managed for the protection and conservation of the natural resources and benefits found in these areas. The AC-1 zone includes areas needed for maintenance and enhancement of biological productivity, recreational resources, aesthetic values and aquaculture. They shall include areas of significant habitat smaller or of less biological importance than those in the AN zone. Areas that are partially altered and adjacent to existing development of low intensity which do not posses the resource characteristics of other aquatic areas are also included in this zone.

Section 3.784. Permitted Developments. The following uses and activities, and their accessory uses and activities, are permitted in the AC-1 zone under a Type I procedure, Section 2.015, and subject to the provisions of Section 3.790, Development Standards:

1. Undeveloped low intensity water-dependent.
2. Passive restoration measures.
3. Navigational aids.
4. Vegetative shoreline stabilization.
5. Projects for the protection of habitat, nutrient, fish, wildlife and aesthetic resources.
6. Emergency repair to existing functional and serviceable dikes.

7. Temporary dike for emergency flood protection, subject to state and federal requirements.
8. Research and educational observations.
9. Piling and dredging in conjunction with permitted uses 3, and 5 through 8 listed above, pursuant to the applicable standards in Sections S4.208 and S4.232.
10. Filling in conjunction with permitted uses 5 through 7 listed above, pursuant to the applicable standards in Section S4.235.
11. Property line adjustment.

Section 3.786. Review Developments. The following uses and activities, and their accessory uses and activities, may be permitted as Review Uses in the AC-1 zone under a Type II procedure, Section 2.020, when authorized in accordance with Sections 5.040-5.051 Developments and Uses Permitted with Review. These uses and activities are also subject to the provisions of Section 3.790, Development Standards.

1. Individual docks and boat ramps for public use where neither dredging nor filling for navigation access is needed.
2. Pipelines, cables and utility crossings.
3. Maintenance and repair of existing structures or facilities, including dikes.
4. Installation of tidegates in existing functional dikes.
5. Structural shoreline stabilization.
6. Water dependent portions of an aquaculture facility which do not involve dredge or fill or other estuarine alteration other than incidental dredging for harvest of benthic species or removable in-water structures such as stakes or racks.
~~7. Beach nourishment at sites designated in the Comprehensive Plan.~~
~~8~~*7*. Estuarine enhancement.
~~9~~*8*. Bridge crossings.
~~10~~*9*. Piling in conjunction with review uses 1 through 8 listed above, pursuant to the applicable standards in Section S4.208.
~~11~~*10*. Dredging in conjunction with review uses 2 through 7, and 9 listed above, pursuant to the applicable standards in Section S4.232.
~~12~~*11*. Filling in conjunction with review uses 2, 3, 5, 6, 8 and 9 listed above, pursuant to the applicable standards in Section S4.235.

The following review uses and activities, and their accessory uses and activities, meet the resource capability of the Aquatic Conservation zone in which they occur, subject to the procedures in Sections 5.860-880 Resource Capability Determination.

13. Dredging to obtain fill material for dike maintenance.
14. Temporary alterations.
15. Temporary uses involving an existing structure or involving new facilities requiring minimal capital investment and no permanent structure.

16. Piling, dredging or filling in conjunction with the review uses 13 through 16 listed above, pursuant to the applicable standards in Sections S4.208, S4.232, and S4.235.

Section 3.788. Conditional Developments. The following uses and activities, and their accessory uses and activities, may be permitted as Conditional Uses in the AC-1 zone under a Type II procedure, Section 2.020, when authorized in accordance with Sections 5.000-5.030 Conditional Development and Use. These uses and activities are also subject to the provisions of Section 3.790, Development Standards. It must also be determined that the uses and activities meet the resource capability of the Aquatic Conservation One zone, subject to the procedures in Sections 5.860-5.880 Resource Capability Determination.

1. Bridge crossing support structures.
2. Water-dependent portions of aquaculture facilities.
3. Active restoration measures.
4. Storm water and treated wastewater outfalls.
5. Minor navigational improvements.
6. Mining and mineral extraction.
7. Log storage and other water-dependent uses requiring occupation of water surface area by means other than dredge or fill.
8. Piling in conjunction with conditional uses 1, 2, 5 through 7 listed above, pursuant to the applicable standards in Section S4.232.
9. Dredging in conjunction with conditional uses 1 through 6 listed above, pursuant to the applicable standards in Section S4.232.
10. Filling in conjunction with conditional uses 1 through 4 listed above, pursuant to the applicable standards in Section S4.235.

Section 3.790. Development Standards.

1. All uses and activities shall satisfy applicable regional policies contained in the Comprehensive Plan, Estuarine Resources and Coastal Shorelands element.

2. All uses and activities shall satisfy applicable Columbia River Estuary Shoreland and Aquatic Use and Activity Standards contained in the Development and Use Standards Document.

3. All other applicable ordinance requirements shall also be satisfied.

4. A proposal which requires new dredging, fill, in-water structures, riprap, new log storage areas, water in-take or withdrawal and effluent discharge, in-water disposal of dredged material, beach nourishment, application of pesticides and herbicides, or

other activities which could affect the estuary's physical processes or biological resources is subject to an Impact Assessment, Sections 5.810-5.840.

5. When a development proposal includes several uses, the uses shall be reviewed in aggregate under the more stringent procedure.

6. Uses that are water-dependent must meet the criteria in Section S4.243(1). Uses that are water-related must meet the criteria in Section S4.243(2).

7. Uses that are not water-dependent shall not preclude or conflict with existing or probable future water-dependent uses on the site or in the vicinity.

8. Uses and activities permitted under Section 3.784 of this zoned, Permitted Developments, are subject to the public notice provisions of Section 2.115, if an impact assessment is required pursuant to Sections 5.810 through 5.840; or if a resource capability determination is required pursuant to Sections 5.860-5.870; or if a determination of consistency with the purpose of the AC-1 zone is required pursuant to Section 5.880; or if the Planning Director determines that the permit decision will require interpretation or the exercise of factual, policy, or legal judgment.

Section 3.792. State and Federal Permits. If any state or federal permit is required for a development or use, an applicant, prior to issuance of a development permit or action, shall submit to the Planning Department a copy of the state or federal permit.

Section 4.160. Dredged Material Disposal Site Reservation Overlay District (/DMD).

Section 4.162. Purpose. The intent of this district is to designate dredged material disposal sites in the County with respect to present and expected water-dependent development and navigational access requirements in the Columbia River Estuary and to protect these sites for dredged material disposal operations.

Section 4.164. District Boundaries. The /DMD Site Reservation District conforms to the description of dredged material disposal sites in the Columbia River Estuary Dredged Material Management Plan of the County's Comprehensive Plan. Revisions to the Columbia River Estuary Dredged Material Management Plan must be recorded by amendment to the Comprehensive Plan.

Section 4.166. ~~Priority I~~ Dredged Material Disposal Sites. The purpose of ~~Priority I~~ site designations is to protect important dredged material disposal sites from incompatible and preemptive uses that may limit their ultimate use for the deposition of dredged material, and to ensure that an adequate number of sites will be reserved in

order to accommodate dredged material disposal needs resulting from five years of existing and expected water-dependent development and navigation projects.

Section 4.168. Uses Allowed in ~~Priority I~~ Dredged Material Disposal Sites. Dredged material disposal ***including beach nourishment*** at ~~Priority I~~ sites designated in the Comprehensive Plan's background report Columbia River Estuary Dredged Material Management Plan is permitted with standards under a Type I procedure if the site is located upland or in the coastal shoreland boundary. Dredged material disposal ***including beach nourishment*** at ~~Priority I~~ sites designated in the Comprehensive Plan and located in aquatic areas may be allowed as a Review Use under a Type II procedure. In addition, only those development uses and activities permitted, permitted with review or conditionally permitted in the underlying zone which are determined not to preempt the site's future use for dredged material disposal are allowed, subject to the policies and procedural requirements of the underlying zone.

Section 4.170. Removal of ~~Priority I~~ Dredged Material Disposal Site Designation. ~~Priority I s Sites may be removed by ordinance amendment to the Comprehensive Plan in the following situations:~~

~~1. After a Priority I dredged material disposal site has been filled to capacity and is no longer available for additional dredged material disposal, the dredged material disposal site designation shall be removed.~~

~~2.~~ Removal of a ~~Priority I~~ dredged material disposal site designation before a site has been filled to capacity shall only be approved if:

a. Provision is made for a replacement ~~Priority I~~ dredged material disposal site of suitable characteristics; or

b. The dredging need for which the ~~Priority I~~ site was initially designated for dredged material disposal is withdrawn or reevaluated.

~~Section 4.172. Priority II Dredged Material Disposal Sites. The purpose of Priority II dredged material disposal site designations is to identify disposal areas necessary to meet probably and projected dredging needs. These sites may be required in the future to provide disposal site volumes associated with long-range water-dependent and navigational dredging needs. The importance of these sites, as compared with Priority I dredged material disposal sites, does not justify efforts to protect all or portions of each site from potential preemptive uses.~~

~~Section 4.174. Uses Allowed in Priority II Dredged Material Disposal Sites. Dredged material disposal at Priority II sites designated in the Comprehensive Plan's background report Columbia River Estuary Dredged Material Management Plan is permitted with standards under a Type I procedure if the site is located upland or in the coastal shoreland boundary. Dredged material disposal at Priority II sites designated in the Comprehensive Plan and located in aquatic areas may be allowed as a Review~~

~~Use under a Type II procedure. In addition, development uses and activities permitted, permitted with review, or conditionally permitted in the underlying zone are allowed subject to the policies and procedural requirements of the zone. Allowable uses which will preempt use of the site for dredged material disposal shall be subject to the 30 day hold period in Section 4.176.~~ (Priority II Sites are no longer listed in the DMMP).

~~Section 4.176. Site Reservation. When a valid development permit application is submitted for Planning Department or Planning Commission approval which entails use of a Priority II dredged material disposal site in a way which would be incompatible with or preempt use of the site for dredged material disposal, action on the application shall be suspended for 30 days from the date a complete application is filed. The period of suspension is to allow interested parties time to negotiate for use of the site as a dredged material disposal area. If negotiations are not completed within the 30 day period, the development application will be reviewed in accordance with normal procedure.~~

Section 4.1728. Preemptive Uses. Incompatible and preemptive uses of ~~Priority I and Priority II~~ dredged material disposal sites includes the following:

1. Uses requiring substantial structural or capital improvements (e.g. construction of permanent buildings);

2. Uses that require extensive alteration of the topography of the site, thereby reducing the potential usable volume of the dredged material disposal area (e.g. extensive site grading, elevation by placement of fill materials other than dredged ***materials*** ~~spoils~~).

3. Uses that include changes made to the site that would present expeditious use of the site for dredged material disposal. Such uses would delay deposition of dredged materials on the site beyond the period of time commonly required to obtain the necessary federal, state and local dredging and ***materials*** ~~spoil~~ disposal permits (approximately 90 days).

Part 4: Proposed Amendments to Clatsop County's Combined Comprehensive Plan and Zone Map

Maps showing plan designations and zoning for Clatsop County's 17 dredged materials disposal sites are attached to this proposal as Appendix 4. Note that all sites have a base zone (typically Conservation Shorelands) overlain by the county's DMD Overlay District. Provisions for the Conservation Shorelands Zone are set forth in Chapter 3.660 of the LWDUO. Provisions for the DMD Overlay District are set forth in LWDUO Section 4.160.

Part 5: Findings of Fact, Applicable Criteria, and Conclusions of Law Regarding the Proposed Amendments

In adopting the amendments proposed above, Clatsop County engages in a legislative land-use decision known as a "post-acknowledgment plan amendment" or "PAPA." For such legislative actions, a local government is not required to adopt detailed findings of fact. The state's Land Use Board of Appeals describes the matter this way:

> "There is no generally applicable statutory, statewide planning goal or administrative rule requirement that *legislative* land use decisions must in all cases be supported by findings. *Riverbend Landfill Company v. Yamhill County*, 24 Or LUBA 466, 472 (1993).[1][3] However, where a local government wishes to adopt findings to support a legislative land use decision, they must be adopted prior to or at the same time the legislative land use decision is adopted and becomes final for purposes of appeal." *West Side Rural Fire District v City of Hood River*
> http://luba.state.or.us/pdf/2002/nov02/02055.htm

Clatsop County believes that its legislative action here should be supported by an explanation of the criteria applicable to the action and by a summary of the evidence, findings, and conclusions in support of its decision. This section presents that explanation and summary.

APPLICABLE CRITERION — ORS 197.610 sets forth this requirement:

> A proposal to amend a local government acknowledged comprehensive plan or land use regulation or to adopt a new land use regulation shall be forwarded to the Director of the Department of Land Conservation and Development at least 45 days before the first evidentiary hearing on adoption. The proposal forwarded shall contain the text and any supplemental information that the local government believes is necessary to inform the director as to the effect of the proposal. The notice shall include the date set for the first evidentiary hearing.

Clatsop County's Community Development Department staff mailed this proposal to the Department of Land Conservation on January 20, 2005. The first evidentiary hearing on this proposal was held before the Clatsop County Planning Commission on March 8, 2005. The proposal contains both the text of the proposed amendments and supplemental material.

Conclusion: In adopting this proposal, Clatsop County complies with ORS 197.610.

APPLICABLE CRITERION — ORS 215.060 requires counties amending their comprehensive plans to conduct "one or more public hearings" and to publish "10 days' advance public notice of each of the hearings . . . in a newspaper of general circulation in the county."

Clatsop County's Community Development Department staff ordered publication of such notice in *The Daily Astorian*, for February 15, 2005.

Conclusion: In adopting this proposal, Clatsop County complies with ORS 215.060.

APPLICABLE CRITERION — ORS 215.503 requires notice to owners of property that is to be "rezoned" by a legislation plan amendment such as that proposed here. The notice is to be sent "at least 20 days but not more than 40 days before the date of the first hearing." ORS 215.503(2) also requires that all legislative plan amendments be adopted by ordinance.

ORS 215.503(10) defines "rezoning" to include any change that "limits or prohibits land uses previously allowed in the affected zone." This proposal would "rezone" a few properties, in that it removes the designation of some sites for dredged material disposal. Clatsop County's Community Development Department staff notified affected property owners of this proposal on February 9, 2005, within the required 20 to 40 day notification period, and will adopt the proposal by ordinance.

Conclusion: In adopting this proposal, Clatsop County complies with ORS 215.503.

APPLICABLE CRITERION — Statewide Planning Goal 2, *Land Use Planning*, sets forth these requirements:

> To establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions.
>
> City, county, state and federal agency and special district plans and actions related to land use shall be consistent with the comprehensive plans of cities and counties and regional plans adopted under ORS Chapter 268.
>
> All land use plans shall include identification of issues and problems, inventories and other factual information for each applicable statewide planning goal, evaluation of alternative courses of action and ultimate policy choices, taking into consideration social, economic, energy and environmental needs. The required information shall be contained in the plan document or in supporting documents. The plans, supporting documents and implementation ordinances shall be filed in a public office or other place easily accessible to the public. The plans shall be the basis for specific implementation measures. These measures shall be consistent with and adequate to

carry out the plans. Each plan and related implementation measure shall be coordinated with the plans of affected governmental units.

All land-use plans and implementation ordinances shall be adopted by the governing body after public hearing and shall be reviewed and, as needed, revised on a periodic cycle to take into account changing public policies and circumstances, in accord with a schedule set forth in the plan. Opportunities shall be provided for review and comment by citizens and affected governmental units during preparation, review and revision of plans and implementation ordinances.

This proposal updates and refines the "land use planning process and policy framework" used by Clatsop County for dredged material disposal (DMD) sites. It rests on a detailed factual base consisting of documents, maps, and statements described herein. The proposal has been coordinated with and reviewed by all affected local governments and regional agencies, including the City of Astoria, City of Warrenton, and Columbia River Estuary Study Taskforce (CREST), and is consistent with their plans.

The proposal includes a factual and detailed inventory of all affected DMD sites. The inventory, policies, and amended implementation measures, if adopted, will become part of Clatsop County's comprehensive plan and related land-use regulations. The proposed materials all are readily available to the public in the Clatsop County Department of Community Development, 800 Exchange Street, Room 100, Astoria, OR 97103, and in other public locations.

This proposal is to be reviewed in four public meetings, three of which already have been held:

- A work session with the Clatsop County Planning Commission January 11, 2005;
- A public workshop to describe the proposal in Astoria, on February 24, 2005;
- A public hearing and work session before the Clatsop County Planning Commission in Astoria on March 8, 2005; and
- A public hearing before the Clatsop County Board of Commissioners in Astoria scheduled for April 27, 2005.

For all four public meetings, county officials notified interested parties and complied with the notice procedures set forth in Clatsop County's acknowledged Citizen Involvement Program.

Conclusion: In adopting this proposal, Clatsop County complies with Statewide Planning Goal 2.

APPLICABLE CRITERION — Statewide Planning Goal 16, *Estuarine Resources*, calls for local policies and implementing measures to "recognize and protect the unique environmental, economic, and social values of each estuary and

associated wetlands; and to protect, maintain, where appropriate develop, and where appropriate restore the long- term-environmental, economic, and social values, diversity and benefits of Oregon's estuaries."

In addition, Goal 16 specifies several implementation requirements, of which 2, 5, and 6 pertain to dredged material disposal:

> 2. Dredging and/or filling shall be allowed only:
> a. If required for navigation or other water-dependent uses that require an estuarine location or if specifically allowed by the applicable management unit requirements of this goal; and.
> b. If a need (i.e., a substantial public benefit) is demonstrated and the use or alteration does not unreasonably interfere with public trust rights; and
> c. If no feasible alternative upland locations exist; and,
> d. If adverse impacts are minimized.
>
> Other uses and activities which could alter the estuary shall only be allowed if the requirements in (b), (c), and (d) are met. All or portions of these requirements may be applied at the time of plan development for actions identified in the plan. Otherwise, they shall be applied at the time of permit review."
>
> 5. When dredge or fill activities are permitted in intertidal or tidal marsh areas, their effects shall be mitigated by creation, restoration or enhancement of another area to ensure that the integrity of the estuarine ecosystem is maintained. Comprehensive plans shall designate and protect specific sites for mitigation which generally correspond to the types and quantity of intertidal area proposed for dredging or filling, or make findings demonstrating that it is not possible to do so."
>
> 6. Local government and state and federal agencies shall develop comprehensive programs, including specific sites and procedures for disposal and stock-piling of dredged materials. These programs shall encourage the disposal of dredged material in uplands or ocean waters, and shall permit disposal in estuary waters only where such disposal will clearly be consistent with the objectives of this goal and state and federal law. Dredged material shall not be disposed in intertidal or tidal marsh estuarine areas unless part of an approved fill project.

Clatsop County's current plan and implementing ordinances have been acknowledged to comply with Goal 16. This proposal to adopt the 2002 CREST DMMP and to update the county's provisions for DMD renders the county's plan and implementing ordinances even more consistent with the goal. The identified DMD sites have zoning assigned to them that will protect estuarine values. Under that zoning, they are regulated as to the uses allowed and the permitting requirements. The LWDUO contains procedures designed to protect resources and allow dredged material disposal in appropriate areas. The proposal identifies the appropriate site locations taking into account the values associated with the estuary. The use of the estuary for dredged material also requires mitigation and restoration of areas to help support diversity of the estuary resources.

Conclusion: In adopting this proposal, Clatsop County complies with Statewide Planning Goal 16.

APPLICABLE CRITERION — Statewide Planning Goal 17, *Coastal Shorelands*, calls for local policies and implementing measures to "conserve, protect, where appropriate, develop and where appropriate restore the resources and benefits of all shorelands, recognizing their value for protection and maintenance of water quality, fish and wildlife habitat, water- dependent uses, economic resources and recreation and aesthetics."

Clatsop County's current plan and implementing ordinances have been acknowledged to comply with Goal 17. This proposal to update the county's provisions for DMD renders the county's plan and implementing ordinances even more consistent with this goal.

Goal 17 pertains mainly to the coastal shorelands, but it covers shorelands along the Columbia River estuary as well. The shorelands pertaining to the proposed amendments are identified as areas between the river and land, where aquatic vegetation is absent. Goal 17's Section D, "Development Needs," says, "In coordination with planning for the Estuarine Resources Goal, coastal shoreland plans should designate appropriate sites for . . . dredged material disposal." This proposal does precisely that for 15 of the 17 DMD sites specified in the text above, in the accompanying maps, and in Appendix 1, "Dredged Materials Disposal Sites in Clatsop County." The 15 sites are shoreland sites subject to Goal 17. The remaining two Clatsop County sites, Area D (O-8.5) and Harrington Sump (O-21.0) are aquatic sites designated "Aquatic Development."

The areas designated for DMD in this proposal include some sites that may allow placement of dredged material as beach nourishment, and some in-water activities along shoals. Such areas may be used in conjunction with upland disposal sites, with berms established adjacent to the shoreland or in the shoreland to limit the amount of dredged material that can accrete to the water, avoiding or limiting normal beach erosion associated with the process. Shoaling is allowed in designated areas and is later removed to upland sites. Both the current plan and this proposal provide for use of dredged material beach nourishment at some sites, after administrative review.

Conclusion: In adopting this proposal, Clatsop County complies with Statewide Planning Goal 17.

The combination of zoning and permitting procedures described in the above sections is summarized in the following table. The table includes only those county zones pertaining to DMD sites. All of the table's entries in the "Zone" column refer to the listed zone **plus** the DMD overlay zone.

DMD Permitting Procedures in Clatsop County			
ZONE	**Aquatic Disposal**	**Beach Nourishment**	**Upland Disposal**
Aquatic Natural	Not permitted	Not permitted	Not applicable
Aquatic Conservation 1	Not permitted	Not permitted	Not applicable
Aquatic Conservation 2	Not permitted	Review Use (Type II)	Not applicable
Aquatic Development	Review Use (Type II)	Review Use (Type II)	Not applicable
Natural Shorelands	Not applicable	Not permitted	Not permitted
Conservation Shorelands	Not applicable	Permitted Use (Type I)	Permitted Use (Type I)
Marine Industrial	Not applicable	Permitted Use (Type I)	Permitted Use (Type I)
Exclusive Farm Use	Not applicable	Conditional Use (Type III)	Conditional Use (Type III)

OVERALL CONCLUSION: This proposal to amend Clatsop County's acknowledged comprehensive plan, related land use ordinances, comprehensive plan map, and zoning map has been reviewed against all applicable statewide planning goals and related administrative rules and statutes. It has been coordinated with and reviewed by affected agencies and interested parties. It is based upon facts and evidence described in this report and in the attached documents and maps. This proposal therefore complies with all applicable criteria.

Part 6: Appendices

1. **Dredged Materials Disposal (DMD) Sites in Clatsop County**

2. **Chronology of Events Related to Clatsop County's DMD Plan**

3. **CREST's July 2002 Columbia River Estuary Dredged Material Management Plan (CREDMMP)**

4. **Maps Showing Planning and Zoning for DMD Sites in Clatsop County**