

ILLINOIS RIVER FORKS STATE PARK

MASTER PLAN
1996

OREGON PARKS AND RECREATION DEPARTMENT

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INTRODUCTION - Chapter One

This document is the master plan for the future use and management of Illinois River Forks State Park, an Oregon Parks and Recreation Department property. This is the first official master plan that has been prepared for this property. This document includes a narrative that describes the master planning purpose and process. It also contains descriptions of the existing conditions, suitability for public recreational use, issues related to the property and recommended goals and objectives for the property. **More detailed implementation and management guidelines and a business strategy are prepared as separate staff documents.**

MASTER PLAN PURPOSE

The Oregon Parks and Recreation Department (OPRD) prepares master plans for its properties as mandated in ORS 390.180. The purpose of each plan is to determine the carrying capacity of the lands and resources and to guide appropriate use of the property. The plan is also intended as an information source regarding resources including; land use suitability, management issues, goals and objectives.

The master plan preparation and review process satisfies the department's obligation under OAR 736 Division 70 (State Agency Coordination Rule), to coordinate planning efforts with affected agencies. It also provides a basis for preparing land use compliance requests, partnership agreements, budget priorities and management plans.

MASTER PLANNING PROCESS

1. OPRD planning staff conduct introductory meetings to collect public and governmental opinions about use and management issues, problems, needs and opportunities. Ideas, comments and concerns collected from these meetings serve as a beginning point for problem-solving and for setting use and management goals and objectives for the property. For Illinois River Forks State Park a steering committee formed to provide input to the planning process. They will also assist in implementing the final plan.
2. Staff complete a detailed resource inventory for the property, including an assessment of its carrying capacity or suitability for public recreational use.
3. Staff collect information regarding recreation needs and resource issues.
4. The local volunteer Planning Partners group, or steering committee, reviews the available information and issues; and recommends use, management, and development goals for the property.

5. Staff complete a draft plan document and circulate it for larger public and governmental review and comment.
6. Staff complete a final plan document for review and comment by OPRD administration, and by the Oregon Parks and Recreation Commission. The Commission recommends to the Director changes to the plan or approves it. Commission discussion and recommendations are made in public meetings with opportunities for public comment.
7. The plan proceeds through the state administrative rule-making process and becomes adopted as a rule. Opportunities for public comment are included in this process.
8. OPRD proposes to local planning jurisdictions inclusion of the master plan in their comprehensive plans and zoning ordinances.
9. Staff prepare implementation guidelines, management guidelines and business strategies for implementing the master plan goals and objectives.

EXISTING CONDITIONS - Chapter Two

Location: Illinois River Forks State Park is located on U.S. Highway 199, The Old Redwood Highway, directly south of Cave Junction, in Josephine County, Oregon.

Size: 368 acres

Classification: State Park

Description: This very scenic property includes the confluence of the east and west forks of the Illinois River.

The developed day-use area is located between the two forks and easily accessed from HWY 199. The site also serves as a rest stop for travellers on HWY 199. This property is open 24 hours a day.

The property is used for picnicking, swimming and trail walking. The property is also used as an outdoor classroom by the Siskiyou Regional Education Project. The Society for Creative Anachronism holds one of its large weekend encampments here in the summer.

A large portion of the property (approximately 100 acres) is separated from the developed portion of the property by the west fork of the Illinois River. This area is not easily accessible from the day-use area. It is rugged country and heavily forested. It can be accessed from a county road that passes through the extreme west boundary of the property.

80 acres of the property is leased from the BLM. The lease on this property expires in 2007 unless renewed. The existing day-use improvements are located within the lease boundaries.

The west fork has some excellent swimming holes. The scenery along this fork is outstanding. The east fork has swifter flows and a higher summer water level than the west fork.

Facilities: A two lane paved access road winds from HWY 199 to a paved parking lot at the day-use area. The parking area has capacity for approximately 100 cars. The day-use area facilities include a flush restroom building (Type

4) and picnic tables with concrete bases. Water supply to the restroom is from the City of Cave Junction's municipal water supply. Some walking trails have been developed in and around the day-use area.

Zoning:

Josephine County; Comprehensive Plan: F; Forest and a small portion AG; Agriculture. Land use plan: WR; Woodlot Resource (All the property leased from the BLM is in this zone), FC; Forest Commercial covers the rest of the property.

**Recreational
Opportunity**

Setting:

Setting: Primarily, Roaded Modified between the east and west forks, the property west of the west fork is semi-primitive-limited. See Appendix C for the OPRD Expanded Recreational Opportunity Spectrum definitions.

Floodplain:

Much of the property between the river forks is in the 50 and 100 yr floodplain. All of the existing improvements are within the 100 yr flood plain.

FLOOD HAZARDS AND ZONING MAP

**(Also includes ownership, and
existing facilities)**

Map Sheets 1a and 1b



Flood Hazards and Zoning

Legend

-  Forest Commercial Zone
-  Woodlot Resource Zone/Property leased from BLM
-  Floodway
-  100-Year Floodplain
-  BLM Lease Boundary
-  Park Boundary

FLOOD HAZARDS AND ZONING
ILLINOIS RIVER FORKS STATE PARK
JOSEPHINE COUNTY

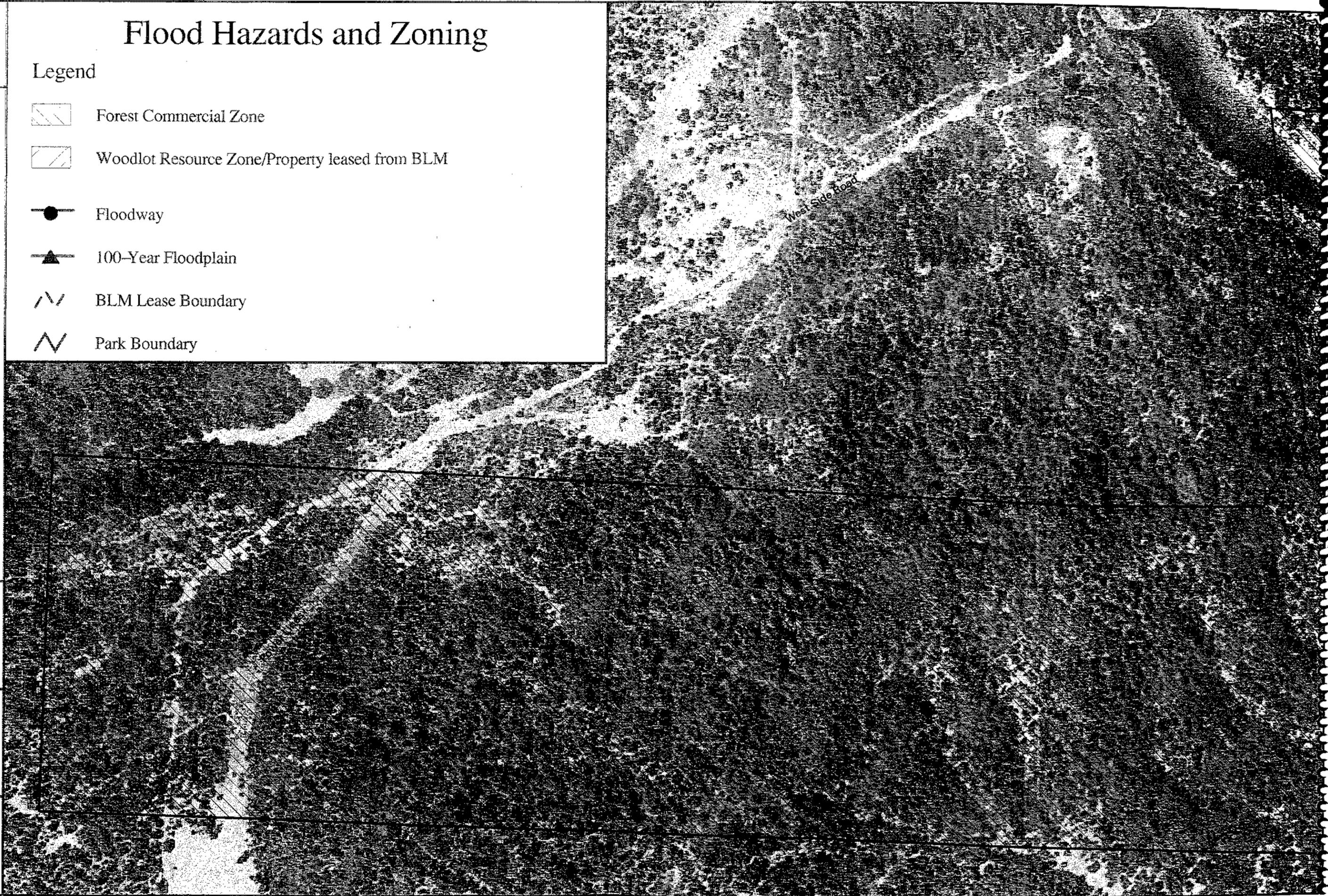


SCALE

Approx.
1 in. = 300 ft.

SHEET

1a





**FLOOD HAZARDS AND ZONING
ILLINOIS RIVER FORKS STATE PARK
JOSEPHINE COUNTY**

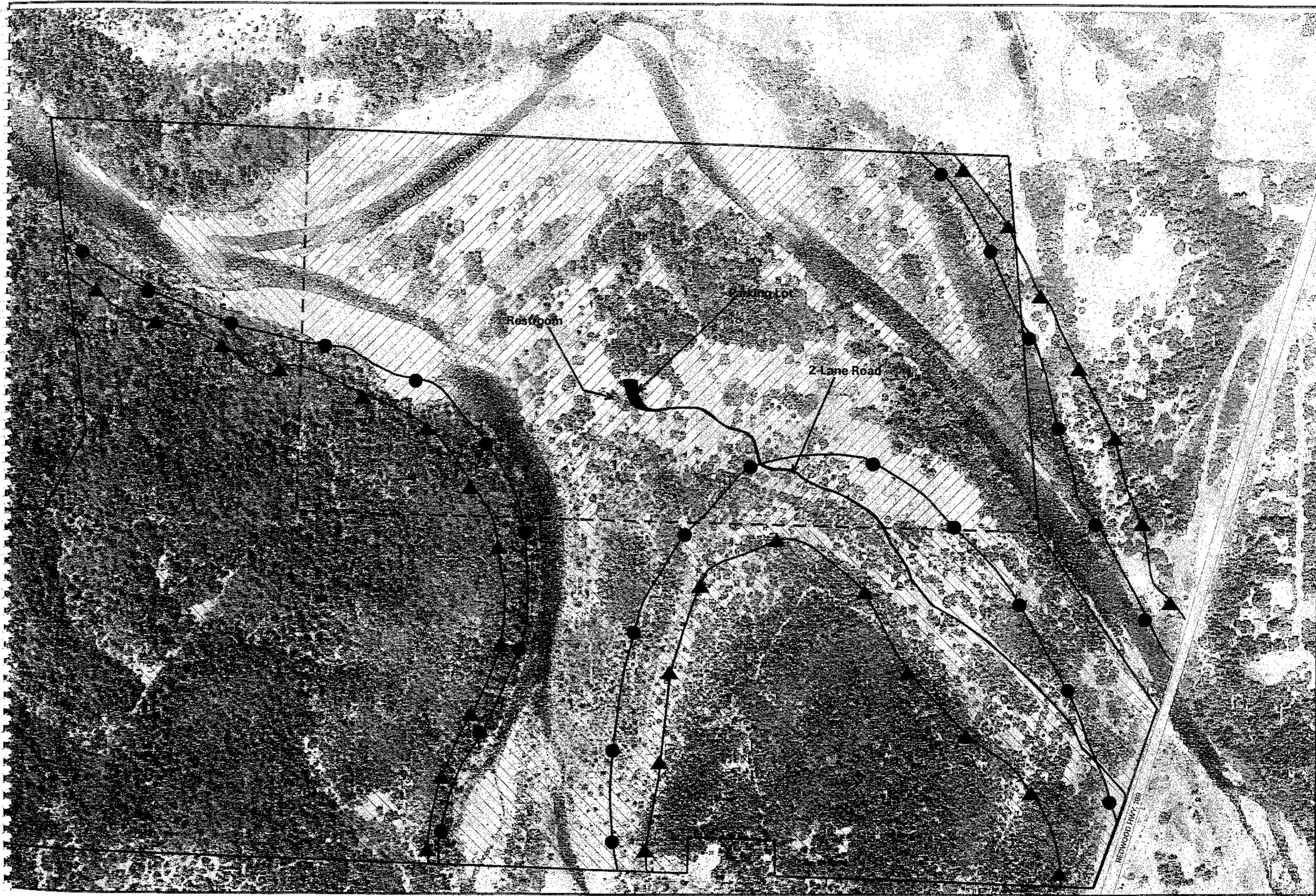


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HERITAGE ASSESSMENT SUMMARY -

Chapter Three

VISUAL

Illinois River Forks State Park is classified as a State Park because it provides many different recreation opportunities within a large scenic setting that is controlled by OPRD.

The existing developed portions of this property are surrounded by high quality foreground scenery, with the exception of the old quarry area. The rugged forested slopes to the west and the undisputable scenic beauty of both forks of the Illinois River at the confluence give the visitor an immediate impression of the best scenic qualities of the region. A short walk up the west fork from the day-use area further impresses visitors with the beauty of the property with its bedrock swimming holes and forested slopes to the west.

Preservation of the scenic qualities of this property are prime objectives for management, use and development of the property. Use of native plant material is recommended for all landscape needs in developed areas. Non-native shade trees that have character similar to the native trees may be necessary in irrigated lawn areas that may result from development proposals.

CLIMATE

The property is located in the western Siskiyou Mountains where average precipitation is between 24" and 68". Less than 20% of the precipitation falls during the growing season. The mean precipitation records combined with average July temperatures of 62° to 66° F, and average January temperatures of 32° to 36° F, demonstrate warm wet winters and hot dry summers.

WETLANDS

On the basis of field studies, approximately four different types of jurisdictional water/wetlands were observed within the lowland floodplain. Only the areas of the property between the east and west forks were surveyed. These types include: a) jurisdictional water/palustrine forest/scrub-shrub wetland mosaic adjacent to the east and west forks of the Illinois River, b) palustrine forest/scrub-shrub wetland, c) palustrine emergent marsh/forest wetland mosaic, and d) ephemeral emergent wetlands associated with small, isolated microdepressions.

These wetlands are mapped on Map Sheets 2a & 2b at the end of this chapter. Detailed descriptions of the hydrology, soils, and plants that compose these wetlands can be found in Appendix A.

PLANT COMMUNITIES

General Plant Community Types

The general forest composition of this area is referred to as Mixed Evergreen (Pseudotsuga - Sclerophyll) Zone. Mixed-evergreen forests include upper stratum of conifers: Douglas-fir, Pinus ponderosa and Jeffery pine and a lower stratum of sclerophyllous hardwoods: madrone and an understory of tanoak. Black and especially white oak, sugar pine and incense cedar are common in the canopy. Tanoak and species of manzanita, wood rose and poison oak are common understory species. Braken fern and white-flowered hawkweed are common frequent ground cover. Needle grass and Idaho fescue are grasses that commonly occur in the ground cover.

The plant communities are shown on the maps at the end of this chapter and described in detail in Appendix B are constructed out of a hierarchical approach. Also in Appendix B is a list of plants known to occur on site. The park was divided into seven different broad zones (ecotones) based upon similar influences of soils, hydrology, geomorphology and other landscape features. These seven zones are as follows: Upland core park, upland scrub-shrub chaparral communities, upland forested corridor, palustrine riparian, palustrine ephemeral emergent wetland communities, palustrine forested wetland - lowland, palustrine shrub swamp wetlands - lowland.

Each of these seven zones has within it at least two plant communities and as many as six. These community descriptions are based on the Oregon Natural Heritage Program Classifications.

Quality assessments were made after classification, based on the level of disturbance, weediness or percentage of exotic, non-native or cultivated species, species diversity, stability and wildlife. On the plant community maps the quality rating follows the abbreviated name in the form of a number 1, 2, 3, or 4. One representing the highest quality/least level of disturbance and 4 the most impacted or disturbed communities.

This park includes examples of many valley bottom habitats which are high priority ecosystem needs as defined by the Oregon Natural Heritage Plan. Important ecosystem types included are the Oregon white oak-madrone/poison oak/bunchgrass woodland cell type, and the Jeffery pine-douglas fir-incense cedar serpentine woodland.

Plant communities that have a value of 1 and all of the vernal pool areas are in a protection class (Composite Resource Suitability 1) on the resource suitability maps. Plant communities that are comprised of oak species should have evergreen species removed periodically to maintain the

oaks in communities. The oak communities are being reduced in the area and offer substantial habitat benefits. Work to maintain the quality of all of the riparian communities.

The majority of the property that is west of the west fork was donated to OPRD. The plant communities in this area fall within the forest corridor group. Consistent with stipulations from the donor of this 160 acre track OPRD has developed a forest management plan to "improve, protect, and maintain the forest to provide the maximum scenic and recreational benefits". Consistent with the forest management plan stand management, thinning and hazard reduction work has been done on the parcel. The existing forest management plan is outdated and a new one needs to be prepared.

Threatened, endangered and candidate plant species

It is possible that the plants listed in the following paragraphs could be found anywhere in the Klamath Mountain floristic region, though they haven't been identified on site yet with the exception of *Lomatium cookii* and *Limnanthes gracilis* var. *gracilis*. Oregon law specifies that plant species must be protected and conserved on state-owned and state-managed properties when listed as threatened or endangered.

Oregon State Status - Endangered: Umpqua mariposa-lily (*Calochortus umpquaensis*); Western lily (*Lilium occidentale*); Agate Desert lomatium (*Lomatium cookii*); and the Sexton Mountain mariposa-lily (*Calochortus indecorus*) presumed extirpated or extinct. Plants listed as threatened: Howell's Mariposa-lily (*Calochortus howellii*); Large-flowered rush lily (*Hastingsia bracteosa*); and Howell's microseris (*Microseris howellii*).

Oregon State Status - Candidate: Purple toothwort (*Cardamine nuttallii* var. *gemmata*); Howell's streptanthus (*Streptanthus howellii*); Waldo gentian (*Gentiana setigera*); slender meadow-foam (*Limnanthes gracilis* var. *gracilis*); western senecio (*Senecio hesperius*); western bog violet (*Viola primulifolia* ssp. *occidentalis*); and purple-flowered rush lily (*Hastingsia atropurpurea*).

No State or Federal Status - ONHP List 2: Pale sedge (*Carex livida*); Howell's adder's tongue (*Erthronium howellii*); and Piper's bluegrass (*Poa piperi*).

No State or Federal Status - ONHP List 3: Rigid willow-herb (*Epilobium rigidum*).

No State or Federal Status - ONHP List 4, Watch List: Koehler's stipitate rockcress (*Arabis koehleri* var. *stipitata*); silky balsamroot (*Balsamorhiza sericea*); Siskiyou Mountain pennycress (*Thlaspi montanum* ssp. *siskiyouensis*); California Lady's-slipper (*Cypripedium californicum*); and opposite-leaved bitterroot (*Lewisia oppositifolia*).

Any of these lists will change over time and should be consulted before undertaking new actions. Before development actions are undertaken as described in this master plan, specific inventory

work for these species at the time of year that they would be present should be done in any proposed development areas.

The Salem office has additional information on the locations of *Lomatium cookii* populations that have been identified by The Nature Conservancy staff.

See Goal 7 in Chapter 6 for management objectives that address the protection of rare plants and the preservation of important plant communities.

CULTURAL RESOURCES

The State Historic Preservation Office reports that no archeological resources are known to exist at Illinois River Forks State Park.

WILDLIFE HABITAT

Wildlife habitat areas are mapped on Map Sheets 4a and 4b. Values were established based on the existing condition of the areas. A scale of 1 to 4 is used with 1 being areas in excellent condition, and/or rare, or unique ecosystems, or species occurrences. A value of 4 denotes an area with wildlife habitat in poor condition.

The USFS reports the following sensitive species in the region: O'Brien caddisfly, California Mountain King snake, Common king snake and the Northwestern pond turtle. A ONHP database search turned up two nearby occurrences of the black salamander, a sensitive species.

O'Brien Caddisfly may cause concern for any proposed developments in anadromous streams. An inventory of this USFS regional sensitive should be done before any instream work.

The importance to decaying wood for the King snake nesting should be incorporated into any resource management activities that are undertaken at the property. Appropriately size downed material should be left on site to decompose for King snake nesting, away from developed areas. The importance of snags, downed and decaying wood should be incorporated into any educational material for the property. Eagles and Osprey have been seen using some of the snags near the river.

OPRD will avoid any potential impacts to salmonids when pursuing recreational improvements at this parcel. Because of the size of the river forks in this area they probably primarily provide rearing habitat for these fish. Based on local site observations and monitoring, the temperature in the east fork may currently reach lethal temperatures for salmonids. Resource management projects that benefit the salmonids should be pursued with local partners. All of the wetland areas shown on Map Sheets 2a & 2b, plus areas on the west bank of the West Fork and the east

bank of the East Fork provide important salmonid refuge during higher winter flows. River edge and off channel areas are also very important. Both forks of the river are closed to fishing.

If large groups request to use the property for festivals or events, amplification equipment for music or public address systems should not be allowed between January 1st and July 1st. This is to protect breeding bird populations. Coordinate with ODF&W to avoid impacts.

The current ODF&W list of T&E and sensitive species for the area are listed below with their current status and habitat associations that should be taken into account when planning developments or resource management activities. (Changes to this list will occur over time, check the current NHAC database.)

Clouded salamander - sensitive - Forests of Douglas-fir, cedar, alder and redwood; often at the edge of clearings.

Western toad - sensitive - Ponds, lakes reservoirs, rivers and streams.

Northern red-legged frog - sensitive - Ponds, marshes and rivers with rocky or muddy bottom with cattails or other shoreline vegetation.

Common king snake - sensitive - Conifer forest, woodland, swampland river bottoms, farmland, prairie chaparral, and desert habitats.

California mountain king snake - sensitive - Moist woods, conifer forests, woodland and chaparral.

Merlin - no state status - Nests in open woods, but occurs in a variety of habitats.

Pileated woodpecker - sensitive - prefers dense, mature forest.

Acorn woodpecker - sensitive - Common in oak woods or pine forests where oaks are abundant.

Pacific western big-eared bat - sensitive - Upper Sonoran life zone.

Ringtail - sensitive - Brushy, rocky slopes.

The Northern goshawk, American peregrine falcon, Bald eagle, Great grey owl and Northern spotted owl may be present at times, however most of their habitat needs are not found within the park, especially the old growth component.

Below is a list of species sited on the property in recent years (from local reports):

Deer

Coyote
Red or Gray fox
Beavers - using bank dens
Mink

Quail
Osprey - hunt in the area starting around March 15th.
Bald eagles - nest farther up the west fork well outside of the property.
Green heron
Great blue heron
Common merganser
Wood ducks
Belted king fishers
Yellow breasted chat

RECREATIONAL RESOURCES

The mostly undeveloped and naturalistic condition of this property and its large acreage provide an important opportunity for visitors to recreate in a natural setting close to an urban area (Cave Junction) and in close proximity to a major transportation route (HWY 199). Naturalistic recreation opportunities close to major transportation routes and urban areas are becoming increasingly rare statewide.

This property currently provides opportunities for many general outdoor recreation pursuits. Including trail walking, swimming, picnicking, outdoor photography, wildlife watching, picnicking, and botanizing. The property can support large group events and has accommodated weekend overnight group use of up to 3,000 persons in a weekend.

Various trails have been developed from the day-use area that offer pleasant day-use walking opportunities. The portion of the park west of the west fork offers opportunities for more primitive hiking and exploration experiences.

The old quarry, near the day-use area, is currently used for off-road vehicle use and illegal fire arm use.

Local groups have identified opportunities at the property for the development of overnight camping facilities with a different setting/amenity level than available at local, federal, or private camps. If overnight camping facilities were developed many recreational opportunities would be available to the campers including; trail hiking, interpretive and educational programs, scenic enjoyment, wildlife observation, and outdoor photography.

Wetlands

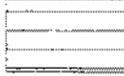
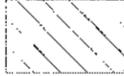
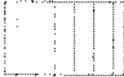
Maps Sheet 2a & 2b



Wetlands

(only mapped between east and west forks)

Legend

	WPFS-1	Waters/Palustrine Forest/Scrub-shrub	18.2 Ac.
	PFSS-1	Palustrine Forest/Scrub shrub	.8 Ac.
	PFEM-1	Palustrine Forest/Emergent Marsh	.8 Ac.
	EEM-1	Ephemeral Emergent Marsh	1.1 Ac.

WETLANDS
ILLINOIS RIVER FORKS STATE PARK
JOSEPHINE COUNTY

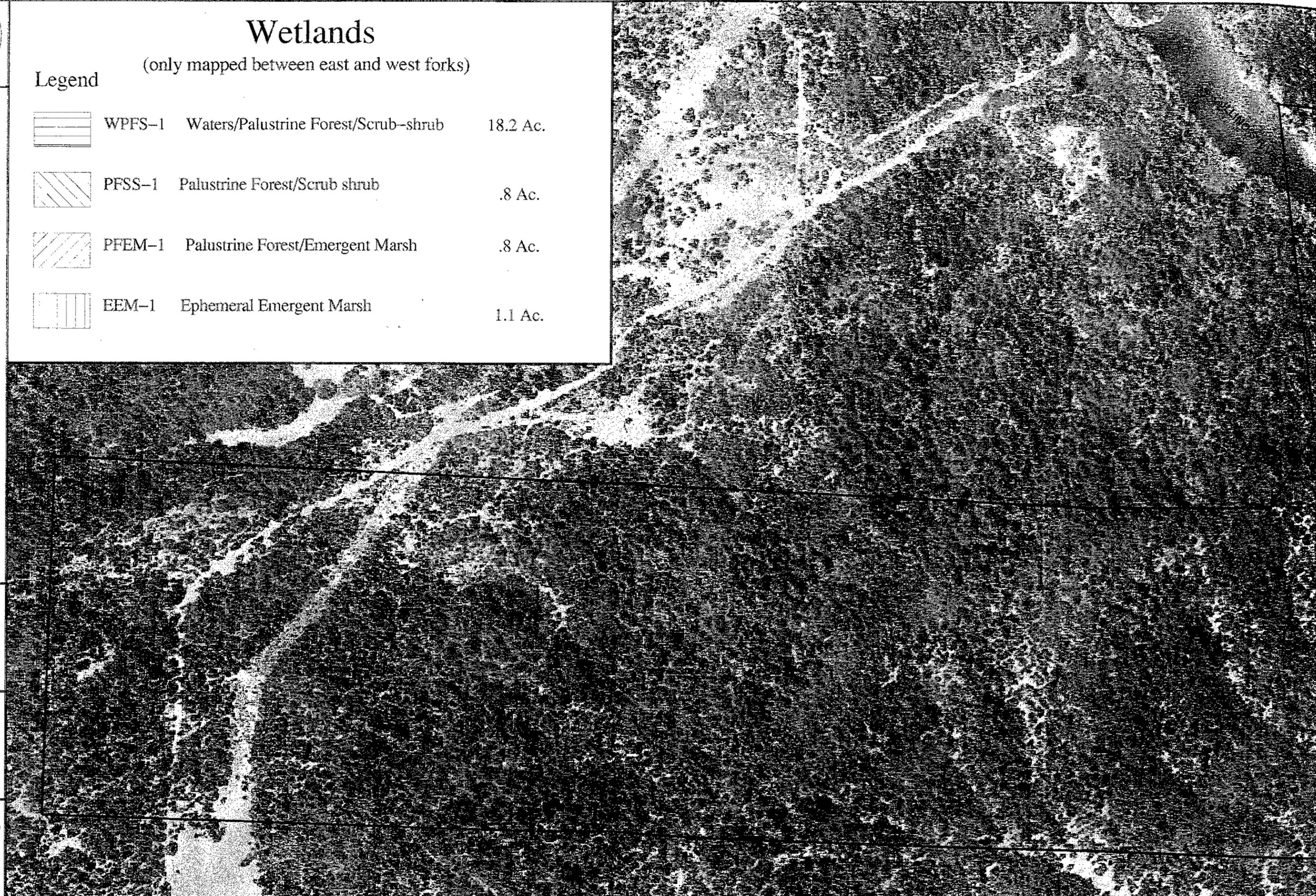


SCALE

Approx.
1 in. = 300 ft.

SHEET

2a





WETLANDS
ILLINOIS RIVER FORKS STATE PARK
JOSEPHINE COUNTY

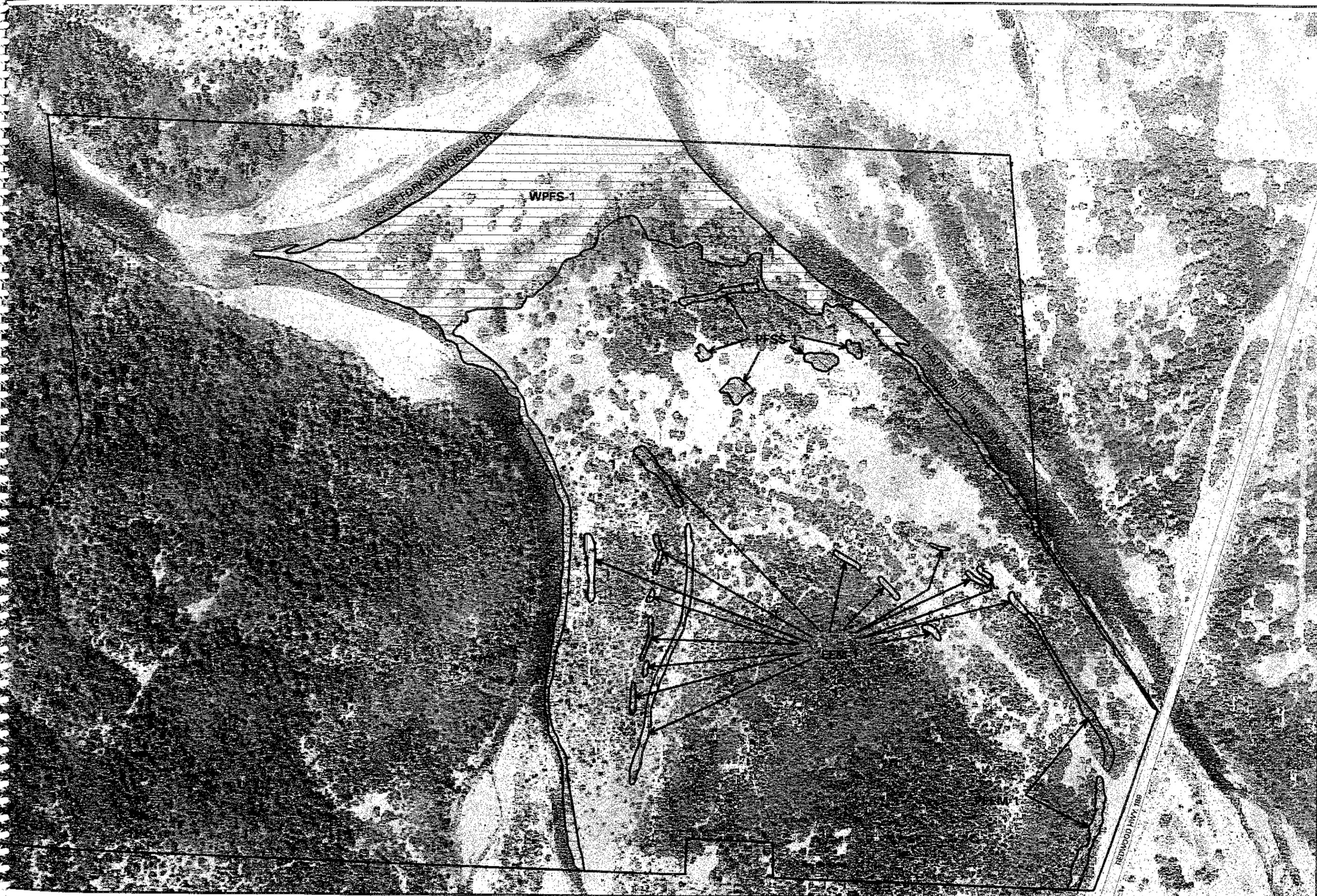


SCALE

Approx.
1 in. = 300 ft.

SHEET

2b



Plant Communities

Map Sheets 3a & 3b



Plant Communities

Legend

Code	Description	Total Area
NNPF-2	Ash/Jeffrey pine/cottonwood/snowberry/slough sedge-long stolon sedge	43.4 Ac.
PSPR-1	Black cottonwood-narrow-leaved willow-riparian	10.6 Ac.
QUUS-3	Black oak/colonial bentgrass/Idaho fescue	2.9 Ac.
TLPE-1	Broad-leaved cattail marsh	.9 Ac.
CHUS-4	Crested dogtail grass-foxtail barely/comflower	7.7 Ac.
AAFC-2	Douglas fir-ponderosa pine-madrone	20.2 Ac.
SSFC-2	Douglas fir-ponderosa pine-madrone-black oak/poison oak-snowberry	16.5 Ac.
VPPE-1	Downingia-coyote thistle vernal pool	.8 Ac.
VPPE-2	Downingia-coyote thistle vernal pool	.3 Ac.
VPPE-3	Downingia-coyote thistle vernal pool	.6 Ac.
GRPR-1	Gravel bar, no vegetation (or only trace amounts)	5.4 Ac.
SSPS-1	Hooker willow-Douglas' spirea shrub swamp	9.7 Ac.
EEFC-2	Jeffrey pine-incense cedar/wood rose-Idaho fescue	20.8 Ac.
JJFC-2	Madrone-Douglas fir-black oak-white oak/greenleaf manzanita-poison oak	122.7 Ac.
FSPF-1	Oregon ash/slough sedge/snow berry	1.5 Ac.
FPPF-1	Oregon ash-cottonwood/red osier dogwood	2.9 Ac.
PPFC-2	Ponderosa pine-Douglas fir-sugar pine/poison oak-wood rose-CA fescue	28.2 Ac.
RRPR-1	River sands and gravel/showy phlox-cornflower	12.0 Ac.
SFPS-1	Willow	1.3 Ac.
PGUC-4	Upland core park area	3.7 Ac.
RCPR-1	Black head cornflower/long-stolon sedge riverbank	2.5 Ac.
PTFC-2	Ponderosa pine-Douglas fir-California black oak/braken fern	9.6 Ac.
PHFC-2	Ponderosa pine-Douglas fir-black oak/white flowered hockweed	26.2 Ac.

PLANT COMMUNITIES
 ILLINOIS RIVER FORKS STATE PARK
 JOSEPHINE COUNTY

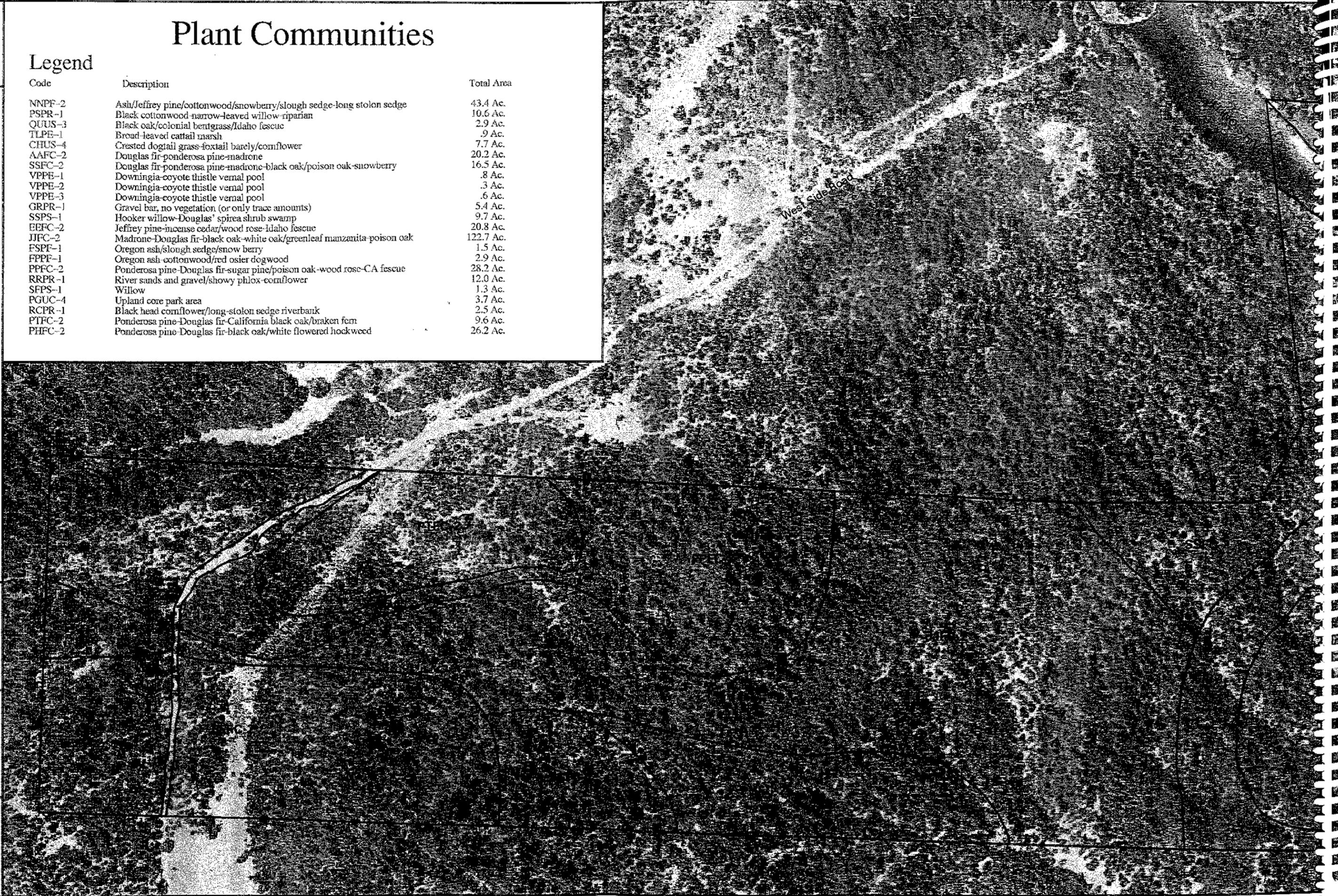


SCALE

Approx.
1 in. = 300 ft.

SHEET

3a





PLANT COMMUNITIES
ILLINOIS RIVER FORKS STATE PARK
JOSEPHINE COUNTY



SCALE
Approx.
1 in. = 300 ft.

SHEET
3b

Wildlife Habitat Map Sheets 4a & 4b



Wildlife Habitat

Legend

	WV-1 Wildlife habitat of excellent condition and or rare or unique ecosystems or species occurrences	113.7 Ac.
	WV-2 Wildlife habitat of good condition	229.9 Ac.
	WV-3 Wildlife habitat of moderate condition	13.8 Ac.
	WV-4 Wildlife habitat of poor condition	10.5 Ac.

WILDLIFE HABITAT
ILLINOIS RIVER FORKS STATE PARK
JOSEPHINE COUNTY

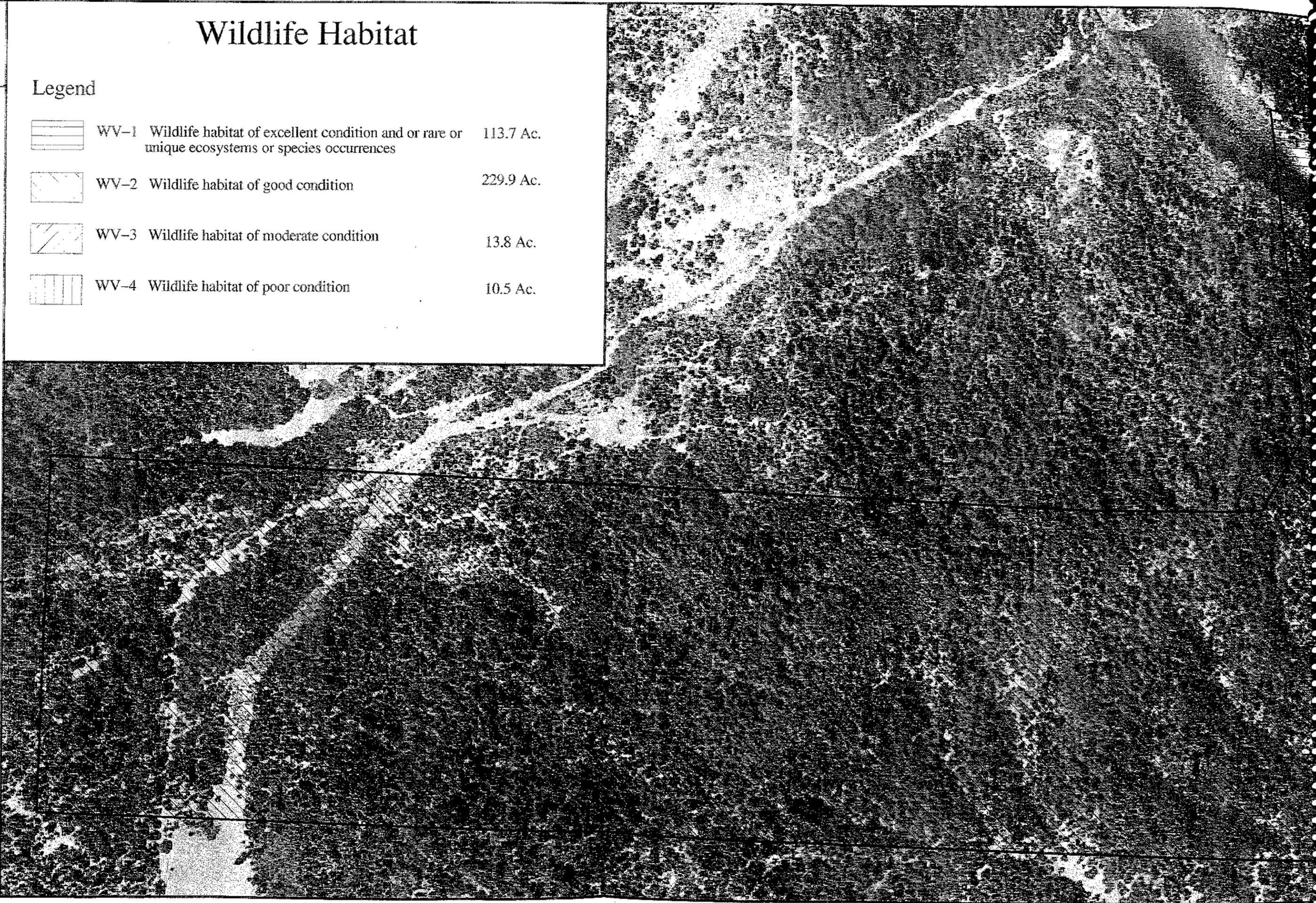


SCALE

Approx.
1 in. = 300 ft.

SHEET

4a





**WILDLIFE HABITAT
ILLINOIS RIVER FORKS STATE PARK
JOSEPHINE COUNTY**



SCALE
Approx.
1 in. = 300 ft.

SHEET
4b



SUITABILITY ASSESSMENTS -

Chapter Four

Areas within Illinois River Forks State Park have been assessed for their suitability for public recreational use and for needed resource protection. Areas have been mapped where intensive activities and development can occur without negatively impacting important resources. Also mapped, are areas needing resource protection.

RESOURCE SUITABILITY

The resource suitability assessment is based on the concept that different resources have different capacities for recreational use and facility development. Determining resource capacity is known as determining the "carrying capacity". Carrying capacity is used to determine resource suitability levels for areas of the property.

For Illinois River Forks State Park, OPRD recognizes four levels of resource suitability ranging from "very limited development" to "intensive development". Suitability levels are applied to areas of the property after a thorough assessment of the current resource conditions, types, sensitivity and rareness and existing development levels. Assessments of natural, cultural and scenic resources are combined to determine the final suitability levels. Each area may contain one or more of the criteria listed for that level. Areas with very sensitive, good condition, unique or rare resources are less suitable for intensive, public, recreational use and facilities development. Areas with very tolerant resources, or poor condition or common resources are more suitable for intensive use and development.

Each Resource Suitability Level has been mapped to reflect the overall sensitivity of that area. However, Level One and Two may have inclusions, of resources that are more tolerant of intensive development or use. Some small proposals included in this master plan may be sited within these inclusions.

The four resource suitability levels are shown below with associated criteria for each level. Areas of each suitability level, for Illinois River Forks State Park are mapped on the Composite Resource Suitability Map that follows this section.

Resource Suitability Level One: 111 Acres, 30% of property

Very Limited Development Potential

Level One areas contain one or more of the following resources:

- * Plant communities, wildlife habitats, wetlands or riparian areas which are in excellent condition**.

- * Rare or unique ecosystem or species occurrences.
 - * Outstanding geologic or hydrological features.
 - * Known cultural resources of national, statewide or regional importance, which are highly sensitive to impacts from public access or recreational development.
 - * Scenic resources which are nationally, statewide or regionally important and can absorb only very limited amounts and types of recreational development.
 - * Recreational settings "Primitive-extensive", "Primitive-limited", "Semi-primitive-extensive", "Semi-primitive-limited", and "Nature dominant within Urban".
 - * Very limited existing facility development.
- ** Condition is based on an assessment of native species diversity, structure and number, the amount of non-native species intrusion, and the presence of erosion, development or other alterations.
- *** Rareness is based on federal and state classifications.
- **** Cultural resources include historic or prehistoric objects, sites, buildings, districts or landscapes.

A little less than a third of the property is designated as a Level one. This includes all of the mapped wetland areas of the park and the highest value wildlife habitats. Development should be limited to appropriately designed and placed trails and interpretive structures.

Resource Suitability Level Two: 242 Acres, 66% of property
 Limited Development Potential

Level Two areas contain one or more of the following:

- * Plant communities and wildlife habitat which are in good condition.
- * Wetlands and riparian areas of moderate to good condition.
- * Locally important geological or hydrological features.
- * Known cultural resources of national, statewide or regional importance, which are sensitive to public access and/or recreational development.
- * Areas with a high probability of having significant archeological resources.
- * Scenic resources which are regionally important and can absorb limited amounts and types of recreational development.
- * Recreational settings: "Roaded Natural"
- * Limited existing facility development.

Two thirds of the property is designated as Level Two. This includes most of the areas of the property that has Forest Corridor plant communities in good condition and areas that are important for scenic protection. Development should be limited to appropriately designed and placed trails and interpretive structures.

Resource Suitability Level Three: 7 Acres, 2% of property

Moderate Development Potential

Level Three areas contain one or more of the following:

- * Plant communities or wildlife habitats of moderate condition.
- * Wetland and riparian areas of poor condition.
- * Known cultural resources of national, statewide or regional importance which are moderately tolerant of public access and recreational use.
- * Areas of common scenic value.
- * Recreational settings: "Rural", "Park like within Urban".
- * Existing moderate recreational facility development.

Areas of the property that are in Level Three currently developed and receiving high use. One area includes a stand of oak trees with a highly disturbed ground and plant community the other area is between the west fork and the day use area and currently receives a high level of visitor use. Development in Level Three areas should be limited to moderate levels. Special attention should be paid to maintaining existing native trees in these two areas.

Resource Suitability Level Four: 7 Acres, 2% of property

Intensive or Extensive Development Potential

Level Four areas contain one or more of the following:

- * Plant communities or wildlife habitats of poor condition.
- * Cultural resources of national, statewide or regional importance which can tolerate intensive public access.
- * Highly degraded visual areas.
- * Recreational settings: "Roaded modified", "Urban within Open Space", "Facility-dominant within Urban".
- * Existing intensively/extensively developed areas.

Two areas of the property are in Level Four, the old gravel pit area east of the park road and the existing developed day-use area. A high level of development and use is allowed in these areas.

Resource Suitability Level Criteria Matrix

RESOURCES	CRITERIA	Level One	Level Two	Level Three	Level Four
NATURAL	EXCELLENT CONDITION Plant Communities, Habitats, Wetlands & Riparian Areas.				
	GOOD CONDITION Plant communities, Habitats, Wetlands & Riparian Areas.				
	MODERATE CONDITION Plant communities, Habitats				
	MODERATE CONDITION Wetlands & Riparian Areas				
	POOR CONDITION Plant communities, habitats				
	POOR CONDITION Wetlands & Riparian Areas				
	Rare ecosystems & species occurrences				
	Outstanding geo/hydro				
	Local geo/hydro				
CULTURAL	Highly sensitive cultural				
	Sensitive cultural				
	Mod. tolerant cultural				
	Tolerant cultural				
	Probable archeological				
SCENIC	Outstanding/highly sensitive scenic				
	Outstanding, sensitive scenic				
	Common scenic				
	Degraded scenic				
	Setting	PE, PL, SPE, SPL,NDU	RN	R, PU	RM, UOS, FU
EXISTING DEVELOPMENT	Very limited developmt				
	Limited development				
	Moderate development				
	Intensive development				

OWNERSHIP AND USE SUITABILITY

In addition to Resource Suitability assessments, OPRD completes ownership and adjacent use suitability assessments. This can determine which areas, currently owned by OPRD, may not meet OPRD needs for resource protection or recreational use and should be designated as "Endowment". Or it can determine which adjacent lands are needed for recreational use or for the protection of important resources; and should be designated as "Areas of Concern". "Areas of Concern" may be protected or used for recreation by zoning restrictions, or by joint agreements with the land owners, or by OPRD acquisition.

Endowment

There are no areas of Endowment identified.

Areas of Concern

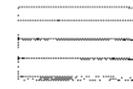
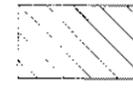
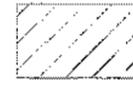
There are no Areas of Concern identified.

Composite Resource Suitability Map Sheets 5a & 5b



Composite Resource Suitability

Legend

	Composite Resource Suitability 1	111.1 Ac.
	Composite Resource Suitability 2	242.3 Ac.
	Composite Resource Suitability 3	7.0 Ac.
	Composite Resource Suitability 4	7.3 Ac.

COMPOSITE RESOURCE SUITABILITY
ILLINOIS RIVER FORKS STATE PARK
JOSEPHINE COUNTY

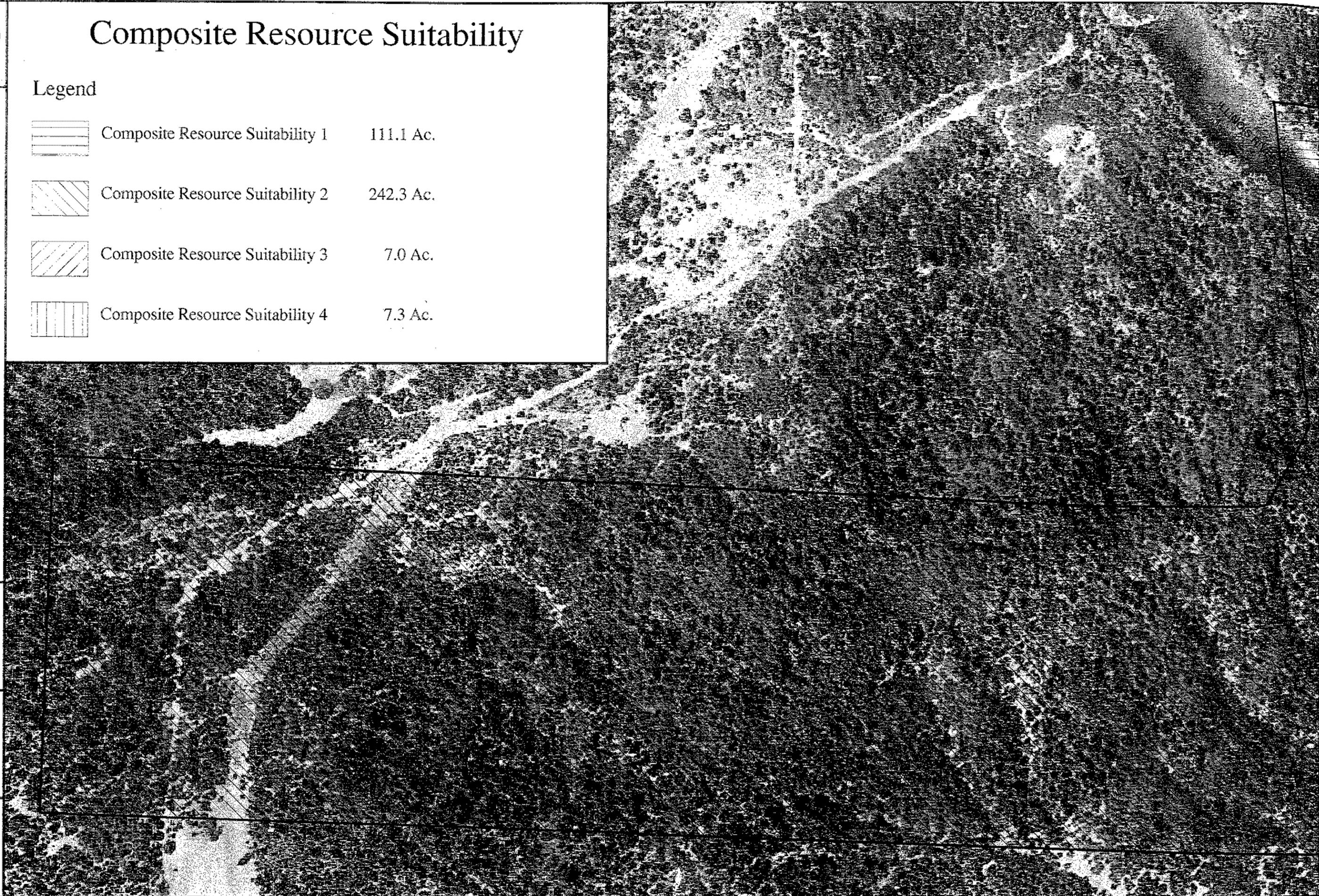


SCALE

Approx.
1 in. = 300 ft.

SHEET

5a



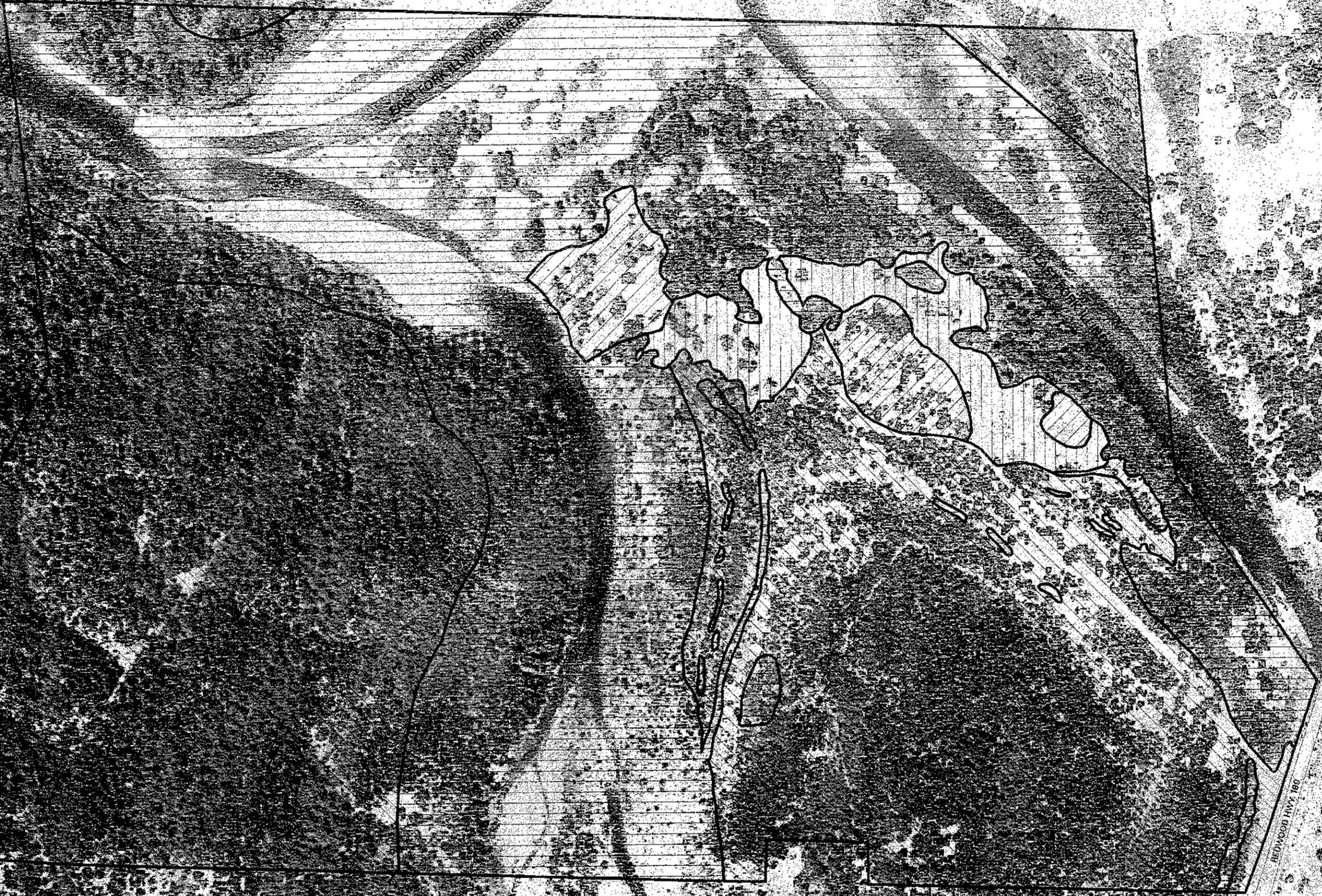


**COMPOSITE RESOURCE SUITABILITY
ILLINOIS RIVER FORKS STATE PARK
JOSEPHINE COUNTY**



SCALE
Approx.
1 in. = 300 ft.

SHEET
5b



ISSUES - Chapter Five

OPRD field management and staff, with input from Illinois River Forks State Park Steering Committee and the public, have identified the following issues and suggested solutions related to Illinois River Forks State Park use and management. Staff have used these issues and suggested solutions in preparing recommended goals and objectives for the recreational use and overall management of Illinois River Forks State Park resources, facilities and visitors. Recommended goals and objectives can be found in the following chapter.

ANTI-SOCIAL ACTIVITY

The day-use area of this property has a reputation locally as a popular location for undesirable activity. These activities include, excessive alcohol use, illegal fire arm use and off road vehicle use.

Locals have expressed concerns that they don't feel safe at the property. They desire more of a family atmosphere at the property.

Suggested solutions:

- * Increase OPRD and police presence at the property.
- * The park is currently open 24 hours a day. Restricted hours may be needed to address late night law enforcement problems.
- * Add overnight facilities and on site management.
- * Designate as a day-use fee park.
- * Restrict access into areas where vehicles are driven off roads.

INCREASED INTERPRETATION AND EDUCATION

Although, there are a number of interpretive stories to tell and resource opportunities to interpret at the property no interpretation is currently happening.

Suggested Solutions: (Only after security problems at the site have been resolved)

- * Identify important themes for the area and property.
- * Install interpretive signs along certain trails.

IMPROVED APPEARANCE OF OLD QUARRY AREAS

The old quarries and stockpile areas on the property are heavily disturbed and mostly devoid of vegetation. Berms and piles of gravel left from operations that terminated over thirty years ago are still present. These areas are adjacent to the entrance road. Access to these areas is

uncontrolled and use by vehicles is common. Illegal dumping in the quarry area is an additional problem created by unrestricted vehicle access into the quarry

Suggested Solutions:

- * Smooth out old berms into natural land forms.
- * Close vehicle access into the areas.
- * Reclaim landscape.
- * Use these areas to develop a campground and reclaim remaining areas.

SUPPLY OF CAMPING OPPORTUNITIES IN THE AREA

Although there are a number of private camping providers in the vicinity and USFS campground facilities on the route to the Oregon Caves, it is thought that supplying camping opportunities at Illinois River Forks State Park would draw additional overnight campers into the area and entice more motorists who pass through to spend the night.

A campground at the state park would allow enjoyment of the natural and recreation resources by overnight visitors. A camping opportunity at this property within easy access of HWY 199, combined with the unique setting/amenity combination would create a camping experience that is different from other camps in the area.

The need for camping areas for larger groups and events was identified. A lack of camping opportunities for tent campers nears Cave Junction was raised at the public meetings.

The issue of a state park campground producing unwanted competition with existing private providers was raised at the public meeting.

Suggested Solutions

- * Develop camping facilities at Illinois River Forks State Park
 - Including:
 - Recreational vehicle
 - Tent
 - Medium and large group accommodations

OTHER ISSUES

Signage: Signage of the State Park from HWY 199 is poor.

Suggested Solution: Bring HWY signing into compliance with OPRD Sign Manual.

Utilities: A major cost of development is sewage disposal and water supply. A large portion of the cost of developing camping would be the development of a sewage disposal system.

Currently the restroom is supplied water from the City of Cave Junction. The City of Cave Junction sewer system does not have the capacity to serve any state park developments.

Cave Shuttle: The issue of RV traffic on the road the Oregon Caves was raised at the public meetings. Suggested Solution: The OPRD property and campground could serve as a staging area for shuttle bus trips to the cave during the peak use seasons.

Off Road Vehicle Use: Other areas of the property besides the old quarry receive vehicle use off of the designated paved roads. This use is causing unnecessary impacts to plant communities and adding to the litter problem. Suggested Solution: Close all areas that are not designated roads to vehicle traffic, use of barricades, boulders, fencing or other devices may be necessary.

Outdoor Meeting Area: A need was identified for an outdoor meeting/program area that could be used by the local community for events, by large group camps, and for overnight campground programs.

Private Access through the property: 24 hour access needs to be maintained to the driveway that leads to a private residence through the property. Any plans for opening or closing the property will have to take this into account.

Large Events: Concern was raised that the ability to accommodate large events at the park not be limited by development of a campground.

GOALS AND OBJECTIVES - Chapter Six

OPRD has established a series of goals and objectives for guiding the appropriate management and use of Illinois River Forks State Park. They are based on the suitability assessment and preferred solutions from the issues discussion.

GOAL 1: PROVIDE OVERNIGHT FACILITIES

Objectives:

- 1) Construct a 60 unit campground in the old quarry area. See Concept Sketch 1.
- 2) Provide opportunities for group camping, tents and RV's.
- 3) Provide restroom and shower facilities.
- 4) Explore contracting arrangements to run the facility.
- 5) Maintain a large area of the old quarry as open space for use by large groups and special events in conjunction with the day-use area..

GOAL 2: IMPROVE SAFETY AND FAMILY ATMOSPHERE

Objectives:

- 1) Close day-use area at night.
- 2) Increase use of park through development of camping facilities.
- 3) Camp host and manager on site after development of campground.
- 4) Institute a day-use fee.
- 5) Increased presence of OPRD staff and police.

GOAL 3: IMPROVE APPEARANCE OF QUARRY

Objectives:

- 1) Campground landscaping with native plants will improve the existing look of the quarry and stop the off-road vehicle use and illegal dumping.
- 2) Interim - restrict OHV use in the quarry.
- 3) Regrade berms left from quarry activities.

GOAL 4: IMPROVE SIGNAGE OF PROPERTY ENTRANCE

Objectives:

- 1) Make sure that advance direction signs are installed per the OPRD Sign Manual.
- 2) Design and install a park entrance sign per the OPRD Sign Manual.

GOAL 5: PROVIDE INTERPRETATION & EDUCATION

Objectives: These objectives can not be pursued until campground development and security of the property is improved.

- 1) Construct interpretive signs at key trail locations.
- 2) Provide interesting campground programs. Explore possible cooperative agreement with National Park Service / Oregon Caves National Monument interpretive staff and the USFS staff at the local visitor center to provide programs.
- 3) Include provision in the campground development for a campground program area that can also be used by the local community. A proposed site for this is shown on Concept Sketch 1. Area is currently a highly disturbed hillside.
- 4) Proposed program area should include provision for development of an audio-visual support facility. A permanent or temporary screen should be incorporated for illustrated talks and evening programs. A small vandal resistant building could house AV equipment and serve as either a platform for the equipment or as a back wall for the screen.
- 5) Signs with an educational message may be needed along trails that have sensitive plant communities nearby.

GOAL 6: CONTINUE TO EXPLORE PARTNERSHIPS

Objectives:

- 1) Pursue partnerships, grants, in-kind assistance and fund raising strategies to implement the objectives listed above.
- 2) Explore interpretive partnerships with both the National Park Service and the Forest Service. Coordinate design and development of proposed interpretive facilities and program area proposed in this master plan with these agencies.
- 3) Incorporate provision for possible cave shuttle staging location in the final park designs.

GOAL 7: PROTECT VEGETATION AND WILDLIFE HABITAT

Objectives:

- 1) Maintain/enhance forest cover and understory for wildlife use.
- 2) Use native plants for any new landscaping associated with campground development.
- 3) Work with local agencies on salmon issues and enhancement strategies in the park.
- 4) Remove conifers from oak communities, especially Douglas-fir, leave some on the ground to develop King snake nesting sites. Prescribed fire along with

manual vegetation management may be a cost effective way to restore and maintain the values of these communities.

5) Close all unauthorized dirt roads within the property. Use native plants to heal scars after closure to reduce the chance of noxious weed colonization. Regrade these road to remove ruts and restore natural drainage patterns. Some of these roads can be used for pedestrian trails once regraded and reduced in width.

6) Protect all vernal pool areas from further disturbance, split rail fencing may be necessary, with some interpretive signage.

7) Continue to manage the forest area west of the west fork in a manner consistent with the terms of the donation. Activities will primarily include commercial and non-commercial thinning as necessary to re-establish the natural trajectory of the woodland plant communities. Prepare a new timber survey and management plan. Consider developing a plan for controlled burning to reduce fire hazard and restore natural community composition.

8) Enhance river side riparian areas with plantings of larger tree species that will shade the river. Do this in areas that receive low visitor use.

9) Stabilize eroded bank near day-use area. Some form of concrete access structure that allows people to get to the water but stops bank erosion may reduce erosion in the heavy access area.

10) Fence along both sides of entrance road to prevent off road vehicle use. Allow pedestrian access points through the fence to channel most of the pedestrian use down established trails, predominantly using existing roads. Split rail fence would be aesthetically appropriate to the area.

11) Split rail fencing and interpretive signage may be necessary to keep pedestrians out of areas with sensitive plants along walking trails.

GOAL 8: REDUCE OFF ROAD VEHICLE USE

Objectives:

1) Close access to all dirt roads and old quarry (except road to residence). The use of boulders or some form of timber barricade or rustic fencing that fits with the character of the site could be used. See Objective 10 under Goal 7.

GOAL 9: ADA ACCESS

Objectives:

- 1) Include accessible campsites in the campground design.
- 2) Design program area to be accessible for both front row seating and access to the stage area.
- 3) Investigate feasibility of developing an accessible water access route near the day-use area.
- 4) Evaluate accessibility of day-use area and make necessary improvements.

5) Continue development of accessible trails near the day-use area.

GOAL 10: PEDESTRIAN ACCESS TO DOWNTOWN CAVE JUNCTION

Objectives:

1) Explore the possibility of developing a pedestrian and bicycle access between downtown and the property. The intent of this would be to provide a convenient and safe non-motorized connection to downtown. The existing bridge on HWY 199 would have to be used, but alternatives to the shoulders of HWY 199 on both sides of the bridge should be investigated.

PROPOSAL CONCEPT SKETCHES ONE & TWO

Map Sheets 6 & 7

Location of proposed bank hardening.

WEST FORK ILLINOIS RIVER

Existing parking and restroom for day-use area.

Location of proposed program area, see Sketch 2,

Group event camp area.
New access with gate.

Walk in tent sites
Tent camp parking, 20 stalls
Restroom/ shower building
Registration booth

Tent or RV campsites

Existing road

EAST FORK ILLINOIS RIVER

Tent or RV campsites

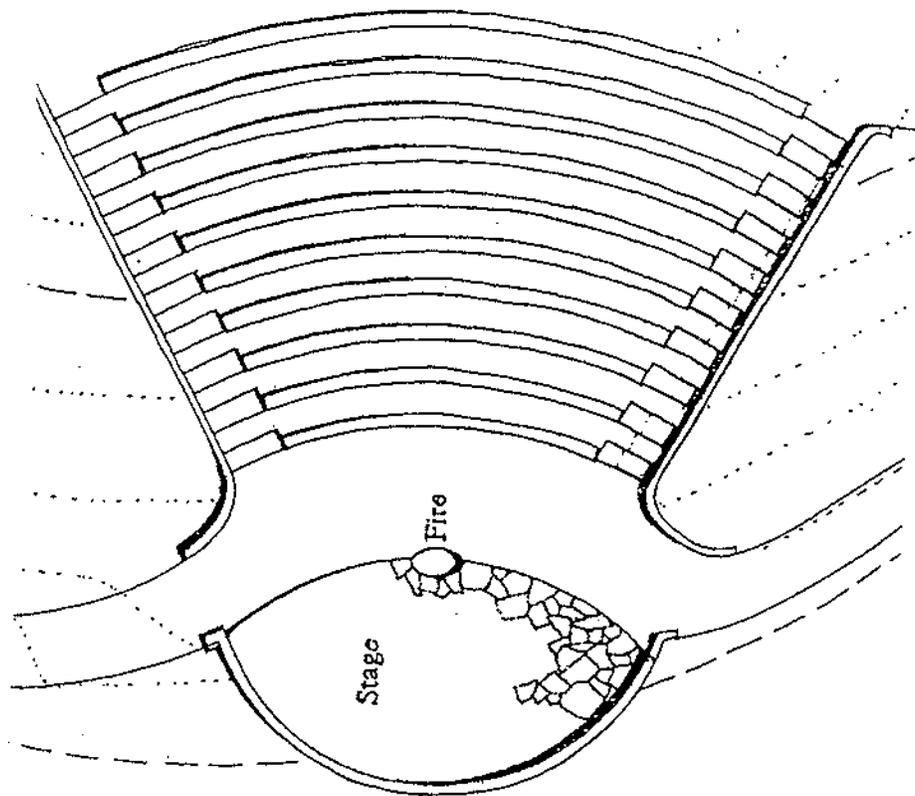
NORTH →

RV campsites

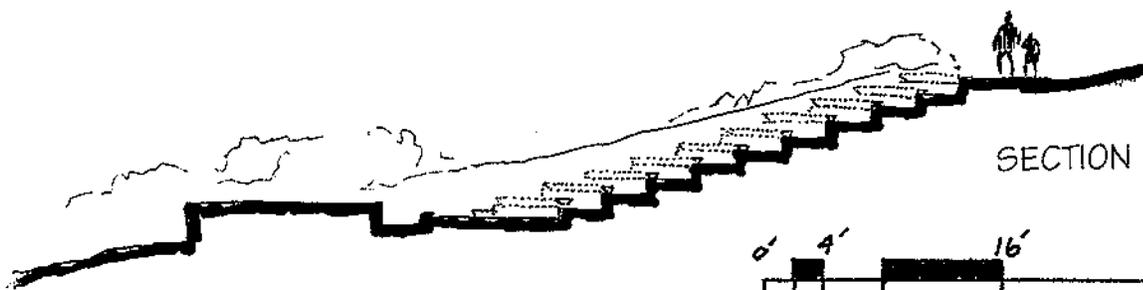
PROPOSAL CONCEPT SKETCH 1

SCALE 1"=200'

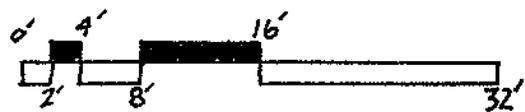




PLAN VIEW



SECTION



SCALE

PROPOSAL CONCEPT SKETCH TWO
PROGRAM AREA

APPENDIX - A

Assessment/Inventory of the Distribution and Jurisdictional Status of Water of the United States, Including Wetlands at Illinois River State Park.

I. Introduction and Objectives:

On June 30, 1995, Ochoco Biological Services (OBS) was retained by Oregon Parks and Recreation Department (OPRD) to assess the location and extent of waters of the U.S., including wetlands, on an 80 acres of lowland floodplain (between the east and west forks of the Illinois River) located within Illinois River State Park.

Illinois River State Park is located in southwestern Oregon, approximately 1/2 mile south of Cave Junction, Oregon. The Park is bounded to the east by State Highway 199, and to the north, west and south by the east and west forks of the Illinois River. The Park is currently a day-use facility with limited road access and recreational facilities.

The lowland floodplain of Illinois River State Park was used as a gravel quarry by the Oregon Department of Transportation during the 1950-60's, but has primarily served as a state recreation facility since the early 1970's. Historically, most of the lowland floodplain appears to have been native riparian forest with scattered stands of Oregon Ash (*Fraxinus latifolia*), Black Cottonwood (*Populus trichocarpa*), Willow (*Salix spp.*) and Oregon White Oak (*Quercus garryana*) (Franklin and Dyrness 1973). Although riparian forest vegetation currently exists within the floodplain, most of the riparian communities have been disturbed by past land use activities and invaded by non-native weedy plant species.

As required by U.S. Army Corps of Engineers (Corps) and the State of Oregon, methods and conclusions provided in this report are consistent with the technical approach articulated in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) as amended by recent guidance Memoranda (e.g., March 8, 1992 "Clarification and Interpretation of the 1987 Manual" letter by Arthur E. Williams; Regulatory Guidance Letters 82-2 and 86-9). Specifically, the primary objectives of this wetland assessment/inventory were as follows:

1. Locate and map jurisdictional waters of the U.S., including wetlands for an 80 acre parcel of lowland floodplain located between the east and west forks of the Illinois River. Jurisdictional waters/wetlands are to be located on aerial photos of Illinois River State Park as provided by OPRD.
2. Synthesize environmental characteristics of jurisdictional waters/wetlands located within the lowland floodplain (approx. 80 acres) of Illinois River State Park.
3. Summarize the regulatory status of any waters of the U.S., including wetlands located with the lowland floodplain of Illinois River State Park. Prepare summaries consistent with current federal, state, and county regulations, guidelines and policies.

II. Methods and Sampling Procedure:

Ochoco Biological Services (OBS) synthesized environmental and historical information currently available from several sources. This information included: (a) background soils data, (b) land use history, and (c) local observations of site hydrology, soils and vegetation.

Consistent with guidance from Oregon Division of State Lands (Wetland Division) and the U.S. Army Corps of Engineers, Portland District, the U.S. Army Corps Wetland Delineation Manual (Environmental Laboratory, 1987) was used to assess jurisdictional waters/wetlands on the lowland floodplain of Illinois River State Park. Also consistent with current Corps guidance, Memorandum clarifying interpretation of the 1987 Manual (Williams, 1992) and Regulatory Guidance Letters #82-2 and #86-9 were used to support jurisdictional determinations.

On June 30-July 2, 1995, field data on wetland hydrology, soils and vegetation was collected at 25 sample plots located throughout the lowland floodplain of Illinois River State Park. Evaluative criteria utilized in the assessment of these wetland parameters are summarized below.

A. Hydrology Evaluation

Consistent with the 1987 Manual, the presence or absence of wetland hydrology can be established by the evaluation of a variety of direct and indirect indicators. In addition to hydrologic records pertaining to a study area, the testimony of individuals who know the site and who are familiar with general hydrologic conditions can be used in combination with hydrologic field indicators to infer satisfaction of the wetland hydrology parameter. Field indicators of wetland hydrology include: visual observation of soil inundation, soil saturation, oxidized zones (rhizospheres) associated with living roots and rhizomes, water marks on vegetation, drift lines, water-borne sediment deposits, water-stained leaves, surface scoured areas, wetland drainage patterns and/or hydric soil characteristics (Environmental Laboratory 1987; Williams 1992).

No detailed hydrologic data exists for Illinois River State Park. Localized hydrologic observations of Mr. Mark Stenberg during the Spring of 1995 (personal communications) were used in combination with an array of field indicators to infer or reinforce the presence or absence of wetland hydrology at each sample plot. Field indicators of hydrology included micro-topographic position, evidence of ponding, soil saturation, low chroma soil matrices, soil mottling, and water-borne sediment and debris deposits.

B. Soil Evaluation

The SCS Soil Survey of Josephine County, Oregon (Borine 1983) and state hydric soils list were used in initial site evaluations and to aid with soil classification. At each sample plot, soils were examined, described and characterized as either hydric or non-hydric based on observations of field indicators and interpretations of how the observed indicators related to the mandatory technical criteria stipulated for the identification of hydric soils. The field indicators observed and used to evaluate soils included soil inundation/saturation, low chroma matrices and high chroma mottles. In recently deposited/disturbed alluvial soils, it was not possible to find clear hydric soil indicators, and thus were considered as natural atypical situations (pg. 34, 1987 Manual).

Moist matrix and mottle colors were described using a standard Munsell Soil Color book (Munsell Color 1988). Soil texture, soil moisture state and horizonation were also described using standard USDA field techniques.

C. Vegetation Evaluation

Consistent with the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987), dominant plant species in each major vegetation stratum (tree, sapling, shrub, woody vine, and herbaceous layer) in the vicinity of each sample plot were identified and listed. The Jepson Manual (Hickman 1993) and Flora of the Pacific Northwest (Hitchcock and Cronquist 1973) were used for plant identification purposes. The wetland indicator status of each species was assigned using the U.S. Fish and Wildlife Service National List of Plant Species that Occur in Wetlands: Northwest - Region 9 (Reed 1988). The indicator status refers to a species frequency of occurrence in wetlands.

According to the 1987 Manual, an area has hydrophytic vegetation when, under normal circumstances, more than 50% of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), and/or (FAC) facultative species (excluding FAC- species).

On the lowland floodplain of Illinois River State Park, vegetation data were collected from one-tenth acre circular plots centered on each of soils/hydrology sample plots. Distribution and composition of plant community types were also observed as the site was traversed in order to verify that sample plots were distributed throughout a full spectrum of representative community types.

III. Wetland Assessment/Inventory Results

As explained in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987) and in U.S. Army Corps Regulatory Guidance Letters #82-2 and #86-9, wetlands that have been disturbed through the natural or anthropogenic alteration of vegetation, soils, and/or hydrology, do not necessarily exist under "normal circumstances." It is OBS's best professional judgement, given the timing, type and degree of disturbance to vegetation, soils, and hydrology within the lowland floodplain of the Illinois River, that "Normal Circumstances" prevail over most of the study area. Only recently deposited/disturbed alluvial soils within the lowland floodplain were considered as "natural atypical situations" (pg. 34, 1987 Manual). These "natural atypical situations" were limited to areas designated as a jurisdictional waters/wetlands mosaic on the lowland floodplain of Illinois River State Park.

Field work was conducted during the driest portion of the growing season (late June-early July 1995), thus it was not possible to directly observe hydrologic conditions associated with higher water tables during early portions of the growing season. OBS was informed of onsite winter/spring hydrologic conditions by Mr. Mark Stenberg (OPRD), who had visited the park in March 1995. Otherwise, many wetland hydric indicators had to be inferred on the basis of additional wetland soils and vegetation criteria.

On the basis of field studies, approximately four different types of jurisdictional waters/wetlands were observed within the lowland floodplain of Illinois River State Park. These include: a) jurisdictional waters/palustrine forest/scrub-shrub wetland mosaic adjacent to the east and west forks of the Illinois River, b) palustrine forest/scrub-shrub wetland, c) palustrine emergent marsh/forest wetland mosaic, and d) ephemeral emergent wetlands associated with small, isolated microdepressions. These areas are mapped on the attached aerial photo of the lowland floodplain of

the Illinois River. Site hydrology, soils and vegetation of these jurisdictional waters/wetlands are described below.

A. Jurisdictional Waters/Palustrine Forest/Scrub-Shrub Wetland Mosaic

A mosaic of jurisdictional waters and palustrine forest/scrub-shrub wetlands was identified along the east and west forks of the Illinois River (See attached map). This mosaic was clearly the dominant type of jurisdictional water/wetlands within Park boundaries and lies within the 100 yr. floodplain of the Illinois River (FEMA).

The hydrology of this waters/wetland mosaic is dominated by a riverine hydrologic regime. Evidence of high water tables and alluvial scour associated with high stormwater flows and springtime runoff were commonly observed. In fact, this area was recently affected by higher than normal waterflows associated with five-year flood event during the winter/spring of 1995 (Mr. Mark Stenberg, personal communication). Recent sediment/debris depositions due to these high waterflows were observed throughout this waters/wetland mosaic.

Jurisdictional waters were defined on the basis of ordinary high water mark as inferred from alluvial scouring, sediment deposition and sorting of fine and coarse alluvial sediments. Additional hydrologic indicators included soil inundation/saturation, evidence of ponding, and soil mottling/redoximorphic features. Despite the presence of well-drained alluvial soils, it appears that inundation and saturation of surface soils occurs for a significant portion of the growing season (> 3 weeks). Furthermore, it appears that the alluvial water table lies within one foot of the soil surface for a significant portion of the growing season (>6 weeks).

Alluvial soils were primarily riverwash, consisting of gravel, cobbles and sand. These soils are typically exposed during periods of low water and are subject to channeling and deposition during normal periods of high water and at flood stage. Soil samples revealed moist sandy soils (field capacity to saturation) ranging within 6-8" of the soil surface, due to capillary rise associated with a relatively high water table (18-30"). Soil matix color ranged from 10YR4/3 to 10YR3/3, with soil texture ranging from deep sands to a cobbly, gravelly sand. Evidence of soil zonation, with the exception of surface organic layers, were generally lacking. There was very little evidence of soil mottling/redoximorphic features in any of the soil samples. These results correspond with the soil descriptions provided by the Soil Survey of Josephine County (Borine 1983), and were consistent with the designation as a "natural atypical situation" as specified in the 1987 Manual.

Palustrine scrub/shrub and forest vegetation dominated this jurisdictional waters/wetland mosaic. Major woody species included: *Alnus rubra* (Red alder), *Fraxinus latifolia* (Oregon ash), *Populus trichocarpa* (Black cottonwood), *Salix exigua* (Sandbar willow), *Salix lasiandra* (Pacific willow), *Salix lasiolepis* (Arroyo willow), *Salix scouleriana* (Scouler's willow), *Salix sessifolia* (Northwest willow), and *Spirea douglasii* (Douglas' spirea). Dominant herbaceous species included: *Carex aquatilis* (Water sedge), *Carex nebrascensis* (Nebraska sedge), *Carex obnupta* (Slough sedge), *Rubus discolor* (Himalayan blackberry), *Rumex crispus* (Curly dock), and *Scirpus microcarpus* (Smallfruited bulrush). Plant communities composed of these and other wetland species met the 1987 hydrophytic vegetation criteria (i.e. more than 50% of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), and/or (FAC) facultative species).

B. Palustrine Forest/Scrub-Shrub Wetland

Several isolated palustrine forest and scrub-shrub wetlands were identified slightly upgradient from the jurisdictional waters/wetland mosaic located along the east and west forks of the Illinois River (See attached Map). These palustrine forest/scrub-shrub wetlands were primarily associated with isolated depressional areas resulting from past alluvial scour and/or gravel quarry operations, and lie within the 100 yr. floodplain of the Illinois River.

The hydrology of these palustrine wetlands was typical of isolated wetland depressions. Evidence of high water tables, and sediment and debris depositions due to this recent flooding events (5yr. flood) were also common. Hydrologic indicators included: soil inundation/saturation, evidence of ponding, low soil chroma matrices and soil mottling/redoximorphic features. Within these areas, inundation and saturation of surface soils occurs for a significant portion of the growing season (> 3 weeks). Furthermore, it appears that the alluvial water table lies within 1.5 to 2 feet of the soil surface for a significant portion (> 6 weeks) of the growing season.

Alluvial/Floodplain soils were primarily a combination of riverwash and Newberg fine sandy loam with inclusions of Wapato silt loam (hydric soil). Standing water was commonly associated with hydric soil inclusions and moist to saturated gravelly/sandy soils (6-8" of the soil surface) with other soil types. Soil matrix color ranged from 10YR4/3 to 10YR3/2, with soil textures ranging from deep sands to coarse, gravelly sands and fine silty loams. Soil zonation, with the exception of surface organic layers, was typically lacking. Evidence of soil mottling and redoximorphic features, i.e. high contrast mottles (10YR5/6 to 5/8), were commonly observed in most soil samples. These results correspond with the soil descriptions provided by the Soil Survey of Josephine County (Borine 1983).

Palustrine scrub/shrub and forest vegetation dominated this jurisdictional waters/wetland mosaic. Major woody species included: *Fraxinus latifolia* (Oregon ash), *Populus trichocarpa* (Black cottonwood), *Salix exigua* (Sandbar willow), *Salix lasiandra* (Pacific willow), *Salix lasiolepis* (Arroyo willow), *Salix scouleriana* (Scouler's willow), *Salix sessifolia* (Northwest willow), and *Spiraea douglasii* (Douglas' spirea). Dominant herbaceous species included: *Carex obnupta* (Slough sedge), *Downingia elegans* (Common downingia), *Eleocharis palustris* (Creeping spikerush), *Epilobium watsonii* (Hairy willow-herb), *Juncus balticus* (Baltic rush), *Mimulus guttatus* (Common monkey-flower), *Rubus discolor* (Himalayan blackberry), *Rumex crispus* (Curly dock), *Scirpus microcarpus* (Smallfruited bulrush), *Veronica americana* (American speedwell) and *Vitis californica* (California wild-grape). Plant communities composed of these and other wetland species met the 1987 hydrophytic vegetation criteria (i.e. more than 50% of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), and/or (FAC) facultative species).

C. Palustrine Forest/Emergent Marsh Mosaic

Palustrine forest and emergent marsh vegetation dominated this long, linear wetland depression located adjacent to the entrance and primary access road to Illinois River State Park (See attached map). This depressional wetland is the result of past alluvial scour and/or road construction activity and lies within the 100 yr. floodplain of the Illinois River (FEMA).

The hydrology of these palustrine wetlands was typical of isolated wetland depressions. Hydrologic inputs are primarily related to high water tables, and precipitation inputs. Hydrologic indicators included soil inundation and/or saturation, evidence of ponding, low soil chroma matrices and soil mottling/redoximorphic features. Within this wetland, inundation and saturation of surface soils occurs for a significant portion of the growing season (> 3 weeks). Furthermore, it appears that the alluvial water table lies near the surface (6-12") for a significant portion of the growing season.

Alluvial/Floodplain soils were primarily a combination of riverwash and Newberg fine sandy loam with inclusions of Wapato silt loam (hydric soil). Standing water was commonly associated with hydric soil inclusions and graded towards a moist to saturated gravelly/sandy soil (6-8" of the soil surface) along the upper wetland boundary. Soil matrix colors ranged from 10YR3/2 to 10YR4/3, with soil textures ranging from a fine silty loam to a cobbly, gravelly sand. Evidence of soil mottling and redoximorphic features, i.e. high contrast mottles (10YR5/6 to 5/8), were commonly observed in most soil samples. With the exception of surface organic layers, soil zonation was weak. These results correspond with the soil descriptions provided by the Soil Survey of Josephine County (Borine 1983).

Palustrine forest and emergent marsh vegetation dominated this jurisdictional waters/wetland mosaic. Major woody species included: *Fraxinus latifolia* (Oregon ash), *Populus trichocarpa* (Black cottonwood), *Salix lasiolepis* (Arroyo willow), *Salix sessifolia* (Northwest willow), and *Spirea douglasii* (Douglas' spirea). Dominant herbaceous species included: *Carex obnupta* (Slough sedge), *Dipsacus sylvestris* (Teasel), *Downingia elegans* (Common downingia), *Eleocharis palustris* (Creeping spikerush), *Epilobium watsonii* (Hairy willow-herb), *Juncus balticus* (Baltic rush), *Mimulus guttatus* (Common monkey-flower), *Rubus discolor* (Himalayan blackberry), *Rumex crispus* (Curly dock), *Scirpus microcarpus* (Smallfruited bulrush), *Typha latifolia* (Broadleaf cattail), and *Veronica americana* (American speedwell). Plant communities composed of these and other wetland species met the 1987 hydrophytic vegetation criteria (i.e. more than 50% of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), and/or (FAC) facultative species).

D. Ephemeral Emergent Wetland

Ephemeral palustrine wetlands were primarily associated with micro-topographic depressions throughout the lowland floodplain. Historically, these microdepressions were probably primary or secondary channels of either the east or west forks of the Illinois River (See attached map; please note that boundaries denoted with a dashed line require additional assessment during wetter portions of the growing season to confirm jurisdictional status). Today, these microdepressionals retain sufficient water during the early portion of the growing season to maintain an ephemeral wetland community. These wetland areas lie within the 100 yr. floodplain of the Illinois River (FEMA).

The hydrology of ephemeral wetlands is driven by long-term retention of precipitation inputs and overland stormwater flows. Wetlands at the toeslope of local ridges/swales receive the greatest hydrologic inputs and thus maintain the highest cover of wetland vegetation. These areas also received significantly higher than normal hydrologic inputs during the winter/spring of 1995. Hydrologic indicators included soil saturation, evidence of ponding, low soil chroma matrices and soil mottling and redoximorphic features. Within these areas, it appeared that inundation

and saturation of surface soils occurs for a significant portion of the growing season (> 3 weeks).

Alluvial/Floodplain soils were primarily a combination of Newberg sandy loam with inclusions of compact riverwash and Wapato silt loam (hydric soil). Standing water was commonly associated with hydric soil inclusions and graded towards a moist compact gravelly soils (6-8" of the soil surface) along the upper wetland boundary. Soil matix color ranged from 10YR3/2 to 10YR4/3, with soil textures ranging from a fine silty loam to a cobbly, gravelly sand. Evidence of soil mottling and redoximorphic features, i.e. high contrast mottles (10YR5/6 to 5/8), were commonly observed in most soil samples. With the exception of surface organic layers ranging from 1 to 2 " thick, evidence of soil zonation was extremely weak. These results correspond with the soil descriptions provided by the Soil Survey of Josephine County (Borine 1983).

Ephemeral emergent vegetation in these areas was dominated by a significant populations of annual wetland plants, such as *Downingia elegans* and *Plagiobothrys* spp. Major woody species included: *Fraxinus latifolia* (Oregon ash), and *Salix lasiolepis* (Arroyo willow). Dominant herbaceous species included: *Agostis alba* (), *Brodiea californica* (White brodiea), *Carex subfusca* (Rusty sedge), *Deschampsia danthanooides* (), *Downingia elegans* (Common downingia), *Epilobium watsonii* (Hairy willow-herb), *Juncus acuminatus* (Taper-tip rush), *Juncus balticus* (Baltic rush), *Mimulus guttatus* (Common monkey-flower), *Navarettia intertexta* (Needle-leaf navarettia), *Plagiobothrys* spp., and *Rumex crispus* (Curly dock). Plant communities composed of these and other wetland species met the 1987 hydrophytic vegetation criteria (i.e. more than 50% of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), and/or (FAC) facultative species).

IV. Regulatory Context

A. Federal Clean Water Act: Section 404

The U.S. Army Corps of Engineers, Portland District (Corps) has direct regulatory authority of all waters of the U.S., including wetlands on the lowland floodplain of Illinois River State Park. Based upon the results summarized in this report, it is OBS's best professional judgement that riparian wetlands on this site are "adjacent" (bordering, neighboring and contiguous) to the Illinois River. Since the average annual flow of the Illinois River is significantly greater than 5 cfs, the Corps may require an Individual 404 Permit for any discharges of dredged material to wetland areas adjacent to the east and/or west forks of the Illinois River.

B. Federal Endangered Species Act

No threatened or endangered species were observed by OBS during the course of field studies. However, lowland floodplain wetlands of Illinois River State Park contains significant riparian habitats which attracts many species of migratory raptors and waterfowl. Thus, a thorough review of threatened or endangered species should be completed prior to the initiation of development activities.

C. Oregon State Water Quality 401 Certification

Any activity resulting in discharges to waters of the U.S., including wetlands needs to be reviewed by the State of Oregon Department of Environmental Quality-Water Quality Section in the context of the Clean Water Act 401 Certification Program.

D. Oregon Division of State Lands - (Removal Fill Law)

All jurisdictional water/wetlands within the lowland floodplain of Illinois River State Park would fall under the jurisdiction of Oregon's Removal-Fill Law (ORS 196.800-196.900). Any activity resulting in discharges to jurisdictional waters/wetlands needs to be reviewed by Oregon Division of State Lands (Mr. Kenneth F. Bierly, Wetlands Program Manager).

E. Archeology and Historical Preservation

A review of historical and cultural resources must be completed, prior to the initiation of development activities.

F. Josephine County

Currently, Josephine County relies on the Oregon Division of State Lands for all wetland resource protection within the limits of Josephine County. No county ordinances pertaining to wetlands exist.

G. Municipal - City of Cave Junction

Illinois River State Park is not within the incorporated limits of the City of Cave Junction. Therefore, there is no municipal jurisdiction by the City of Cave Junction.

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Table 1: Illinois River State Park Wetland Plant Species List

<u>Scientific Name*</u>	<u>Common Name</u>	<u>Indicator Status</u>
Trees:		
<i>Acer circinatum</i>	Vine maple	FACU+
<i>Acer macrophyllum</i>	Bigleaf maple	FACU+
<i>Arbutus menziessi</i>	Pacific madrone	NL
<i>Alnus rubra</i>	Red alder	FAC
<i>Calocedrus decurrens</i>	Incense-cedar	NL
<i>Fraxinus latifolia</i>	Oregon ash	FACW
<i>Oemleria cerasiformis</i>	Indian plum	NL
<i>Quercus garryana</i>	Oregon whiteoak	NL
<i>Pinus ponderosa</i>	Ponderosa pine	UPL
<i>Populus trichocarpa</i>	Black cottonwood	FAC
<i>Pseudotsuga menziesii</i>	Douglas fir	NL
<i>Rhamnus purshiana</i>	Cascara buckthorn	NI
<i>Salix exigua</i>	Sandbar willow	OBL
<i>Salix lasiandra</i>	Pacific willow	FACW+
<i>Salix lasiolepis</i>	Arroyo willow	FACW
<i>Salix scoulerana</i>	Scouler's willow	FAC
<i>Salix sessifolia</i>	Northwest willow	FACW
Shrubs:		
<i>Amelanchier</i> spp.	Service-berry	FACU
<i>Arctostaphylos patula</i>	Manzanita	NL
<i>Ceanothus cuneatus</i>	Wild lilac	NL
<i>Cercocarpus betuloides</i>	Birch-leaf mountain-mahogany	NL
<i>Cornus sericea</i>	American dogwood	FACW
<i>Corylus cornuta</i>	Beaked hazelnut	NI
<i>Cystisus scoparius</i>	Scot's broom	NL
<i>Holodiscus discolor</i>	Creambush ocean-spray	NL
<i>Myrica californica</i>	Wax myrtle	FACW
<i>Prunus virginiana</i>	Chokecherry	FACU
<i>Rhus radicans</i>	Poison-oak	NL
<i>Rosa woodsii</i>	Wood rose	FACU
<i>Rubus discolor</i>	Himalayan blackberry	FACU-
<i>Rubus laciniatus</i>	Cut-leaf blackberry	FACU+
<i>Rubus ursinus</i>	California blackberry	NI
<i>Spiraea douglasii</i>	Douglas' spiraea	FACW
<i>Symphoricarpos albus</i>	Snowberry	FACU
<i>Vitis californica</i>	California wild grape	FACU
Graminoids:		
<i>Agrostis alba</i>	Redtop	FACW
<i>Agrostis tenuis</i>	Colonial bentgrass	NL
<i>Alopecurus pratensis</i>	Meadow foxtail	FACW+
<i>Bromus inermis</i>	Smooth brome	NL
<i>Bromus tectorum</i>	Cheatgrass	NL
<i>Bromus</i> spp.	Brome	
<i>Carex aquatilis</i>	Water sedge	OBL
<i>Carex nebrascensis</i>	Nebraska sedge	OBL
<i>Carex obnupta</i>	Slough sedge	OBL
<i>Carex subfusca</i>	Rusty sedge	FACU

Table 1 (Graminoids cont.)

<i>Cynosurus echinatus</i>	Dog's-tail	NL
<i>Dactylis glomerata</i>	Orchard grass	FACU
<i>Deschampsia danthanoidea</i>	Annual hairgrass	FACW-
<i>Eleocharis palustris</i>	Creeping spikerush	OBL
<i>Festuca rubra</i>	Red fescue	FAC
<i>Holcus lanata</i>	Common velvet grass	FAC
<i>Hordeum jubatum</i>	Fox-tail barley	FAC+
<i>Juncus acuminatus</i>	Taper-tip rush	OBL
<i>Juncus balticus</i>	Baltic rush	OBL
<i>Juncus effusus</i>	Soft rush	FACW+
<i>Lolium perenne</i>	Perennial ryegrass	FACU
<i>Poa annua</i>	Annual bluegrass	FAC-
<i>Poa</i> spp.	Bluegrass	
<i>Scirpus microcarpus</i>	Small-fruited bullrush	FACW
Forbs, Fern, Fern Allies:		
<i>Achillea millefolium</i>	Yarrow	FACU
<i>Artemisia douglasiana</i>	Douglas wormwood	FACW
<i>Brodiaea californica</i>	White brodiaea	NL
<i>Brodiaea elegans</i>	Harvest brodiaea	FACU
<i>Centaurea cyanus</i>	Comflower	NL
<i>Centaurea diluta</i>	Diffuse knapweed	NL
<i>Centaurea maculosa</i>	Spotted knapweed	NL
<i>Cerastium</i> spp.	Chickweed	
<i>Cisium vulgare</i>	Bull thistle	FACU
<i>Convolvulus arvensis</i>	Common bindweed	NL
<i>Crepis</i> spp.	Hawksbeard	
<i>Daucus carota</i>	Carrot	NL
<i>Dipsacus sylvestris</i>	Teasel	NI
<i>Downingia elegans</i>	Common downingia	OBL
<i>Epilobium angustifolium</i>	Fireweed	FACU+
<i>Epilobium watsonii</i>	Hairy willow-herb	FACW-
<i>Equisetum arvense</i>	Field horsetail	FAC
<i>Erodium cicutarium</i>	Stork's-bill	NL
<i>Galium aparine</i>	Bedstraw	NL
<i>Hieracium albertinum</i>	Western hawkweed	NL
<i>Hypericum perforatum</i>	St. John's wort	NL
<i>Hypochaeris radicata</i>	Cat's-ear	NL
<i>Lactuca serriola</i>	Prickly lettuce	FAC-
<i>Lathyrus odoratus</i>	Sweet pea	NL
<i>Madia glomerata</i>	tarweed	FACU-
<i>Malva neglecta</i>	Dwarf mallow	NL
<i>Mimulus guttatus</i>	Common monkey-flower	OBL
<i>Montia parvifolia</i>	Miner's lettuce	FACW
<i>Navarretia intertexta</i>	Needle-leaf navarretia	FACW
<i>Parentucellia viscosa</i>	Yellow parentucellia	FAC-
<i>Plagiobothrys</i> spp.		
<i>Plantago lanceolata</i>	English plantain	FACU+
<i>Plantago major</i>	Common plantain	FAC+
<i>Polygonum</i> spp.		
<i>Polystichum munitum</i>	Sword fern	NL
<i>Ranunculus repens</i>	Creeping buttercup	FACW

Table 1 (Forbs cont.)

<i>Rhaphanus sativus</i>	Wild radish	NL
<i>Rumex crispus</i>	Curley dock	FACW
<i>Senecio vulgaris</i>	Common groundsel	FACU
<i>Taraxacum officinale</i>	Common dandelion	FACU
<i>Trifolium pratense</i>	Red clover	FACU
<i>Typha latifolia</i>	Broadleaf cattail	OBL
<i>Urtica dioica</i>	Stinging nettle	FAC+
<i>Verbascum thapsus</i>	Common mullein	NL
<i>Vernonia americana</i>	American speedwell	OBL
<i>Vicia hirsuta</i>	Vetch	NL

*Nomenclature follows Jepson Manual (Hickman 1993) and Flora of the Pacific Northwest (Hitchcock and Cronquist 1973).

APPENDIX - B

Plant Community Definitions and list of plants known to occur on the property.

(UC) (1) Upland core park

This is a well maintained, highly disturbed area with asphalt, several service and facility buildings, picnic tables and well-worn trails and walkways. Also included in this zone is the beach access from the picnic zone since it is so heavily influenced by the core park. This area is not cultivated and is largely a willow shrub swamp plant community, however the degree of disturbance and proximity to the core park were rated as greater influence than the dominant vegetation, therefore, a decision to include it in this zone was made. Other species that were prevalent but not necessarily dominant were ponderosa pine (*Pinus ponderosa*), tanoak (*Lithocarpus densiflorus*), huckleberry oak, oak-red osier dogwood, bitterbrush, Scotch broom (*Cytisus scoparius*) and Himalayan blackberry (*Rubus discolor*).

PGUC Area of parking, cultivated grass, picnic areas, facility buildings, trails and beach/swimming areas somewhat

SSUC PINJEF-QUEGAR-ARBMEN/ARCPAT-RHUDIV
Jeffrey pine-black oak-madrone/greenleaf manzanita-poison oak
Pinus jefferyi-*Quercus garryana*-*Arbutus menziesii*/
Arctostaphylos patula-*Rhus diversifolia*

Quality Assessment:

This amount of disturbance is consistent with a public park and this part of the park is well suited for picnicking, hiking and swimming. Attention to the trails and foot access to the beach/swimming areas where moderate to serious erosion is occurring. This is especially pronounced at the NW corner of the picnic area where the river is accessed by the public.

The cultivated lawn and parking lot together represent a large area of decreased species diversity. Compaction due to high use along trails and roadway leading to or away from the upland core park area, at least in some places, is probably irreversible.

Scotch broom and Himalayan blackberry have taken hold in the areas near the parking lots. These are noxious opportunistic weeds and efforts to discourage them is advised.

The trail that follows upstream of the West Fork behind the restroom building bridges the riparian edge and a complex of ephemeral vernal pool

communities composed of coyote thistle/blue calico flower (*Eryngium umbellatum*/*Downingia elegans*). This area needs special attention and planning to avoid further impact to these two fragile communities: both the vernal pools and the riparian edge. (See #5/VPPE, below for further information regarding this wetland type).

The parking lot and picnic areas get the heaviest day use. Interpretive materials that discourage vandalism and educate park users of natural resources onsite and the importance of protection of their natural resources is recommended.

(US) (2) Upland scrub-shrub chaparral communities

These plant communities are composed of whiteleaf manzanita (*Arctostaphylos viscida*), greenleaf manzanita (*Arctostaphylos patula*), buckbrush, (*Ceanothus cuneatus*), and tanoak (*Lithocarpus densiflorus*), Tarweed (*Madia* sp.), and hedgehog dogtail grass (*Cynosaurus echinatus*). These areas adjacent to the core park area reflect high levels of disturbance and usage.

- CHUS** CYNECH-HORJUB/CENCYA-MADMAD
DISTURBED GRASSLAND
Cynarsaurus echinata-Hordeum jubatum/
Centuarea cyanus-Madia madioides
Crested dogtail grass-foxtail barley-cornflower-woodland tarweed
- SSUS** PINJEF-PINPON-QUEGAR-ARB MEN/PURTRI-RHUDIV
CHAPARRAL TRAIL
Jeffrey pine-ponderosa pine-white oak madrone/bitterbrush-
poison oak chaparral
Pinus jefferyi-Pinus ponderosa-Arbutus menziesii-Quercus
garryana/Purshia tridentalis-Rhus diversifolia chaparral trail
- QUUS** QUEGAR/AGR TEN-FESIDH
Black oak/colonial bentgrass/Idaho fescue

Quality Assessment:

CHUS is a plant community that expresses disturbance. This community type is found in the open grassy lowlands near the core park area that express compaction disturbance. In many places this compaction may be irreversible. This area is recommended for continued public use in the CHUS units. The present compaction may also create conditions unfavorable to the establishment of regeneration of oak and other woody species seedlings.

Other weedy species found in the community include other annual grasses and forbs, such as silver hairgrass (*Aira caryophyllea*) and common mullein (*Verbascum thapsus*). QUUS is a ecotone found in similar positions as CHUS in this zone, however the QUUS community reflects less disturbance.

Scattered oak and native perennial species occupy the same open grassy lowland positions as those of the CHUS unit. The grasses in these map units are Idaho fescue (*Festuca idahonesis*), colonial bentgrass (*Agrostis tenuis*), with scattered oak and less dominant grasses, including Lemmon's needle grass (*Stipa lemmonii*), bottle brush squirreltail grass (*Sitanion hystrix*). Protection to the areas with remaining vegetation mapped as QUUS is advisable. Protecting islands of natural vegetation in this community type is recommended to provide corridor for the plant species and wildlife dependent upon this community. Otherwise this fairly hardy community can withstand most of the disturbance it is currently receiving.

Centrally located within the lowlands of the confluence area, much of these communities have been either compacted or excavated. Directly east of the SE corner of the parking lot, a channel has been excavated between two thickets of willow. The sidecast material has created large berms on either side. This has created an artificially wet area in an otherwise excessively well-drained community. This provides opportunity for potential wetland creation/enhancement or restoration depending upon wildlife needs in the immediate area and which community type provides the most wildlife habitat value.

(FC) (3) Upland forested corridor

The plant communities of this zone are at higher elevations than those of the remaining site and generally in well-to-excessively drained soils. The plant communities for this major zone comprise approximately one half of the

entire site and were not only derived from ONHP plant community descriptions and soil types in the forested corridor, but also on slope, elevation, aspect and exposure (see the landscape features listed below) and dominance of vegetation recorded during the field investigation. The geomorphologic arrangement of the and soil deposition of the forested corridor are expressed in plant community type. The following landscape features were largely responsible for changes in plant community type, slope, lowland forest openings, draws and gulleys, drainages, ridges, rocky balds (higher elevations), brush balds (low and medium elevations) and grass balds (low elevations).

Other plants that were present with frequency and abundance within the forest corridor, but not enough to be dominant, included: swordfern (*Polystichum munitum*); rock fern (*Aspidotis densa*) on rocky balds; pathfinder (*Adenocaulon bicolor*) under closed canopy; dwarf and piper's Oregon-grape (*Berberis nervosa* & *B. piperiana*); hazelnut (*Corylus cornuta*) in open clearings of lowland forested areas; Oregon fairy bell (*Disporum hookeri* subs. *oreganum*) in most or closed canopy positions; and Pacific blackberry (*Rubus ursinus*) our only native blackberry species. The following are the actual plant communities in the forested corridor.

AAFC (Abegg Soils 1B)

PSEMEN-PINPON-ARBMEN

Douglas fir-ponderosa pine-Madrone

Pseudotsuga menziesii-Pinus ponderosa-Arbutus menziesii

JJFC (Josephine Soils 48)

ARBMEN-PSEMEN-QUERCU/ARCPAT-RHUDIV

Madrone-ponderosa pine-Douglas fir-California black oak-white oak/greenleaf manzanita-poison oak

Arbutus menziesii-Pinus ponderosa-Pseudotsuga menziesii-

Quercus garryana-Quercus kelloggii/Arctostaphylos patua-

Rhus diversiloba

PHFC

PINPON-PSEMEN/QUEKEL/HIEALB

Ponderosa pine-Douglas fir-California black oak/white flowered hawkweed

Pinus ponderosa-Pseudotsuga menziesii-Quercus kelloggii/Hieracium albiflorum

EEFC (Eightlar Soils 31)

PINJEF-CALDEC/ROSGYM-FESIDA

Jeffrey pine-incense cedar/wood rose-Idaho fescue

Pinus jefferyi-Calocedrus decurrens/Rosa gymnocarpa-Festuca idahoensis

PPFC (Pollard Soils 61)

PINPON-PSEMEN-PINLAM-ARBMEN/RHUDIV-ROSGYM-FESCAL

Ponderosa pine-Douglas fir-sugar-madrone/whiteleaf manzanita-poison oak-wood rose-California fescue

Pinus ponderosa-Pseudotsuga menziesii-Pinus lambertiana-

Arbutus menziesii/Arctostaphylos viscida-Rhus diversiloba-

Rosa gymnocarpa-Festuca californica

PTFC

PINPON-PSEMEN/QUEKEL/PTEAQU

Ponderosa pine-Douglas fir-California black oak/bracken fern

Pinus ponderosa-Pseudotsuga menziesii-Quercus kelloggii/Pteridium aquilinum

SSFC (Speaker Soils 72F)

PSEMEN-PINPON-ARBMEN-QURGAR/RHUDIV-SYMALB
Douglas fir-ponderosa pine-madrone-California black
oak/poison oak-snowberry
Pseudotsuga menziesii-Pinus ponderosa-Arbutus menziesii-
Quercus garryana/Rhus diversiloba-Symphoricarpos albus

TTFC

PINPON-PSEMEN-CALDEC/ARCPAT/FESIDA-STILEM
Ponderosa pine-Douglas fir incense cedar/greenleaf
manzanita/Idaho fescue-western needlegrass
Pinus ponderosa-Pseudotsuga menziesii-Calocedrus
decurrens/Arctostaphylos patua-Festuca idahoense-Stipa
occidentalis

PPFC and EEFC occupied similar positions in gulleys and drainages with a high percentage of wood rose and forested grasses. These were mapped differently mostly due to differences in canopy structure and differences in soil types.

JJFC and SSFC also represent plant communities based upon soils types and similar positions on mountain sides. PHFC occupied the highest positions onsite along the ridges and was therefore quite different in plant community structure than any of the others.

PTFC was created to express the plant community with a high percentage of bracken fern which was an indicator of disturbance in other areas of the site, but was a naturally occurring dominant in these communities. For instance, bracken fern was prevalent along the power line right-of-way as an indicator of disturbance there, but further east in natural lowland clearing positions of the forested corridor it was a natural occurring dominant in a plant community that was vegetatively expressing conditions favorable to that mix of species.

Quality Assessment:

Most of the forested stands were in good health, with little or no evidence of pathology and strong indicators of vigor and health. Exceptions to this were found along West Side Road which bifurcates the site in the extreme western portion of the park and the main road, the power line in the west portion of forested corridor, near the west boundary. The vegetation under the power lines and along the right-away has been cleared and clearing is maintained causing obvious distress to the vegetation as well as "edge effect" to the vegetation along the borders of the right-of-way. Other old logging roads, most of which are not currently maintained, also show evidence of weediness and old distress.

Another type of distress disturbance in this area has occurred on the east facing slopes mapped as plant communities SSFC & JJFC. Most of the JJFC sites were in good condition, however areas mapped as SSFC-1, JJFC-1 express moderate to high degrees of logging disturbance, i. e., exposure (increased temperatures and desiccation) soil surface disruption, windthrow, stumps, stunted growth to both shrub species and regenerating tree species and a prevalence of weedy species including: Himalayan blackberry, scotch broom, crested dogtail grass and bracken fern. Most of the logging disturbance is below the park boundary in private property. The exact boundary between the park and private property was not located during the field study due to difficulties in traversing the terrain and time limitations, however, it does appear that a single logging operation cut trees to both private property and some park property above it. Windthrow to exposed edges continues to take trees during high winds that were left standing at the edges of the logging operation. This is especially so because the clear cut occurred in a natural wind tunnel created by the position of a ravine on the north slope.

There was no disturbance or compromise of quality to any of the other plant communities, therefore no other communities were assigned numerical qualifiers.

(PR) (4) Palustrine Riparian

The palustrine riparian areas are composed of Oregon ash, cottonwood, willow, Douglas' spiraea, slough sedge, long stolon sedge and various

knapweeds and polemoniums. These areas fringe both sides of the east and west forks of the Illinois River as well as the main Illinois at the confluence. Gravel bars and riverwash are separate alliances within this major ecotone. Cottonwood and willows form one type of plant community. All the major willows that occur onsite were lumped together since it would be beyond the scope of this project to discern which willows were dominant from patch to patch within the area of the confluence. However, there were pure communities of (*S. sessilifolia*) that were delineated as palustrine forested scrub shrub wetlands, that were obvious and treated as separate discreet plant communities.

(PR) (Riverwash Soils 64)

RRPR RIVERWASH/PHLSPE-CENCYA

River sands and gravel/showy phlox-cornflower

Riverwash/Phlox speciosa-Centaurea cyanus

GRPR Gravel bar, No vegetation (or only trace amounts)

PSPR POPBAL/SALEXI-SALSES-SALLAS

Black cottonwood-narrow-leaved willow- riparian-

Northwest willow-Arroyo willow

Populus balsamifera var. trichocarpa/Salix exigua-

Salix sessilifolia-Salix lasiolepis

RCPR RUDOCC/CARPEN RIVERBANK

Rudbeckia occidentalis/Carex pennsylvanica riverbank

black head cornflower/long-stolon sedge

Quality Assessment:

The gravel bars are dynamic communities exposed to the continual changes brought on by seasonal flows. With the exception of a few trails through the willows thickets at the beach access below the NW corner of the picnic area, these communities appear to be healthy and vital with little or no man-caused disturbances.

Evidence of a tree planting effort is underway in the scrub/shrub riparian area of excessively well drained riverwash. This continued effort is recommended, especially to control the weedy forbs, such as knapweed and polemonium and invasive shrubs such as Himalayan blackberry and scotch broom. Removal projects to control these two shrubby species is also recommended.

The riparian edge along the East Fork is difficult to access and, therefore, is in good condition. The riparian edge along the West Fork of the Illinois, just below the confluence has considerable erosion damage, especially along trails and beach/river access points. This is especially so from the NW corner of the picnic area continuing south past the restroom facility building small patches of the vernal pool community type, VPPE (discussed in detail, below) are in direct path of traffic moving from the park core area and receives foot traffic disturbance.

(PE) (5) Palustrine ephemeral emergent wetland communities

These are ephemeral emergent wetland communities that occur in micro-depressions (vernal pools) in clay and other poorly drained soils. They can also be areas of seasonal standing water in open shallow marshes.

The vernal pools east of the riparian edge of the West Fork (identified by the Ochoco Biological Service Report, July, 1995 as "ephemeral emergent marsh) are likely developed in old meander scar (now micro-depressions) and are rated as the most fragile community onsite. These represent the largest complex of ephemeral vernal pool communities (mentioned above) composed of coyote thistle/downingia (*Eryngium umbellatum/Downingia elegans*).

- VPPE** DOWNIN-ERYPET
Downingia elegans-Eryngium petiolatum
Downingia-Coyote thistle vernal pool
- TLPE** TYHPLAT-SCITAB
Typha latifolia-Scirpus tabernaemontani
Broad-leaved cattail-bulrush marsh

Quality Assessment:

The VPPE community type is not currently tracked as a threatened community type by the ONHP, although it has been in the past. But, in terms of species diversity and the fragility of these habitats, protection of these areas is recommended. These communities are fragile in nature and protection of this plant community is highly recommended. The occurrence of VPPE-2 communities along the east entrance road on the north side of the road are of

a lower quality showing disturbance of unknown cause. The plant community of these VPPE is coyote thistle/needle-leaf narvarettia (*Navarretia intertexta*). Needle-leaf narvarettia, an indicator of disturbance in these vernal pool communities has replaced the fragile downingia, providing an example of what would happen if the high quality vernal pools onsite are not protected from disturbance. This has nearly occurred in the vernal pools just south of the core park area along the trail along the west fork of the Illinois River. These pool communities still have populations of downingia, however they are not vigorous and in some places are already replaced by needle-leaf navarettia.

The three communities of TLPE onsite are along the main eastern entrance in Takilma soils TTPF and opposite it in Newberg soils NNPF and the other located in the ash/cottonwood riparian forested communities. These small communities of cattail-bulrush are not very extensive but serve as good seed source for wetland plants. This is important for systems with meandering and braided streams where new wetlands can be established annually as flooding changes the river pattern. These smaller cattail-bulrush marshes provide nurseries for enriched species diversity along the river course. These wetlands, the vernal pool wetlands and several of the forested and shrub swamp wetlands are all very likely jurisdictional and would required section 404 permits for activities that would alteration hydrology, fill the wetland or remove soil materials from them.

- (PF)** (6) Palustrine forested wetlands - lowland
floodplain/poorly drained soils
- FPPF** FRALAT/POPBAL/CORSER
Oregon ash/Black cottonwood/dogwood
Fraxinus latifolia/Populus balsamifera var. trichocarpa/Cornus sericea (stolonifera)
- FSPF** FRALAT/CAROBN/SYMALB
Oregon ash/slough sedge/snowberry
Fraxinus latifolia/Carex obnupta/Symphoricarpos albus
- PSPF** POPBAL/SALEXI
Black cottonwood/coyote willow riparian
Populus balsamifera var. trichocarpa/Salix exigua

NNPF FRALAT/PINJEF/POPBAL/SYMALB/CAROBN/CARPEN
Oregon ash/Jeffery pine/Black cottonwood/snowberry/slough
sedge/long-stolon-sedge
Fraxinus latifolia/Pinus jefferyii/Populus balsamifera var.
trichocarpa/Symphoricarpos albus/Carex obnupta/Carex
pennsylvanica

(PS) **(7) Palustrine shrub swamp wetlands - lowland**
floodplain/poorly drained soils

SSPS SALEXI-SALFSES-SALHOO-SPIDOU
sandbar willow-riverbank willow-Hooker's willow-
Douglas' spiraea shrub swamp thicket
Salix exigua-Salix fluviatilis-Salix hookeriana/ Spiraea douglasii

SFPS SALSES (pure community)
Riverbank willow shrub swamp thicket
Salix fluviatilis

(6 & 7) The native forested wetland species such as Oregon ash, cottonwood, willow, Douglas' spiraea, and slough sedge are abundant and in good health. Evidence of intermediate succession of wetlands to upland terrestrial plant communities was observed in the central forested area in the confluence area just east of the core park area.

Several thickets of pure Northwest willow exist in the confluence area. These were encountered enough times to warrant a plant community ID of their own. The other willow communities were a mixed bag of willow, including some other willow species not dominant enough to include in the community type, such as: Hooker's willow and Piper's willow. These together with other shrub species, most notably Douglas' spiraea, but also red osier dogwood, composed healthy shrub swamps.

Other palustrine forested & shrub swamp wetland communities onsite have been identified by the Ochoco Report and this investigation concurs with those findings, although the areas nearest the water edge are excessively well-drained riverwash and are probably not jurisdictional since they would not meet the soils or vegetation parameters of jurisdictional criteria. It can also be

argued that the forested/shrub swamp wetland complex identified at the confluence is part of the riparian edge and as such is a riparian community and not necessarily all jurisdictional wetland.

Quality Assessment:

Old Oregon ash and patches of slough sedge were scattered throughout this riparian forest. This area should be protected until further study and inventory are conducted. The wetland marsh that is oriented east west through the upland forest just east of the core park area, (identified as palustrine forest/emergent wetland by the Ochoco Report) is a diverse system with fragile aquatic and wetland species. This area is highly recommended for protection. It is the only wetland of its kind for a large area and provides an important nursery/seed source for many important and diverse wetland species.

Any area onsite that is mapped with the suffix of PF or FS should be considered and investigated for jurisdictional wetland status.

The riparian forested and shrub swamp communities were healthy and vigorous with a moderate to high degree of diversity and structure. In both systems the composition of the strata was strongly represented. Succession was taking place with no recent interruptions other than those undertaken at the time that the park was constructed and the core area (parking lots, facilitates buildings and sheds, roads, trails and lawn were installed.

It was not necessary to qualify any of the plant community types of these plant communities to show degrees of quality since there is no outside influence that degrades the quality of any of these systems.

List of Species for
Illinois Valley State Park
August 1995

Scientific name	Common name	Scientific name	Common name
<i>Achillea millefolium</i>	common yarrow	<i>Cyperus aristatus</i>	awned-flat sedge
<i>Adenocaulon bicolor</i>	pathfinder	<i>Cynasaurus echinata</i>	hedgehog dogtail
<i>Agropyron spicatum</i>	blue-bunch wheatgrass	<i>Dactylis glomerata</i>	orchard grass
<i>Agrostis alba var. alba</i>	redtop	<i>Danthonia californica</i>	California oatgrass
<i>Agrostis alba var. palustris</i>	creeping bentgrass	<i>Deschampsia cespitosa</i>	tufted hairgrass
<i>Agrostis diegoensis</i>	leafy bentgrass	<i>Deschampsia danthoniodes</i>	annual hairgrass
<i>Agrostis idahoensis</i>	Idaho bentgrass	<i>Deschampsia elongata</i>	slender hairgrass
<i>Agrostis stolonifera</i>	bentgrass	<i>Dipsacus sativa</i>	Fuller's teasel
<i>Agrostis tenuis</i>	colonial bentgrass	<i>Dipsacus fullonum ssp. sylvestris</i>	teasel
<i>Alnus sinuata</i>	Sitka alder	<i>Disporum hookeri oregonum</i>	Oregon fairy-bell
<i>Alnus rubra</i>	red alder	<i>Downingia elegans</i>	blue calico-flower
<i>Amelanchier alnifolia</i>	serviceberry	<i>Eleocharis palustris</i>	creeping spikerush
<i>Apocynum androsaemifolium</i>	spreading dogbane	<i>Elodea densa</i>	dense waterweed
<i>Anaphalis margaritacea</i>	pearly everlasting	<i>Epilobium glaberrimum ssp. glaberrimum</i>	hairy willow-herb
<i>Arbutus menziesii</i>	madrone	<i>Epilobium ciliatum ssp. glandulosum</i>	glandular willow-herb
<i>Arctostaphylos patula</i>	greenleaf manzanita	<i>Epilobium ciliatum ssp. watsonii</i>	hairy willow-herb
<i>Arctostaphylos viscida</i>	whiteleaf manzanita	<i>Epilobium densiflorum</i>	dense spike-primrose
<i>Aruncus sylvestris (dioicus)</i>	goatsbeard	<i>Epilobium torreyi</i>	stiff-spike-primrose
<i>Aspidotis densa</i>	rock fern	<i>Eriogonum umbellatum</i>	sulphurflower
<i>Balsamorhiza sagittata</i>	arrow-leaf balsamroot	<i>Eriophyllum lanatum</i>	wooly sunflower
<i>Balsamorhiza deltoidea</i>	Puget/deltoid balsamroot	<i>Eryngium petiolatum</i>	coyote-thistle
<i>Berberis neroosa</i>	dwarf Oregon-grape	<i>Equisetum arvense</i>	field-horsetail
<i>Berberis piperiana</i>	Piper's Oregon-grape	<i>Equisetum fluviatile</i>	water-horsetail
<i>Betula glandulosum</i>	bog birch	<i>Equisetum telmateia</i>	giant-horsetail
<i>Boissduvalia stricta</i>	stiff-spike-primrose	<i>Festuca arundinacea</i>	tail fescue
<i>Briza maxima</i>	big quaking grass	<i>Festuca idahoensis</i>	Idaho fescue
<i>Briza minor</i>	little quaking grass	<i>Festuca pratensis</i>	meadow fescue
<i>Brodiaea elegans</i>	harvest brodiaea	<i>Festuca rubra</i>	red fescue
<i>Bromus brizaeformis</i>	rattlesnake-grass	<i>Fraxinus latifolia</i>	Oregon ash
<i>Bromus commutatus</i>	hairy chess	<i>Galium ambiguum</i>	obscure bedstraw
<i>Calamagrostis canadensis</i>	blue-joint reedgrass	<i>Galium aparine</i>	common bedstraw
<i>Callitriche hermaphroditica</i>	autumnal water-starwort	<i>Galium triflorum</i>	fragrant bedstraw
<i>Callitriche heterophylla</i>	different-leaf water-starwort	<i>Galium oregonum</i>	Oregon bedstraw
<i>Calocedrus decurrens</i>	Port Orford cedar	<i>Gnaphalium palustre</i>	western cutweed
<i>Ceanothus integerrimus</i>	deer-brush	<i>Gnaphalium uliginosum</i>	marsh cutweed
<i>Ceanothus pumilis</i>	dwarf deer-brush	<i>Hiercium albiflorum</i>	white-flowered hawkweed
<i>Carex densa</i>	dense sedge	<i>Holcus lanatus</i>	velvetgrass
<i>Carex deweyana</i>	short-scale sedge	<i>Holcus mollis</i>	creeping velvetgrass
<i>Carex hendersonii</i>	Henderson's sedge	<i>Holodiscus discolor</i>	oceanspray
<i>Carex obtusa</i>	slough sedge	<i>Hordeum brachyantherum</i>	meadow barley
<i>Carex pennsylvanica</i>	long-stolon sedge	<i>Hordeum depressum</i>	low barley
<i>Carex rostrata</i>	beaked-sedge	<i>Hordeum jubatum</i>	foxtail-barley
<i>Carex sitchensis</i>	Sitka sedge	<i>Hypericum perforatum</i>	dotted St. John's wort
<i>Carex volupinoides</i>	fox sedge	<i>Hypericum formosum</i>	western St. John's wort
<i>Castilleja tenuis</i>	hairy owl's clover	<i>Hypochaeris radicata</i>	cat's ears
<i>Centaureum muhlenbergii</i>	Monterey centaury	<i>Juncus acuminatus</i>	taper-tipped rush
<i>Centaureum umbellatum</i>	centaury	<i>Juncus articulatus</i>	jointed-rush
<i>Chamaecyparis nootkatensis</i>	Alaska cedar	<i>Juncus balticus</i>	Baltic rush
<i>Chamaecyparis lawsoniana</i>	incense cedar	<i>Juncus covillei</i>	Coville's rush
<i>Cornus stolonifera =</i>	red-osier dogwood	<i>Juncus effusus</i>	soft rush or common rush
<i>Cornus sericea</i>	creek dogwood	<i>Juncus effusus var. gracilis</i>	soft rush or common rush
<i>Corylus cornuta</i>	hazelnut	<i>Juncus effusus var. pacifica</i>	soft rush or common rush
<i>Crataegus douglasii var. susklotorfi</i>	Suksdorf's hawthorn	<i>Juncus ensifolius</i>	dagger-leaf rush
<i>Crepis capillaris</i>	smooth hawksbeard	<i>Juncus nevadensis</i>	sierra rush
<i>Crepis setosa</i>	hawksbeard		

List of Species for
Illinois Valley State Park
August 1995

Scientific name	Common name	Scientific name	Common name
<i>Juncus oxymeris</i>	pointed rush	<i>Rosa gymnocarpa</i>	wood rose
<i>Juncus patens</i>	spreading rush	<i>Rubus lasiococcus</i>	dwarf bramble
<i>Lactuca pulchella</i>	blue lettuce	<i>Rubus leucodermis</i>	black-cap raspberry
<i>Lactuca serriola</i>	prickly lettuce	<i>Rubus ursinus</i>	Pacific blackberry
<i>Lapsana communis</i>	nipplewort	<i>Rumex acetosella</i>	sourweed
<i>Lemna minor</i>	lesser duckweed	<i>Rumex crispus</i>	curlydock
<i>Leontodon autumnalis</i>	fall dandelion	<i>Salix exigua</i>	sandbar willow
<i>Lomatium utriculatum</i>	common lomatium	<i>Salix hookeriana</i>	Hooker's willow
<i>Lonicera involucrata</i>	twinberry	<i>Salix lucida ssp lasiandra</i>	Pacific willow
<i>Lithocarpus densiflorus</i>	tan oak	<i>Salix sessilifolia</i>	northwest willow
<i>Lythrum salicaria</i>	purple loosestrife	<i>Scirpus microcarpus</i>	small-fruited bulrush
<i>Madia glomerata</i>	mountain tarweed	<i>Scirpus tabernaemontani</i> =	hard-stem bulrush
<i>Madia nuttoides</i>	woodland tarweed	<i>Senecio integerrimus</i>	western groundsel
<i>Melica subulata</i>	onion-grass	<i>Sium suave</i>	hemlock water parsley
<i>Melica lemmonii</i>	lemmon needle-grass	<i>Sonchus orensensis</i>	field sow-thistle
<i>Mentha piperita</i>	peppermint	<i>Sonchus oleraceus</i>	annual sow-thistle
<i>Mentha spicata</i>	spearmint	<i>Spiraea douglasii</i>	Douglas' spiraea
<i>Mimulus dentatus</i>	toothed-monkeyflower	<i>Stellaria media</i>	chickweed
<i>Mimulus guttatus</i>	muskm-monkey flower	<i>Symphoricarpos albus</i>	snowberry
<i>Mimulus moschatus</i>	seep-spring monkeyflower	<i>Symphoricarpos mollis</i>	creeping snowberry
<i>Monardella odoratissima</i>	mountain-balm	<i>Taraxacum officinale</i>	dandelion
<i>Montia perfoliata</i>	miner's lettuce	<i>Tragopogon dubia</i>	salisfy
<i>Navaretia intertexta</i>	needle-leaf navaretia	<i>Triteleia hyacinthina</i> =	hyacinth brodiaea
<i>Oenanthe sarmentosa</i>	water parsley	<i>Brodiaea hyacinthina</i>	hyacinth brodiaea
<i>Oemleria cerasiformis</i>	Indian plum	<i>Typha latifolia</i>	cattail
<i>Orthocarpus bracteosus</i>	rosy owl's-clover	<i>Urtica dioica</i>	stinging nettle
<i>Panicum capillare</i>	witchgrass	<i>Veronica peregrina</i>	purslane-speedwell
<i>Panicum occidentale</i>	witchgrass	<i>Veronica scutellata</i>	skullcap speedwell
<i>Parentucellia viscosa</i>	parentucellia	<i>Viburnum ellipticum</i>	oval-leaf viburnum
<i>Paspalum distichum</i>	knotgrass	<i>Viburnum edule</i>	squashberry
<i>Phleum pratense</i>	common Timothy	<i>Wyethia angustifolia</i>	narrow-leaf mule's ears
<i>Physocarpus capitatus</i>	pacific ninebark		
<i>Pinus jefferyi</i>	Jeffery pine		
<i>Pinus ponderosa</i>	lodgepole pine		
<i>Pinus lambertiana</i>	sugar pine		
<i>Plantago lanceolata</i>	English plantain		
<i>Plantago major</i>	common plantain		
<i>Poa annua</i>	annual bluegrass		
<i>Poa compressa</i>	Canadian bluegrass		
<i>Poa pratensis</i>	Kentucky bluegrass		
<i>Poa trivialis</i>	rough bluegrass		
<i>Phlox speciosa</i>	showy phlox		
<i>Polemonium pulcherrimum</i>	skunk-leaf polemonium		
<i>Polygonum persicaria</i>	lady's thumb		
<i>Populus balsamifera var. trichocarpa</i>	black cottonwood		
<i>Polystichum munium</i>	sword fern		
<i>Prunella vulgaris</i>	heafall		
<i>Pseudotsuga menziesii</i>	Douglas fir		
<i>Psilocarphus eliator</i>	tall woolyheads		
<i>Pteridium aquilinum</i>	bracken fern		
<i>Puccinellia spp.</i>	alkali-grass		
<i>Quercus garryana</i>	Oregon white oak		
<i>Quercus kelloggii</i>	California black oak		
<i>Quercus vaccinifolia</i>	huckleberry oak		
<i>Rosa eglantheria</i>	sweetbriar		

Lomatium cookii
Limnanthes gracilis var. gracilis

APPENDIX - C

OPRD Expanded Recreation Opportunity Spectrum

The organization of these setting can be represented as a spectrum ranging from primitive within open space to urban within open space, and then nature dominant within urban to facility dominant within urban.

PRIMITIVE - EXTENSIVE: Remote, undeveloped, unmodified, natural environment with an area no less than 5,000 acres, with an open space context. Very low social interaction.

PRIMITIVE-LIMITED: Remote, undeveloped, unmodified natural environment with an area less than 5,000 acres, within an open space context. Very low social interaction.

SEMI-PRIMITIVE-EXTENSIVE: Somewhat remote, unmodified natural environment with only limited trail and facility development, with an area no less than 2,500 acres, within an open space context. Low social interaction.

SEMI-PRIMITIVE-LIMITED: Somewhat remote, unmodified natural environment with limited trail and facility development, with an area less than 2,500 acres, within an open space context. Low social interaction.

ROADED NATURAL: Apparently unmodified natural environment, with road access through or adjacent and limited facility development, within an open space context. Moderate social interaction.

ROADED MODIFIED: Forest or other natural environment with obvious modifications such as logging or mining, etc., road access and limited facility development, within and open space context. Moderate social interaction.

RURAL: Substantially modified environment, usually agricultural, with road access, moderate facility development and social interaction, within an open space context. Moderate social interaction.

URBAN WITHIN OPEN SPACE: A largely developed setting, with extensive paving and buildings, highly maintained vegetation, heavy interaction and visitor controls, within and open space context. Can include golf courses or ornamental gardens. (Examples: Interpretive centers and major camping or staging areas within a larger National Forest or State Park.)

NATURE DOMINANT WITHIN URBAN: Apparently undisturbed natural environment, with limited development, moderate to high interaction and visual or noise disturbance, within an urban context. (Examples: Nature preserve within the city.)

PARK LIKE WITHIN URBAN: Primarily maintained grass and shade trees with moderate to extensive support facilities, interaction and visitor controls, within an urban context. (Examples: day-use or picnic area.)

FACILITY-DOMINANT WITHIN URBAN: Predominantly built setting of pavement and structures, intended for leisure or recreational use, high level of interaction, management and visitor controls, within an urban context. May include small areas of grass or other vegetation, and/or shade trees may be growing within paved areas. Includes golf courses, ornamental gardens, sports complexes and paved plaza parks within the city.