

HARRIS BEACH MANAGEMENT UNIT DRAFT ROCKY SHORELINE SITE MANAGEMENT PLAN



Nature
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2010



Harris Beach Management Unit Rocky Shoreline DRAFT Site Management Plan 2010

Oregon Parks & Recreation Department: Salem, Oregon

The mission of the Oregon Parks and Recreation Department is to provide and protect outstanding natural, scenic, cultural, historic and recreational sites for the enjoyment and education of present and future generations.

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Cover Images: From top left in clockwise order Harris Beach SRA, Samuel H. Boardman SSC, Lone Ranch Beach (S.H. Boardman), and McVay Rock SRS. Title page: Harris Beach SRA shoreline visitors.

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EXECUTIVE SUMMARY

The Harris Beach Management Unit State Parks are located in or near Brookings, near the California border in Curry County, Oregon. The parks are located approximately 250 miles southwest of Portland and about 50 miles west of Grants Pass. From north to south, the parks are: Samuel H. Boardman State Scenic Corridor (SSC), Harris Beach State Recreation Area (SRA), and McVay Rock State Recreation Site (SRS).

The focus of these plans is on improving management based on *existing* authorities and responsibilities. Current information is used, along with existing designations to work within Oregon Parks and Recreation Department (OPRD) jurisdiction, along with partner agencies to develop and implement this rocky shore areas site management plan. Upland issues not directly related to use of the ocean shore/rocky intertidal areas are not addressed in this plan. The plan will be used by OPRD staff, in consultation with its partners, to guide future rocky shore resource and recreation management, as well as minor facility improvements (e.g., trail maintenance, informational signage) and to improve interpretive opportunities. Advisory committees provided OPRD with their view of the issues and concerns, ideas and proposals for improving site management. Public input was used to refine the draft plan.

The reasons for a site planning process for these locations include the following primary objectives:

- Plan for public enjoyment and protection of state park and ocean shore resources
- Provide a forum for stakeholder discussion and participation about each site
- Understand the current management designations and what they mean for use and access for each site
- Direct and educate visitors through on-site interpretation about the importance of the rocky shore resource and the particular site designation
- Address current recreational use levels, activities and patterns, and determine how best to provide for recreational use without harming the rocky shore and state park resources.

A number of issues have been brought up through the public interview process, as well as staff and stakeholder

meetings regarding the parks within the Harris Beach Management Unit. Issues that can be addressed in this planning process are reflected in the goals and/or resource management guidelines. Not every issue identified as part of this process is appropriate to address in this plan. For example, this is not a Master Plan, so no development proposals are being made. Therefore, those issues that cannot be reasonably addressed are mentioned for potential future consideration by OPRD in other appropriate programs. Some issues will be addressed through related follow-up work, including suggested future studies and work with agency partners. As an over arching principle, adaptive management will be employed to periodically review, and as appropriate update these goals and strategies.

Goals and Strategies Summary

The goals and strategies for management of the parks and adjacent rocky ocean shoreline are based on consideration of the recreation needs assessment, and evaluation of the issues identified in the planning process and summarized in this plan as well as statewide agency policies. Following are summarized descriptions of the five main goals and potential strategies to achieve each goal. Strategies include individual steps or actions, which are designated with bullets and will be implemented when feasible and appropriate.

Goal 1: Provide recreation opportunities and experiences that are appropriate for the park resources and recreation settings.

Every effort will be made to provide visitors with an assortment of recreational experiences that continue to meet and exceed their expectations.

- Develop or rehabilitate recreational facilities, guided by indicators of need, the recreation settings, resource suitability, and the capacities of the parks to accommodate use without overcrowding, degradation of recreation experience, or conflicts with other uses.
- Discourage recreational activities that threaten to harm the natural, cultural or scenic resources and/or the safety of the visitors. Alternatively or in combination with discouragement, re-route them to alternate locations that are less sensitive.

The need for maintaining the current day-use experiences

for park visitors is recognized, but potential future activities need to be anticipated. This is based on the anticipated increase in demand for recreation and recognizing parks needs to meet future visitor expectations. The current capacity for day-use in the management unit is at the right level given space and natural resource restrictions. There is no viable opportunity to increase parking capacity, therefore, there is the potential for the parks to be “at-capacity” more often than they are currently and those that experience crowding may increase.

- Explore the feasibility of options for monitoring access/tracking (e.g., a “trail log” book or check-in station for large groups). Consider whether crowding is occurring and needs to be managed.
- Provide information to visitors about other coastal parks and accesses that offer similar or complementary experiences.
- Coordinate with school groups to help minimize crowding and improve their educational experience at the parks. Determine the appropriate maximum number of busses and look at providing designated parking. Look at opportunities to work with the school districts to coordinate scheduling of school visits.
- Explore options for improving services to visitors with disabilities.
- Investigate ways to improve facilities and services to accommodate Oregon’s youth. Work to develop partnerships with recreation providers that encourage youth outdoor exploration and interpretation.

The anticipated increase in future demand for recreational activities includes activities such as walking, hiking, tidepooling and generally ocean beach activities.

- Continue to provide and maintain opportunities for these key recreational activities. As new trends emerge, consider the feasibility of providing for those at the parks.

Goal 2: Protect, manage and enhance as appropriate, outstanding scenic, cultural and natural resources.

Enjoyment and appreciation of resources will be enhanced while protecting those resources from effects of overuse.

Scenic resources:

One important aspect of visiting the parks is the views of some of the major features along the Samuel H. Boardman scenic corridor and other offshore features in the area (e.g.,

Goat Island). These views focus on the ocean and more specifically, at the overlooks, of the geologic features of the unique coastline of the southern Oregon coast.

- Retain the scenic attraction of key natural features. Unforeseen future actions may impair views and efforts will be made to minimize the possibility for negative impacts on key viewsheds and features within the parks and adjacent ocean shore.
- Retain or restore existing vegetation when vital to scenic values.
- Avoid or minimize obstruction of existing views of the ocean and beaches.
- Blend new additions to the landscape with the existing shoreline scenery (e.g., type of construction, color).

Cultural resources:

The park land is an important traditional-use area of several tribes and their cultural heritage within the area is of considerable antiquity. In addition to pre-contact and historic archaeological sites, Oregon tribes who are affiliated with the area view cultural resources as those resources that continue to be used by Native peoples, such as foods, medicines and basketry materials.

- Preserve and protect the cultural heritage of the parks in consultation with the tribes.
- Consult, as appropriate, with the various tribes to identify potential interpretive themes/stories to highlight at the parks.

Natural resources:

It will likely be necessary for OPRD to consult with other agencies and stakeholders to determine whether there are changes desired in ecosystem types or conditions over time and as new information becomes available. As resources become available, additional inventories and research will be completed and evaluated for the presence of threats and opportunities.

- Develop long-term monitoring of the high use intertidal areas (and complementary control areas) to track potential impacts of visitor use (this may be part of a coast-wide strategy).
- Determine if there are times when visitation has less/more of an impact and use that information to inform visitors about best times to visit.
- Study the recreational carrying capacity for the rocky shores within this area.
- Work with partners to explore opportunities for

monitoring impacts to wildlife. The resources will be managed to minimize any unacceptable threats or to attain desired ecosystem conditions and types.

- Use scientific information to adaptively manage as new information becomes available.
- Continue to enforce current rules, including coordinating with partners on cross-jurisdictional issues. Explore partnership opportunities.
- Prohibit the harvest of seaweed without a research permit within the boundaries of the research reserve and marine garden.
- On-site staff and/or volunteers will discourage illegal collection and efforts will be made to improve signage and increase voluntary compliance.
- As deemed appropriate based on monitoring and scientific research, and in coordination with appropriate agencies and stakeholders, implement temporary rotational area closures as necessary to allow recovery of intertidal areas receiving greatest use.
- Identify potential habitats for “species of interest” found within the park boundaries and adjacent ocean shore. Update the list and develop a monitoring plan, as appropriate.
- Work with Federal, State and Local agencies and other interested groups to protect at-risk species, their habitats, and identify opportunities to improve key habitats and minimize negative interactions with visitors to assist with species survival and recovery.
- Work with partners to develop a site response plan for introduced aquatic/marine invasive species (likely as part of a larger coastal or regional plan). This plan may also include invasive mammals (e.g., rats, mice, feral cats, overpopulations of racoons and river otters) that may spread disease or impact rocky shore resources.
- Develop a site specific management procedure for strandings (e.g., marine mammals) and emergency response (e.g., beach safety, hazardous materials) on the beach and rocky shore.
- Work with partner agencies who are attempting to resolve environmental and safety risks associated with pollution that have the potential to effect park or ocean shore resources and/or present safety risks to park visitors.

Goal 3: Provide for adequate management, maintenance, rehabilitation, and park operations

including safe, efficient, identifiable and pleasant access and circulation.

To the extent that resources are available, recreational activities and facilities will be managed, maintained, rehabilitated and operated as needed for the safety, satisfaction and enjoyment of visitors and local citizens. In allocating state park operational and facility investment funds, strive to provide adequate support for the maintenance and rehabilitation of existing facilities, and an adequate level of oversight and enforcement in the parks and adjacent ocean shore.

- Continue routine maintenance of the OPRD maintained access trails.
- Routine maintenance of the parking lots (including striping) may be able to help with appropriate parking of larger vehicles.
- As necessary and practicable, develop a site assessment and beach recreation safety plan (this could be part of a larger coastal or regional plan).
- Consider long-term solutions as some of the trails continues to degrade.
- Temporarily close trails should access be deemed hazardous for visitors and while solutions (temporary and long-term) are being sought.
- Coordinate with USFWS on management and operational issues that have the potential to impact offshore islands and wildlife.
- Look at long-term solutions to parking issues as they develop, such as signage.
- Plant, remove and prune designed landscape areas where needed to beautify roads and parking areas, retain scenic views, and provide visual buffers within the parks.

Goal 4: Promote public awareness, understanding, appreciation, and enjoyment of the recreation settings through resource interpretation.

OPRD will strive to share and interpret park geologic, scenic, cultural and natural resources with a wider audience. The interesting geology and ocean shore and marine resources make the Harris Beach area an outstanding location for interpretation. There is a great opportunity to educate visitors, especially since the majority of them have been to these sites before and plan to return in the future. Even those that are visiting for the

first time believe that they are highly likely to return in the future.

OPRD has a wonderful opportunity to get in touch with visitors, particularly those to Harris Beach and the campground. These points of contact need to be capitalized upon as it would be possible to provide visitors with targeted information to improve their visit and reduce impacts to the rocky shore.

A large number of visitors surveyed indicated they are interested in learning more about rocky shores/tidepools on a future visit. The preferred method of receiving this information was through on-site staff (either by guided tour or roving ranger).

- Develop a site specific rocky shore interpretive plan that includes themes, signage guidance, recommended programs and materials. In the meantime, use the agencies existing plans as guidance for interpretive services.
- Work with partners and volunteers to improve the availability of on-site interpretive services.
- Organize OPRD led groups so that they avoid peak visitation periods.
- Increase coordination with schoolgroups. Encourage groups to visit during days that do not necessarily have the lowest tides of the year. This will help spread out visitation and improve visitor experiences while helping to protect the resource.
- Provide interpretive services to school groups to improve their educational experience at the parks.
- Improve visitor awareness and understanding of the special protected status of the marine protected area and research reserve.
- Deliver consistent messages about tidepool etiquette, including encouraging rocky shore recreation (including OPRD facilitated trips) to occur at the sand/rock interface.
-
- Coordinate with the tribes on any interpretive stories that relate to cultural resources.
- Provide information to harness the increasing availability and interest of aging Oregonians in volunteering in their communities.
- Communicate information about park resources and services on the OPRD website. Use social networking sites to provide up-to-date information, particularly

interpretive events.

- Provide information on OPRD produced tide-charts (e.g., a link to access the tide-chart online, information on rocky shores etiquette and ecology).

Goal 5: Form partnership and agreements to aid in achieving goals

Many of the issues identified in the scoping for these parks identified partners as part of the solution.

- Identify and follow-through with viable potential partnerships, as practicable, to work through the above listed activities, and new ones that emerge in the future.
- Work with partners to improve volunteer opportunities, management, training, and recruitment to enhance on-site interpretation.
- Develop and formalize agreements as necessary to promote ongoing partnerships.
- Promote the use of the above goals and strategies when working with others as partners in joint activities.

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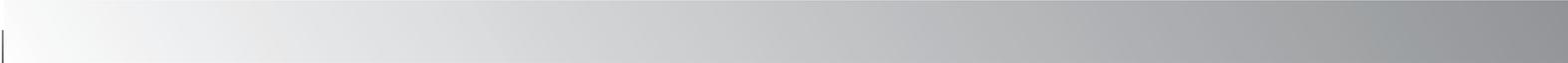
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INTRODUCTION

Oregon's rocky intertidal areas are subject to increasing human disturbance as population and interest in coastal recreation in these areas grows. Tidepools, cliffs, rocks, and submerged reefs support an ecologically rich and diverse ecosystem at the boundary of the land and sea along 161 miles (41%) of Oregon's shoreline. These rocky shore areas, particularly the 82 miles (21%) of rocky intertidal habitat (fig. 1), attract hundreds of thousands of visitors annually.

Oregon Parks and Recreation Department (OPRD) is charged with overseeing the management of Oregon's Ocean Shore State Recreation Area (Ocean Shore), which includes beaches and rocky intertidal areas along the coast. However, there is very little information about visitor use of Oregon's rocky shores and what impact visitors are having. OPRD recently completed a survey of Oregon's sandy beaches, however, the rocky shore segments of the coast were not covered (Shelby and Tokarczyk, 2002; OPRD, 2005). General day-use figures at coastal

state parks indicate that use of rocky intertidal areas is likely increasing with the possibility of hundreds of thousands of people visiting these areas annually (fig. 2).

People use the rocky shores to play, conduct scientific research, supplement their livelihoods, perform traditional tribal activities, harvest food, and to teach and learn about nature. From exploring the unique creatures of the rocky intertidal to fishing from rocky outcroppings and observing marine mammals, activities on Oregon's rocky shores are diverse. The rocky shores have ecologic, economic, and social value to a wide range of stakeholders, from local communities to citizens of the world.



Visitors learn about tidepools from a roving state park ranger

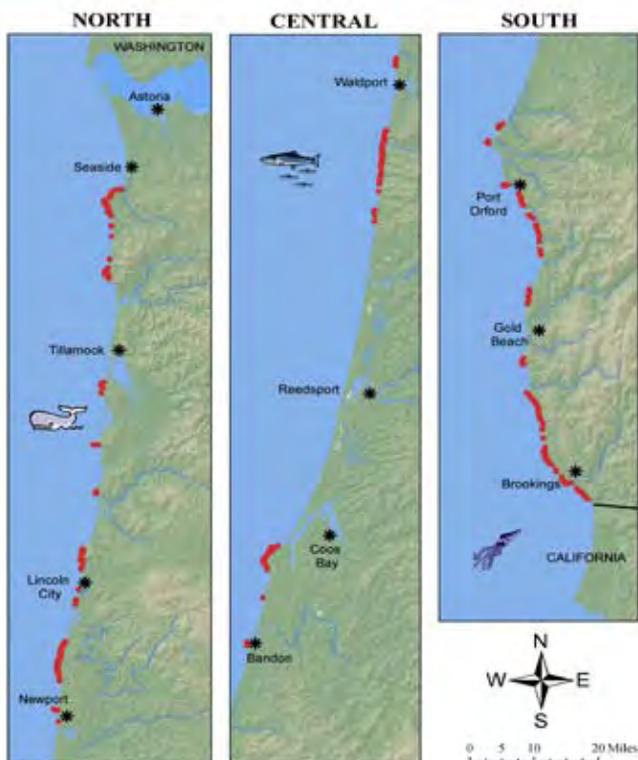


Figure 1. Rocky intertidal habitat along the Oregon Coast

Although sixty-one percent of the visitors to Oregon's beaches are Oregonians, a large number are from out of state, drawn for various reasons to the unique and beautiful coast (Shelby and Tokarczyk, 2002). Therefore, although Oregon's population increase is likely to be reflected in visitor use of coastal areas, out-of state visitors will also play a role. Tourist revenue in Oregon's coastal counties is increasing, which suggests that more out-of-state visitors are using Oregon's coast (Dean Runyan Associates, 2004). This increase in population and tourism is also reflected in visits to Oregon's state parks next to rocky shores (fig. 2).

Two of Oregon's coastal resources that depend upon

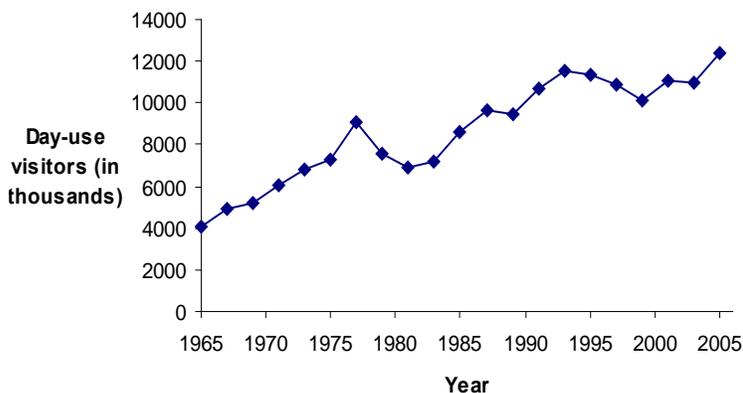


Figure 2. Human use trends for rocky shore adjacent Oregon State Parks from 1965-2005. Data comes from automated parking lots counters.

rocky shore areas (marine wildlife and tidepools) have been identified by coastal visitors as ones they are most interested in learning about (Shelby and Tokarczyk, 2002). Additionally, results from a study of recreation preferences of Oregon's aging population show that more than half (59%) of Oregonians aged 42-80 take part in ocean beach activities, and 37% spend time exploring tidepools (OPRD, 2007).

Oregonians age 42-80 rank ocean beach activities and exploring tidepools as their fifth and eight favorite forms of outdoor recreation (OPRD, 2007). Based on the survey, that use is evenly distributed among income brackets, likely because it is virtually cost-free, except for traveling to the sites. Oregonians in this age bracket make up 42% of Oregon's population (PRC, 2005), which indicates at least approximately 600,000 people explore Oregon's tidepools each year. This is similar to the results from a recent survey on Fishing, Hunting, Wildlife Viewing, and Shellfishing in Oregon in which tidepooling was listed as a type of wildlife viewing (Dean Runyan Associates, 2009). Results relevant to rocky shores for the South Coast and statewide totals are shown in Table 1.

Impacts of human use on rocky shore areas range from the effects of trampling on sensitive intertidal habitat (Brosnan and Crumrine, 1994), to collection of intertidal resources (Castilla, 1999) and conflicts between humans and marine wildlife (Riemer and Brown, 1997). Comprehensive, interdisciplinary management of rocky shores that recognizes the

need to balance visitor use and natural resource stewardship is crucial to successful coastal management.

Table 1. Wildlife Viewing Trips in Oregon by Type of Wildlife Viewed (in Thousands). Source: Dean Runyan Associates, 2009

	Marine		
	Birds	Mammals	Tidepools
South Coast			
Overnight	76	34	10
Day (50+ miles)	50	30	10
Local (under 50 miles)	69	33	25
TOTAL	195	97	45
Percent of statewide total	3.5	15.0	8.3

Statewide Total			
Overnight	1459	278	259
Day (50+ miles)	1063	159	129
Local (under 50 miles)	3032	208	154
TOTAL	5554	645	542

Note: Trip estimates are for Oregon residents and nonresidents.

One of the potential impacts on rocky intertidal areas is human recreation; therefore, to better manage the interface between human use and natural resources, information about visitor use numbers, recreation types and impact of human use is needed. This information is also helpful when looking at ways to improve recreational and interpretive opportunities at these locations.

PURPOSE

As a first step towards achieving this goal of improved management, visitor use and biological data was collected at the rocky intertidal shoreline on the southern Oregon coast at Harris Beach State Recreation Area (SRA) between May and August of 2009. This information, in conjunction with input from park management and stakeholder advisory committees was used to develop the following site management plan for Harris Beach, as well as the other rocky shore areas within the Harris Beach Management Unit. Those parks, from north to south are: Samuel H. Boardman State Scenic Corridor (SSC), Harris Beach State Recreation Area (SRA), and McVay Rock State Recreation Site. Other parks in the management unit without accessible rocky

intertidal shoreline are not included in this planning process. An overview diagram of the planning process is presented in figure 3.

The focus of this plan is on improving management based on *existing* authorities and responsibilities. Current information is used, along with existing designations to work within OPRD jurisdiction, along with partner agencies to develop and implement this rocky shore areas site management plan. Upland issues not directly related to use of the ocean shore/rocky intertidal areas, or upland activities that could impact the rocky shores, are not addressed in this plan. Rocky shores are a dynamic ecosystem in which a lot of change occurs naturally. However, for those activities that are managed, OPRD plans to use this document to help anticipate, adaptively manage, and reduce the negative impacts of future actions.

The plan will be used by OPRD staff, in consultation with its partners, to guide future rocky shore resource and recreation management, as well as minor facility improvements (e.g., trail maintenance, informational signage) and to enhance interpretive opportunities. Advisory committees provided OPRD with their view of the issues and concerns, ideas and proposals for improving site management. Public input accepted during a public meeting as well as a (14-30-day TBD) comment period was (WILL BE) used to refine the draft plan.

Site management plan goals and objectives

The general goals presented in this site management plan are in keeping with OPRD's mission to "provide and protect outstanding natural, scenic, cultural, historic and recreational sites for the enjoyment and education of present and future generations." The following general goals and site planning objectives are fleshed out in more detail based on the specific sites and are intended to provide for an appropriate balance between rocky shore resource protection and public recreational access and enjoyment.

The general goals addressed in the following site management plan are the following:

- Protect, manage and enhance as appropriate, outstanding natural, cultural and scenic resources in the parks.
- Provide recreation opportunities and experiences that are appropriate for the park resources and recreation settings.
- Provide for adequate management, maintenance, rehabilitation, and park operations.
- Provide for safe, efficient, identifiable and pleasant access and circulation.
- Promote public awareness, understanding, appreciation, and enjoyment of the recreation settings through resource interpretation.
- Form partnership and agreements to aid in achieving goals.

OPRD wants to take a closer look at how to best manage these sites, particularly the rocky shore resource and public use of it, as well as to learn how to best offer educational opportunities for visitors to understand the resource and its importance. In Oregon's Ocean Shore Management Plan, the need to do this type of site based management was recognized, and a recommendation was made to prepare such plans (OPRD, 2005). This effort is the first attempt to follow through with that recommendation for these areas. A review of Oregon's current management of rocky shore areas was also conducted, and completing site management plans was one of the primary recommendations (Hillmann, 2006).

The reasons for a site planning process for these locations include the following primary objectives:

- Plan for public enjoyment and protection of state park and ocean shore resources.
- Provide a forum for stakeholder discussion and participation about each site.
- Understand the current management designations and what they mean for use and access for each site.
- Direct and educate visitors through on-site interpretation about the importance of the rocky shore resource and the particular site designation.
- Address current recreational use levels, activities and patterns, and determine how best to provide for recreational use without harming the rocky

Site Planning Process

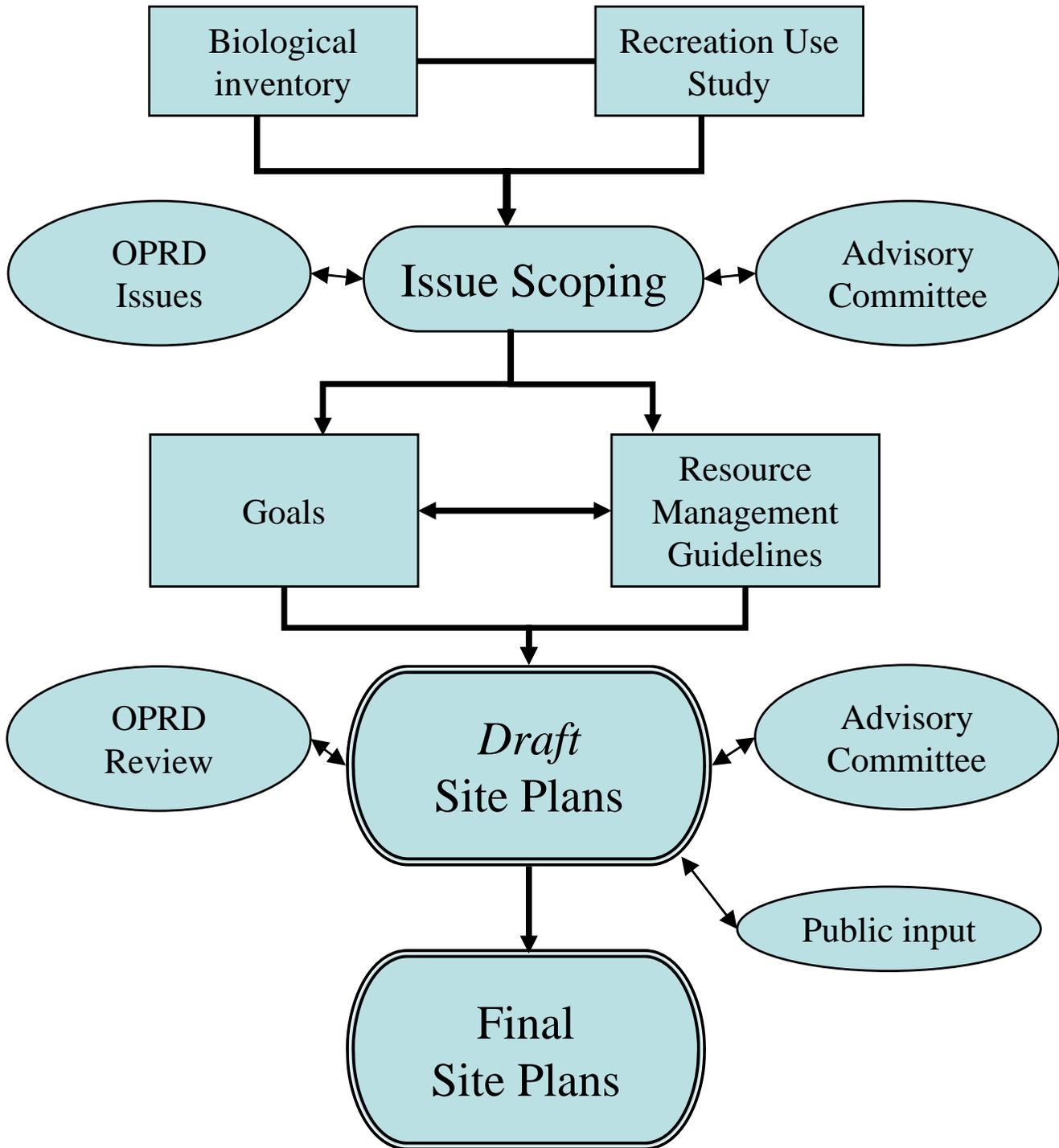
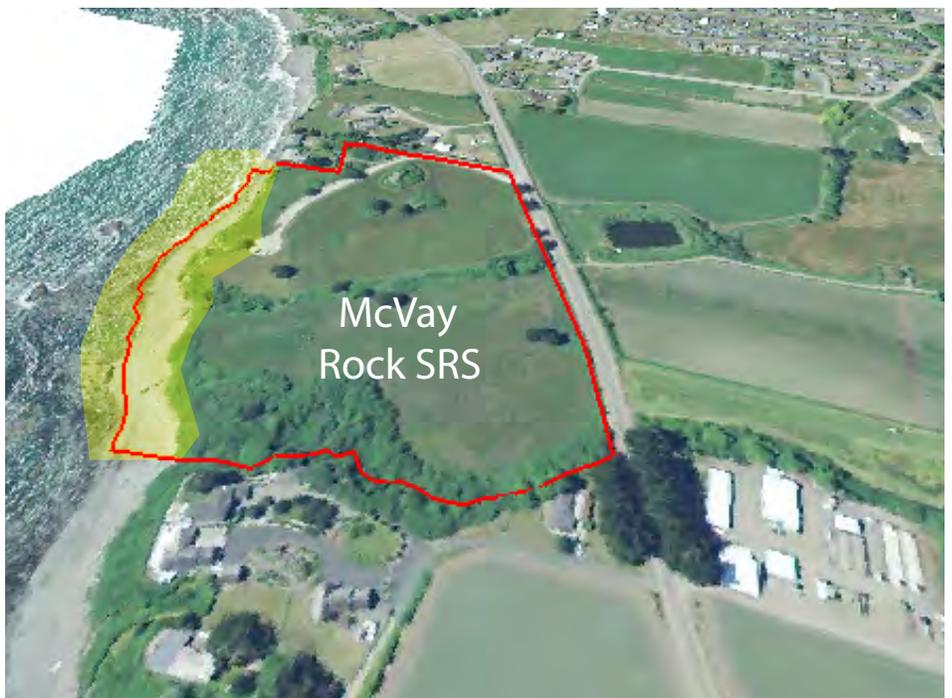
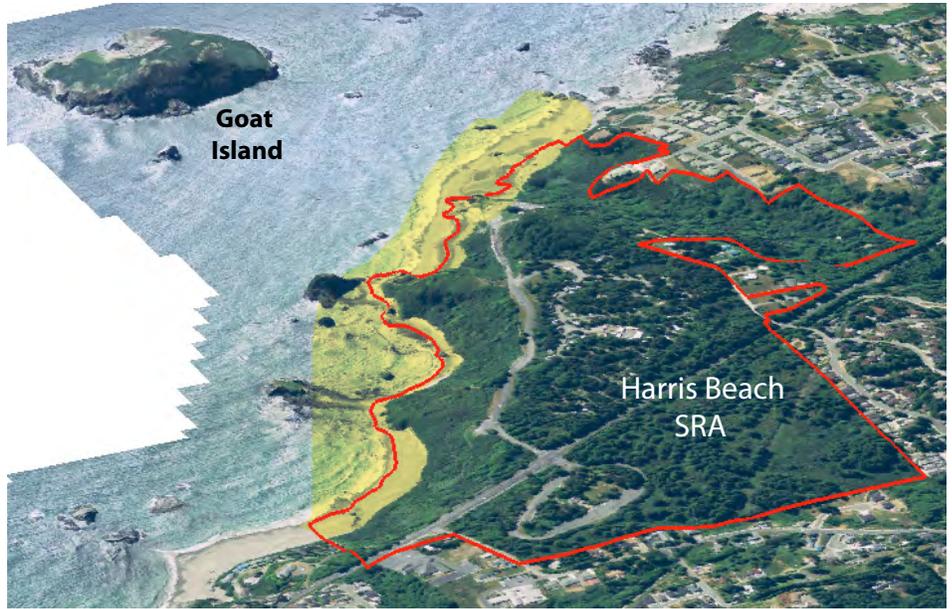


Figure 3. Flow chart showing the planning process for rocky shore site planning



Aerial photos of the Harris Beach Management Unit Rocky Shore Parks from SH Boardman to McVay Rock. The scope of this plan is the rocky shoreline and related issues (the approximate area of interest is highlighted in yellow on this map, approximate park boundaries are in red).



Aerial photos of key areas in the Harris Beach Management Unit parks. From top left: Whaleshead Beach and Lone Ranch Beach (Samuel Boardman SSC), Harris Beach SRA, and McVay Rock SRS.

SITE MANAGEMENT PLAN

Existing Conditions

Location:

The Harris Beach Management Unit State Parks are located in or near Harris Beach, in Curry County, Oregon. The parks are located approximately 250 miles southwest of Portland and about 50 miles west of Grants Pass (fig. 4). From north to south, the parks are: Samuel H. Boardman State Scenic Corridor (SSC), Harris Beach State Recreation Area (SRA), and McVay Rock State Recreation Site (SRS).

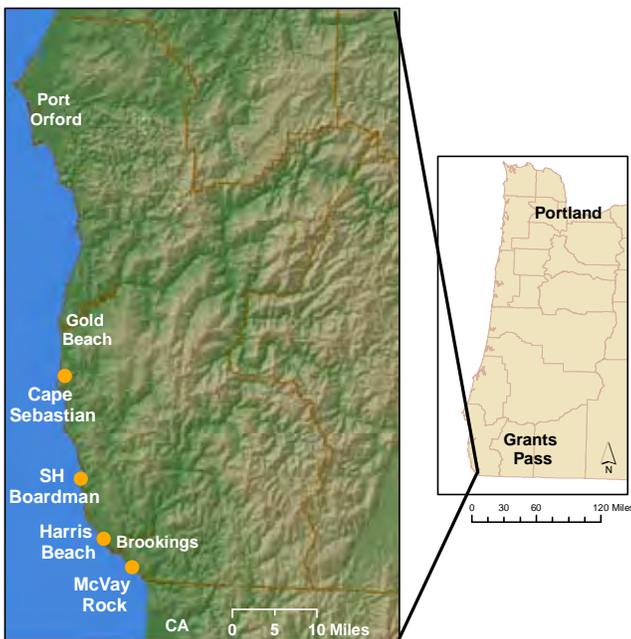


Figure 4. Location of Harris Beach Management Unit Parks with accessible rocky shorelines on the Oregon coast

Description:

The southern Curry County shoreline is characterized by steep cliffs, rocky intertidal areas, cobble and sand beaches, several large offshore islands (including the largest in the state), nearshore rocks, along with some subtidal reefs and kelp beds (Fox et. al., 1994).

The geology is relatively complex along the shoreline varying from sedimentary strata of various formations (e.g., sandstone, conglomerates, siltstone along with

volcanic boulders and cobble). McVay Rock got its name from the former large seastack that rests within the current park boundaries but was destroyed by quarrying so that little remains (OREBIN, 1975).

Harris Beach State Recreation Area was named after George Scott Harris, who used to own the parcel sold to the state to create the original park. Goat Island, offshore of Harris Beach SRA is the largest offshore island in Oregon. Goat Island was established as a bird sanctuary in 1935 and is closed to the public for wildlife protection as part of the Oregon Islands National Wildlife Refuge. The parks have been a popular tourist destination since their establishment in the middle of the 20th century.

The shoreline along this stretch of coast is arguably some of the most scenic in the state, with rugged shorelines, dramatic cliffs, offshore rocks, rocky coves and sandy beaches. The parks, particularly Harris Beach, are a popular destination for tourists. McVay Rock is primarily used by local residents. Recreational pursuits include sightseeing, beachcombing, tidepooling, fishing, kayaking, picnicking, and wildlife viewing. Camping is available at Harris Beach.

McVay Rock State Recreation Site

The 18-acre OPRD property known as McVay Rock SRS provides public beach access from a small (~25 car) parking area. Much of the upland ownership south of the Chetco River is private, so McVay provides welcome public access. The property is primarily a parking area and beach access. However, there is also a lawn area including a portion that is



McVay rock shoreline at Sunset

fenced as an “off-leash” dog area.

Harris Beach State Recreation Area

The approximately 173-acre OPRD property known as Harris Beach State Recreation Area provides relatively easy public access to the entire shoreline adjacent to the park, especially on the northern end (fig. 5). Two creeks, Harris Creek and Eiler Creek flows onto the beach on the north and south end of the park.



Rocky intertidal shoreline at Harris Beach State Park

Samuel H. Boardman State Scenic Corridor

The approximately 1471-acre Boardman property provides beach access at several of the 13 pull-outs and stunning views along the entire 12 mile-long stretch of park. The majority of the rocky shoreline, characterized by its ruggedness, provides visual-only or very difficult access to the shoreline except at OPRD pull-outs. The Oregon Coast Trail provides



Shoreline on the northern end of Samuel H. Boardman SSC

stunning views of this portion of the coastline, skirting along cliff's edges.

Classifications:

State Recreation Site

McVay Rock is classified as a State Recreation Site (SRS). The primary purpose of a SRS is to provide recreational resources and access to them (OPRD, 2005). Recreational resources are the predominant resource. In this case the beach is the primary resource. The areas are generally intended to support moderate to high use intensity (OPRD, 2005).

State Recreation Areas

Harris Beach is classified as a State Recreation Area (SRA). The primary purpose and resources of a SRA is the same as for a SRS.

State Scenic Corridors

Samuel Boardman is classified as a State Scenic Corridor. The primary purpose of a SSC is to protect corridors and viewpoints along state highways. Scenic resources are the predominant resource. Visitor use is generally intended to be low except at viewpoints or waysides (OPRD, 2005).

Other classifications include the status of the shoreline adjacent to most of Harris Beach as an Oregon Department of Fish and Wildlife (ODFW) Marine Garden and Intertidal Research Reserve (fig. 6). Collection of shellfish and other marine invertebrates is prohibited in Marine Gardens, with a few exceptions. Collection is limited in the research reserve, except for some shellfish and by scientific/ educational permit.

The Brookings Research Reserve includes:

“All rocky areas, tide pools, and sand beaches situated between extreme high tide and extreme low tide lying between a point 1/2 mile north of Harris Beach State Park on the north, and the mouth of the Chetco River on the south (except that portion of the area within the Harris Beach Marine Garden) (ODFW, 2010).”

Harris Beach MU Rocky Shores: Existing Conditions

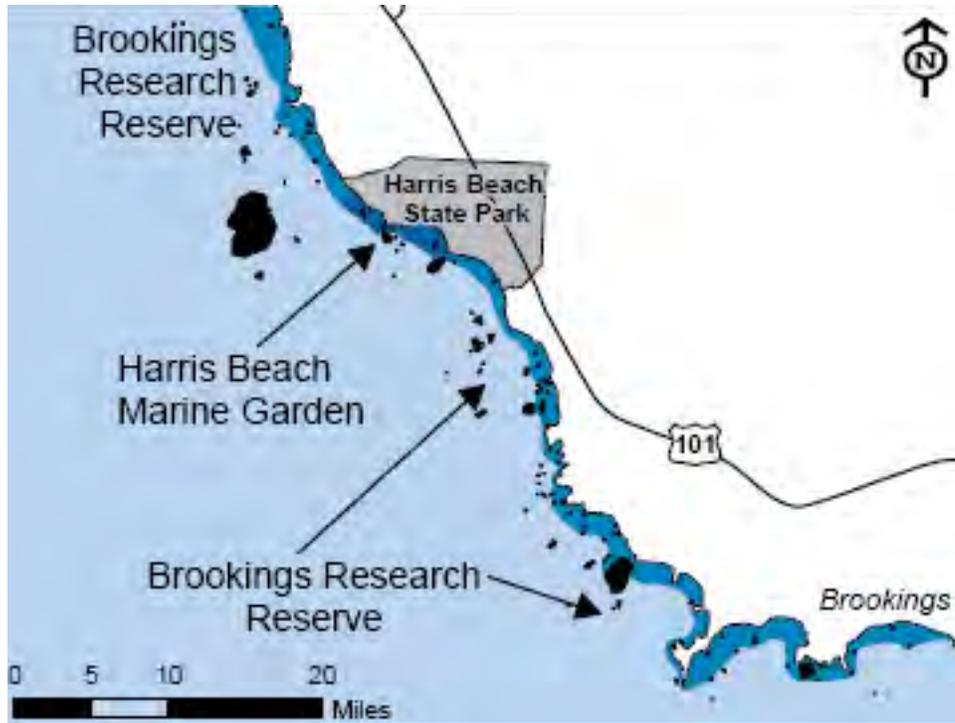


Figure 5. Maps showing the ODFW Marine Garden and Research Reserve (ODFW, 2010)

The Harris Beach Marine Garden includes: “All rocky areas, tide pools, and sand beaches situated between extreme high tide and extreme low tide lying between a line projecting perpendicular to shore from the Harris Beach State Park beach access parking area on the north, and a line projecting perpendicular to shore from the road entrance to Harris Beach State Park off of Highway 101 on the south (ODFW, 2010).” Many of these shoreline areas adjacent to these parks are also listed in the Oregon Territorial Sea Plan (TSP).

S.H. Boardman: There are several suggested designations in the TSP that are not currently being implemented. The rocky intertidal habitat on the northern end of the park, near Hooskanaden Creek and Cape Ferrelo further south, are both suggested as “Habitat Refuges” because of the diversity of marine invertebrates and undisturbed nature of the habitat due to difficult access and low use (OPAC, 1994).

The intertidal area south of Cape Ferrelo (South Sam Boardman State Park) is listed as “Not Yet

Designated” because it “needs more detailed study and assessment (OPAC, 1994).”

Both Twin Rocks (offshore of Lone Ranch beach) and Goat Island (offshore of Harris Beach) are listed as “Priority Rocks” because of their importance to seabirds (OPAC, 1994). They are also protected as



Signage at the top of the trail down to Harris Beach

part of the Oregon Islands National Wildlife Refuge.

Harris Beach: This site was a intertidal permit area (no collection except by scientific/educational permit issued by ODFW) prior to the TSP being published. The area is now designated a “Marine Garden”, a classification discussed above. However, there are a few management guidelines that go along with listing in the TSP (OPAC, 1994). Those are discussed in the Natural Resource Management Section.

All rocks, reefs and islands surrounded by water at mean high tide are within Oregon Islands National Wildlife Refuge and are closed to the public at all times for wildlife protection.

Within these parks, there are multiple cultural sites listed in the National Register of Historic Places.

Facilities:

OPRD facilities at the sites are typical of beach access and scenic overlook day-use areas, with the addition of camping facilities at Harris Beach. For the purposes of this plan, the focus is on ocean shore access and interpretation, so facilities not pertinent to that topic are not described. Parking is dispersed in a variety of parking lots along the 12-mile stretch of the Samuel Boardman Corridor as well as at several points within Harris Beach and at McVay Rock.

McVay Rock

Day-use parking for approximately 25 vehicles is in a gravel lot off of local roads, approximately 1/2 mile from HWY 101 (fig. 6). It is from this parking lot that the trail leads down to the beach access point. Parking is essentially, along with the beach access itself, the only related amenity provided at this park property. However, there is also a relatively new fenced off-leash dog area.

Harris Beach

One main day-use lot and three pull-offs provide beach access, along with a trail system, including one from the campground (fig. 7). The main day-

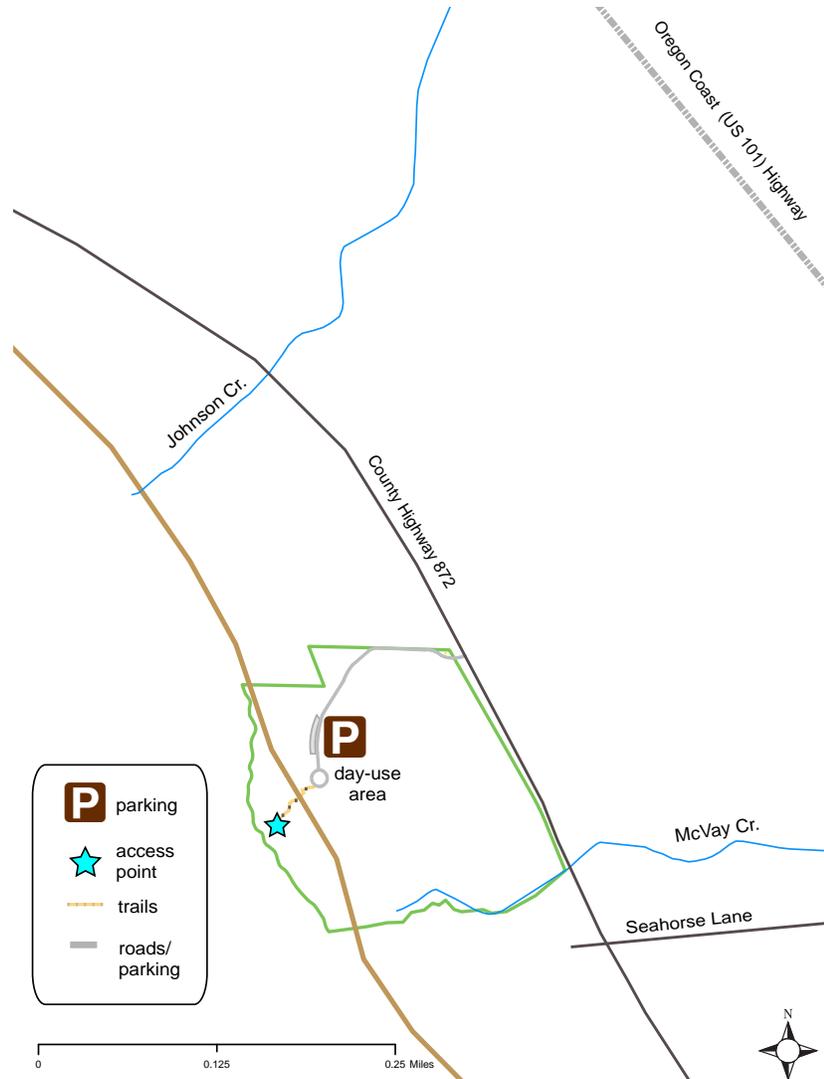


Figure 6. McVay Rock facilities map

use parking lot has parking for 60 vehicles, There is a new ADA-accessible ramp down to the beach at this area.

- Rock Beach access: 6 stalls (where the campground trail comes out).
- Sunset Point (middle parking area, connected by a trail to South Beach and Rock Beach): 12 stalls
- South Beach (south end of park, near entrance): 12 stalls. Together all of these lots provide a capacity for around 90 day-use vehicles

Other facilities at the park include a full-service campground (155 campsites) with close proximity to the day-use area, a day-use rest-room building, and a variety of picnic tables and trails.

Harris Beach MU Rocky Shores: Existing Conditions

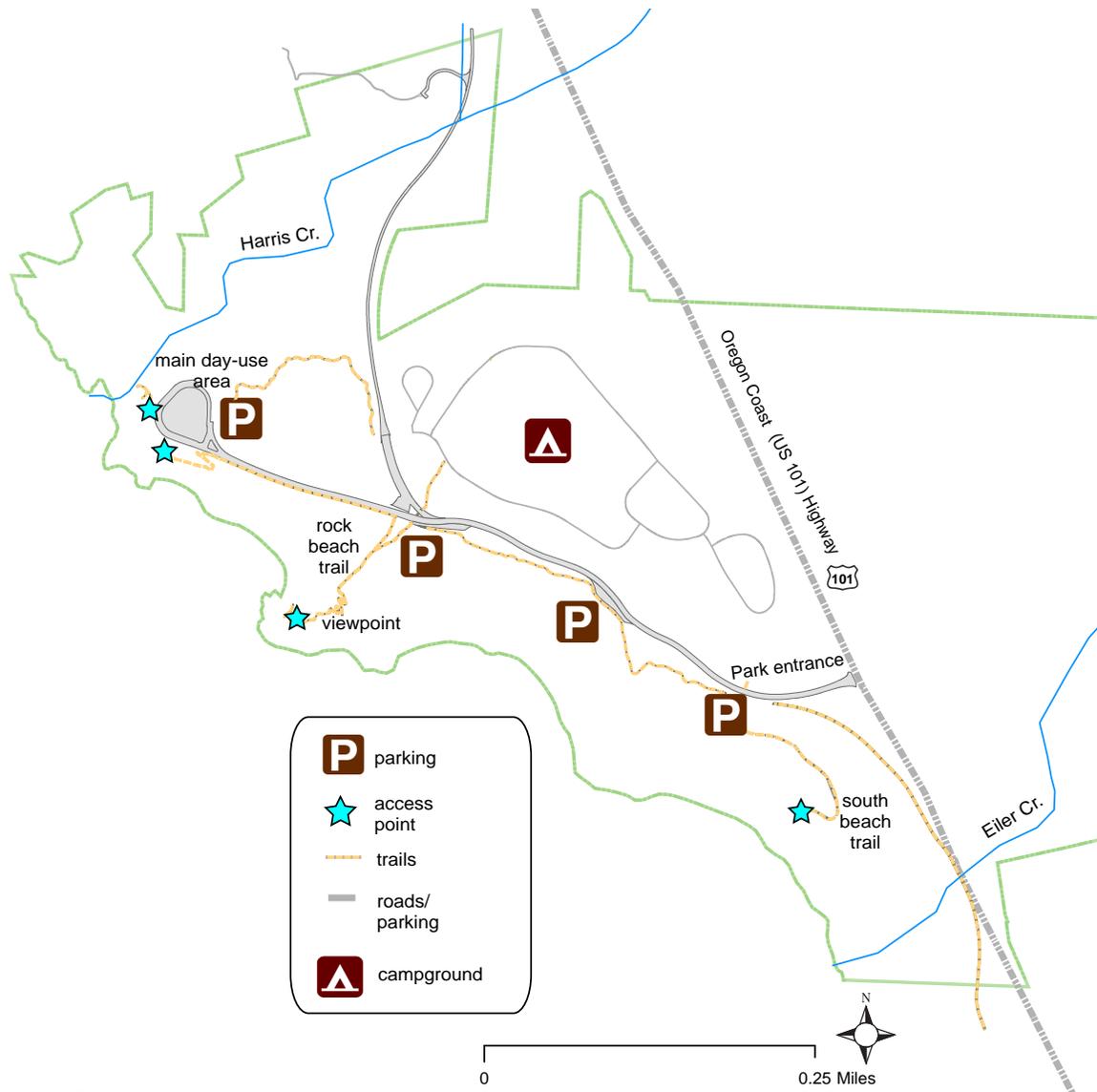


Figure 7. Harris Beach SRA facilities map

S.H. Boardman

The 12-mile long scenic corridor that makes up Samuel Boardman SSC is made up of many small day-use areas (fig. 8):

- Arch Rock Viewpoint: This pull-out area provides parking for 15 vehicles.
- Arch Rock Picnic Area: This picnic area and viewpoint has day-use parking for 33 cars. There is a small vault toilet on site.
- Spruce Island Viewpoint: Pull-out with small gravel parking area (24) and viewpoint
- Thunder Rock Cove Viewpoint: Trailhead, gravel parking lot (25)
- Natural Bridges Trailhead/Viewpoint: small gravel parking area (14), viewing platform (requires short hike on trail)
- North Island Trailhead/Viewpoint: gravel pull-out (~14), trailhead
- Thomas Creek Bridge Trailhead: parking (38), trailhead, views to bridge/canyon
- Indian Sands Beach: Gravel parking (58) /scenic viewpoint
- Whaleshead Beach: beach access/parking (38)/toilets/picnic tables/short access road off 101. Vault toilet.
- Whaleshead Viewpoint: viewpoint/trail access/ (parking for 46)
- House Rock Viewpoint: parking (46), trail access

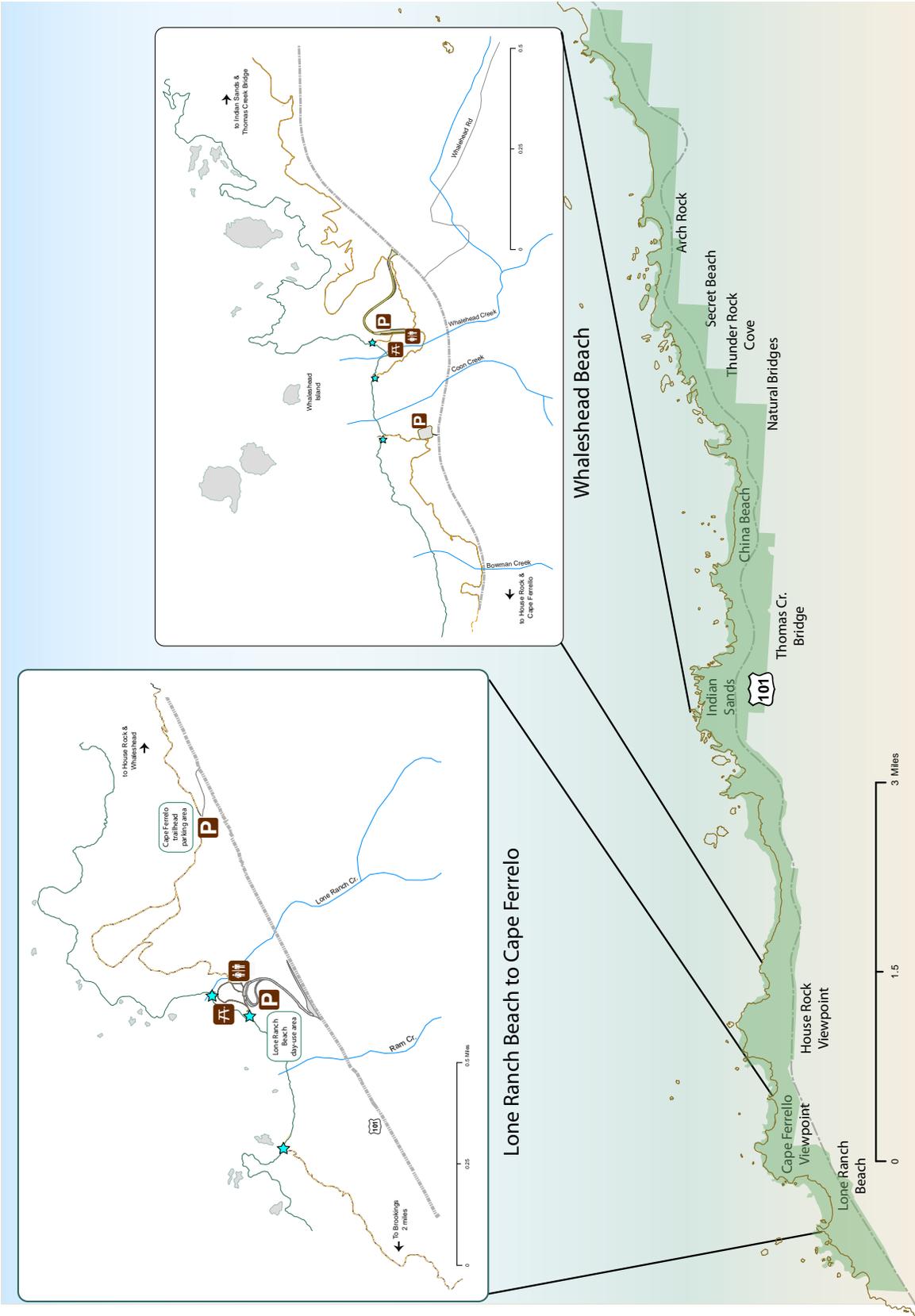


Figure 8.SH Boardman SSC facilities map

Harris Beach MU Rocky Shores: Existing Conditions

- Cape Ferrello Viewpoint: Short access road off 101 leads to parking (16 stalls). Views require a short hike to a grassy headland viewpoint
- Lone Ranch Beach: picnic, beach access, vault restroom, parking (30)
- Miner Creek (Secret Beach): “Natural” no count of stalls.

Neighborhood and Zoning:

The Pacific Ocean and the Oregon Islands National Wildlife Refuge fronts all of the parks on their western borders. Highway 101 runs along the eastern boundary of most of S.H. Boardman, although there is some non-developed land on the east side of the highway in several areas. The Refuge lands are closed to the public to protect sensitive seabirds and marine mammals and their habitat (USFWS, 2009c). Private property is on the north, south and east. S.H. Boardman is zoned Public Facility (PF) by Curry County. Overlays include coastal shorelands, beach and dunes, and natural hazards that effect the parcel (OPRD, 2003).

The highway bisects Harris Beach, with the campground and day-use on the west side and the picnic area on the east. Harris Beach is located within the City of Brookings. Most of the park is zoned public/open space (POS), with a small portion zoned as residential. It is surrounded by private property to the north and south and Highway 101 (and more private property) to the east.

These parks are included in a master plan for the “Curry County State Parks Master Plan” (OPRD, 2003).

Acquisition and Ownership:

The state acquired these properties over a number of years through a combination of land purchases and donations from a variety of parties.

SH Boardman

Most of the property was purchased in the late 1940’s/early 1950’s from private landowners as well as the BLM. Borax Consolidates, Ltd. donated

approximately 300 acres for the park in 1950 with some continued rights for timber and grazing (OPRD, 2003).

Harris Beach

This property was acquired between 1948 and 2007 through a combination of land sales from numerous private citizens/organizations, the federal government and one transfer from Coos County. The most recent acquisition was through a donation from The Nature Conservancy.

McVay Rock

This property was acquired through multiple purchases from private landowners in the early 1970’s for public beach access (OPRD, 2003).

Natural Resources:

Resources include diverse intertidal plant and animal communities, seabird nesting sites and use of the use of Oregon Islands National Wildlife Refuge’s (NWR) offshore rocks by marine mammals (OPAC, 1994).

The intertidal habitat, particularly within the portion of SH Boardman SSC is “one of the most diverse assemblages of marine invertebrates on the entire coast. The habitat is still relatively intact and undisturbed because of difficult access and low use (OPAC, 1994).”

There are some kelp beds in this area (bull kelp-*Nereocystis*). Gray whales (*Eschrichtius robustus*) use the offshore area for feeding and are frequently spotted by visitors during their migrations up and down the coast. Brown pelicans (*Pelecanus occidentalis*) sometimes use the offshore NWR rocks for roosting.

All of the NWR offshore rocks in the area, including both the large (e.g., Whaleshead, Twin Rocks and Goat Island) and small are important and protected for seabird breeding and resting areas. Harbor seals use rocks throughout the area (OPAC, 1994).

The U.S. Fish and Wildlife Service’s (USFWS) Oregon Coast National Wildlife Refuge Complex manages

Harris Beach MU Rocky Shores: Existing Conditions

all of the important and sensitive rocks and islands in the waters adjacent to the parks. These areas provide important breeding and resting habitat for seabirds and marine mammals. All of the rocks, reefs and islands that are surrounded by water at mean high tide are protected and managed by the USFWS and are closed to all public use (USFWS, 2009c).

A 2007 Catalog of Oregon Seabird Colonies notes that surveys of the area (including mainly the various near/offshore rocks) have found pigeon guillemots (*Cephus columba*), black oystercatchers (*Haematopus bachmani*), gulls, pelagic cormorants (*Phalacrocorax pelagicus*), Brandt's cormorants (*P. penicillatus*), double-crested cormorants (*P. auritus*), Leach's storm petrel (*Oceanodroma leucorhoa*), fork-tailed petrel (*O. furcata*), Cassin's auklet (*Ptychoramphus aleuticus*), rhinoceros auklet (*Cerorhinca monocerata*), tufted puffin (*Fratercula cirrhata*), and common murre (*Uria aalge*) (Naughton et al., 2007).

This stretch of coastline has some of, if not the best, black oystercatcher (oystercatcher from now on) habitat on coast, with some of the highest numbers of nesting pairs on the coast (Elise Elliott-Smith, pers. comm., 11/5/2010). Oystercatchers have been recorded in multiple areas in both Harris Beach and S.H. Boardman in every survey conducted between 2005-2009 (USFWS, 2007; USFWS, 2009b).

The highest number of oystercatchers surveyed at any one time during the breeding season on the Oregon coast was at Harris Beach (USFWS,

2007). Surveys were only conducted in 2006 and 2009 at McVay Rock, but in both of those years, oystercatchers were observed (USFWS, 2007; USFWS, 2009b). Monitors were unable to locate and monitor all nests at all sites every year since surveys began. In 2008, when the largest number of nests were monitored, nesting pairs were found within the Harris Beach MU in these general areas: Arch Rock, Deer Point to Horse Prairie Cove, Spruce Creek, Whaleshead Rocks, House Rock, Lone Ranch, Rainbow Rock, Harris Beach State Park, and Chetco Cove (Elise Elliott-Smith, pers. comm., 11/24/2010). The individual site with the most number of observed nests (10) was near Harris Beach State Park.

Approximately 350 oystercatchers are counted annually in Oregon and there are an estimated 11,000 birds in the entire species (Elise Elliott-Smith, pers. comm., 9/30/2009). Although there is very little information about critical wintering habitat for oystercatchers, the Harris Beach/Samuel Boardman area is potentially a very important as up to 60 birds have been observed at one time during a winter storm (Elise Elliott-Smith, pers. comm., 12/2/2010). Oystercatchers do not always use the same rock for nesting every year. They will choose other rocks in the vicinity, including those connected at low tide since they are trying to find their own rock if they can (Elise Elliott-Smith, pers. comm., 11/5/2010). During the nesting season, oystercatchers are sensitive to human and dog disturbance. Off-leash dogs and people illegally climbing on coastal rocks and islands can cause this species to abandon their nests (Dawn Grafe, pers. comm., 12/7/2010).

Table 2 shows the species documented during the intertidal biodiversity study conducted by the Partnership for Interdisciplinary Studies (PISCO) at Oregon State University. A detailed explanation of the results of the study can be found in the Appendix. Information about some of the key results are included in this section. The zones used by PISCO are described somewhat in the appendix but in more detail elsewhere (including methods and tidal heights) in Schoch et al. (2006).

An excerpt from the PISCO report (Rilov, 2010) helps



Black oystercatcher at Harris Beach

describe the two sites surveyed, Harris Beach North (HBN) and Harris Beach South (HBS):

“As is typical of the southern Oregon coast, both sites have mostly vertical intertidal surfaces. At the north site, the low and low-mid shore surveyed were primary large boulders and the boulders were scattered across the sandy bottom...The mid shore was half vertical and half horizontal. The south site had sheer vertical surfaces at the two lowest shore levels and the higher levels had a gentler slope in some parts... Because the structure of the two sites was not comparable, and seascape is a strong determinant of community structure, it is not really appropriate to compare the sites based on visitation levels. In any case, those vertical walls in the south are probably not much affected by humans because they cannot be trampled and access to them is limited most of the time.”

Local offshore seascape (sandy vs. rocky) influences the community within the adjacent rocky intertidal. The report designates sites “with a rocky reef subtidal bottom as reef-to-reef (R-R) seascape, and sites with a sandy subtidal as reef-to-sand (R-S) seascape.” At Harris Beach, both sites are considered R-S sites. However, at the lower levels within the sites, composition differences may be due to “small scale topography” since HBN has a lot of boulders whereas HBS is made up of mostly vertical walls.



Harris Beach rocky shoreline

The most abundant mobile species at all zones were periwinkles (*Littorina* complex) and limpets (*Lottia* complex). Interestingly, periwinkles were almost absent in the high shore at Harris Beach North.

High Shore

The high zone appears more similar across regions and seascapes than others. The PISCO report notes an exception, the distribution of the brown algae *Pelvetiopsis limitata*. At some sites it can cover more than 50% of the rocks and at others is almost absent. At the Harris Beach sites it ranges between approximately 20-30%. Intertidal community similarity data from Harris Beach North (HBN) shows that it is different from the rest of PISCO’s monitored sites, indicating that it has some unique features. The most noticeable differences at HBN are the near absence of periwinkles and the relatively high cover of *Mazzaella cornucopiae*.

When it comes to sessile species, the high shore at HBN is dominated by cover of rockweed (*Pelvetiopsis limitata*), whereas HBS has over half of the high shore dominated primarily by the barnacle, *Balanus glandula*. For mobile species, the high shore at HBN is strongly dominated by limpets (*Lottia* spp.) and HBS by both periwinkles (*Littorina* spp.) and limpets. Overall, the high shore at both sites is some of the most diverse (and in the case of HBN the most diverse) of all the 18 sites surveyed in 2009.

Mid Shore

Rock cover in the mid-shore at HBN is dominated by beds of the mussel *Mytilus californianus*, whereas HBS is dominated by *Balanus glandula*. The mid-shore mobile animal assemblage at both sites is dominated almost entirely by the limpets, *Lottia* spp. The only other mobile species that shows up in any numbers is the snail, *Nucella emarginata/ostrina* at both sites and snails, *Littorina* spp. at HBS.

Low/Mid Shore

The pattern at the low/mid shore (a transitional zone between low and mid shore) at both sites is the same as for the mid shore for mobile animals but not for macroalgae and sessile invertebrates. Both sites are populated with a multitude of seaweed species at the

Harris Beach MU Rocky Shores: Existing Conditions

Table 2. Listing of species documented at Harris Beach State Park during the intertidal biodiversity survey conducted by PISCO in 2009. Details can be found in the Appendix. This table is on this page and the following page.

Species	Common Name	Sites where present
<i>Acrosiphonia</i> sp.	green rope algae	HBS (low-mid, low)
<i>Ahnfeltia fastigiata</i>		HBS (low)
<i>Alaria marginata</i>	angel wing kelp (brown algae)	HBN (low-mid, low), HBS (low)
<i>Analipus japonicus</i>	fir needle (brown algae)	HBN (high)
<i>Anthopleura elegantissima</i>	clonal anemone	HBN (mid, low-mid, low), HBS (low-mid, low)
<i>Anthopleura xanthogrammica</i>	giant green anemone	HBN & HBS (mid, low-mid, low)
<i>Balanus glandula</i>	acorn barnacle	HBN & HBS (all zones)
<i>Balanus nubilus</i>		HBN (low-mid), HBS (low-mid, low)
Calcareous tube worms	(tube worms)	HBN/HBS
<i>Cancer</i> sp.	(crab)	HBN/HBS
<i>Ceratostoma foliatum</i>	foliate thornmouth	HBS (low-mid)
<i>Chthamalus</i> sp.	(barnacle)	HBN & HBS (all zones)
<i>Cirolana harfordi</i>		HBS (high/low)
<i>Cladophora</i> sp.	(green algae)	HBN (high)
<i>Codium setchellii</i>		HBN (low-mid), HBS (low)
<i>Constantinea simplex</i>	cup and saucer (red algae)	HBN/HBS (low)
Crustose coralline algae	crustose coralline algae	HBN/HBS (low-mid, low)
<i>Cryptopleura</i> spp.	hidden rib (red algae)	HBS/HBN
<i>Cryptosiphonia woodii</i>	(red algae)	HBN (high)
Diatoms	diatoms	HBN (low-mid)
<i>Dilsea</i> spp.	(red algae)	HBN/HBS
<i>Egregia menziesii</i>	feather boa (brown algae)	HBN (low-mid, low)
<i>Endocladia</i> spp.	sea moss (red algae)	HBN/HBS
Erect coralline algae	erect coralline algae	HBN/HBS (low-mid/low)
Fleshy crustal algae	fleshy crustal algae	HBN/HBS (all zones)
<i>Flustrellidra corniculata</i>	(bryozoan)	HBN/HBS (low)
<i>Fucus</i> sp.	rockweed	HBN/HBS
<i>Gymnogongrus</i> spp.		HBN/HBS (low)
<i>Hedophyllum sessile</i>	sea cabbage (brown algae)	HBN (low-mid/low)
<i>Henricia leviuscula</i>		HBN (low)
Hydrozoans		HBN (low-mid)
<i>Idotea</i> sp.	(isopod)	HBN/HBS
<i>Katharina tunicata</i>	black leather chiton	HBN/HBS
<i>Laminaria</i> sp.	oarweed (brown algae)	HBN/HBS (low)
<i>Lepidochiton</i> spp.	(chiton)	HBN/HBS
<i>Leptasterias hexactis</i>	(sea star)	HBN/HBS

Species	Common Name	Sites where present
<i>Littorina spp.</i>	periwinkle	HBN/HBS (all zones)
<i>Lottia spp.</i>	(limpet)	HBN/HBS (all zones)
<i>Mastocarpus spp.</i>	(red algae)	HBN/HBS (all zones)
<i>Mazzaella cornucopia</i>	(red algae)	HBN/HBS
<i>Mazzaella flaccida</i>	rainbow leaf (red algae)	HBN (mid/low-mid)
<i>Mazzaella linearis</i>	(red algae)	HBN (low-mid)
<i>Mazzaella splendens</i>	rainbow seaweed (red algae)	HBN/HBS
<i>Microcladia borealis</i>	sea lace (red algae)	HBNHBS
<i>Microcladia coulteri</i>	delicate sea lace (red algae)	HBN (low-mid)
<i>Mopalia sp.</i>	(chiton)	HBN/HBS
<i>Mytilus californianus</i>	California mussel	HBN/HBS
<i>Mytilus trossulus</i>	blue mussel	HBS
Nemertean	ribbon worm	HBN/HBS (mid to low)
<i>Neorhodomela spp.</i>	(red algae)	HBN/HBS
<i>Nereid complex</i>		HBN/HBS
<i>Nucella canaliculata</i>	channeled dogwinkle	HBS (mid)
<i>Nucella emarginata/ostrina</i>	dogwinkle	HBN/HBS
<i>Nudibranch complex</i>	nudibranch	HBN (low-mid)
<i>Odonthalia spp.</i>	seabrush (red algae)	HBN (low-mid)
<i>Osmundea spectabilis</i>	sea fern (red algae)	HBN (low-mid)
<i>Pachygrapsus crassipes</i>	striped shore crab	HBN/HBS
<i>Pargus sp.</i>		HBN (low)
<i>Pelvetiopsis limitata</i>	little rockweed (brown algae)	HBN/HBS
<i>Phyllospadix sp.</i>	surfgrass	HBN/HBS
<i>Pisaster ochraceus</i>	ochre sea star	HBN/HBS
<i>Plocamium sp.</i>	sea braid (red algae)	HBN/HBS
<i>Pollicipes polymerus</i>	goose neck barnacle	HBN/HBS
<i>Polysiphonia spp.</i>	poly (red algae)	HBN/HBS
<i>Porphyra sp.</i>	wild nori (red algae)	HBN
<i>Prionitis spp.</i>	bleach weed (red algae)	HBN/HBS
<i>Ptilota sp.</i>	(red algae)	HBN
<i>Pugettia spp.</i>	kelp crab	HBN/HBS
Sandy tube complex	(tube worms)	HBN/HBS
<i>Schizymenia spp.</i>	slimy leaf (red algae)	HBN (low-mid)
Solitary tunicates	tunicate	HBN (low-mid)
Sponges	(sponge)	HBN/HBS
<i>Tegula sp.</i>	turban snail	HBN (mid)
<i>Tonicella lineata</i>	lined chiton	HBN (low-mid, low), HBS (low)
<i>Ulva spp.</i>	sea lettuce (green algae)	HBN/HBS

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low-mid shore level.

Rock cover in the low-mid shore at HBN has slightly more *Neorhodomela* spp. than other seaweed species, followed by *Egregia menziesii*. The rocks in the low-mid shore at HBN are dominated by the barnacle, *Balanus glandula*. The most predominate seaweed is *Hedophyllum sessile*.

HBS appears to be most similar to the Yachats Marine Garden site and both HBS and HBN are quite distinct from the other sites surveyed along the rest of the coast. The survey report notes that “tube worms that were near absent in all sites in the past few years...appeared in patches in many sites along the coast and contributed up to 10% in mean cover at some sites (PISCO, 2009).” Tube worms were more abundant at southern sites, including HBS where they made up 7% of sessile assemblages by percent cover. They also appeared to the north, primarily at other R-S sites.

Low shore

The Harris Beach sites are comparable to other rocky to sandy (R-S) sites surveyed along the coast. This is likely because seascape contributes more than region to the rocky intertidal community structure at the low shore level. It appears that a few species contribute a lot to the differences between R-R and R-S sites. For example, the kelp, *Laminaria* spp. is uncommon at R-R sites and abundant at R-S sites. However, the purple sea urchin (*Strongylocentrotus purpuratus*) do not occur at R-S sites, “probably because they are sensitive to sand and perhaps also because of scarcity of their favorite food” (PISCO, 2009). On the other hand, the herbivorous limpets (*Lottia* spp.) are “more abundant in the low shore of R-S sites, perhaps because of reduced competition for food or exclusion of the competitors of their food by sand abrasion (PISCO, 2009).”

The low-shore is a highly diverse zone, and the dominating sessile species (predominately algae) change dramatically from site to site. The mobile animal assemblages does not vary much between sites with the dominant species at both being the limpet, *Lottia* spp. Both *Littorina* spp.

and *Lepidochitona* spp. are also quite abundant at HBN but not at HBS. The surfgrass, *Phyllospadix* dominates at HBN, while no one species does that at HBS where there are a wide variety of species (mainly seaweeds) present.

There is a high degree of variability between the areas surveyed (north vs. south) and the different tidal zones (high vs. low). Although for some sites (not Harris Beach), there is some indication that human visitation may play a role in the number and type of species present, no clear causation can be drawn from these initial, baseline data collection efforts. A true experiment would be needed to find causality and determine if human use has an effect on the community structure at this location, including controls and treatment areas. As funding is available (and need determined) this type of research may be possible by working with partners.

A list of “species of interest” documented in the vicinity of the park is located in Table 3. For example, black oystercatchers are known to nest in the vicinity. A survey for these species has not been conducted as part of this process (except for a few rocky shore species that happen to have been found in the biodiversity study), so this list is based on existing data including inclusion on a state or federal watch list, such as the ODFW Nearshore Strategy. This list includes species that are federally or state listed (threatened or endangered) as well as those on other lists of “at-risk” or sensitive species. Definitions for these categories can be found in Appendix D.

Species of interest that have been documented in the area that may potentially be impacted by rocky shore



Brown Pelican (Jamie Little, OPRD)

Table 3 Listing of “species of interest” that have been documented near the Harris Beach MU parks. Details about ranking and status can be found in Appendix D. Detailed surveys for these species were not conducted at the sites for this project, therefore there may be other species within the vicinity that do not appear on this list. Species with an asterisk are those that reside (at least part time) in rocky shore areas.

Scientific Name	Common Name	Heritage Global Rank	Heritage State Rank	Federal Status	State Status	ORBIC List	Documented in general vicinity of
Vertebrates							
<i>Anaxyrus boreas</i>	Western toad	G4	S3	---	SV	---	Mill Beach
<i>Bassariscus astutus</i>	Ringtail	G5	S3	---	SV	4	SH Boardman
<i>Batrachoseps attenuatus</i>	California slender salamander	G5	S2	---	---	2	SH Boardman
<i>Branta hutchinsii leucopareia</i>	Aleutian Canada goose	G5T4	S2N	---	---	2	Goat Island
<i>Cerorhinca monocerata</i> *	Rhinoceros auklet	G5	S2	---	SV	2	Goat Island, SH Boardman
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	G4	S2	SOC	SC	2	SH Boardman
<i>Falco peregrinus anatum</i> *	Peregrine falcon	G4T4	S2B	---	SV	2	SH Boardman
<i>Fratercula cirrhata</i> *	Tufted puffin	G5	S1B		SV	2	Goat Island, SH Boardman
<i>Haematopus bachmani</i> *	Black oystercatcher	G5	S3	SOC	SV	4	SH Boardman, Harris Beach
<i>Oceanodroma furcata</i> *	Fork-tailed storm petrel	G5	S2B	---	---	2	Goat Island
<i>Oncorhynchus mykiss</i>	Steelhead	G5T3Q	S2S3	---	---	2	Creeks in area
<i>Pelecanus occidentalis californicus</i> *	California brown pelican	G4T3	S2N	LE	LE	2	General area
<i>Phoca vitulina</i> *	Pacific harbor seal	---	---	---	NRStr	---	Goat Island
<i>Plethodon elongatus</i>	Del Norte salamander	G4	S3	SOC	SV	4	North of Brookings
<i>Ptychoramphus aleuticus</i> *	Cassin's auklet	G4	S2B	---	SV	2	Goat Island
<i>Rana boylei</i>	Foothill yellow-legged frog	G3	S2S3	SOC	SC/SV	2	SH Boardman
<i>Rhyacotriton variegatus</i>	Southern torrent salamander	G3G4	S3	SOC	SV	4	Harris Beach, SH Boardman
<i>Thomomys bottae detumidus</i>	Pistol River pocket gopher	G5T2Q	S2	SOC	---	1	SH Boardman

Plants/Fungus							
<i>Abronia umbellata ssp. breviflora</i>	Pink sandverbena	G4G5T2	S1	SOC	LE	1	SH Boardman
<i>Bryoria pseudocapillaris</i>	Lichen	G3	S3	---	---	4	SH Boardman
<i>Calypogeia sphagnicola</i>	Liverwort	G4	S2	---	---	2	Harris Beach
<i>Carex brevicaulis</i>	Short-stemmed sedge	G5	S2	---	---	2	SH Boardman
<i>Castilleja mendocinensis</i>	Mendocino coast paintbrush	G2	S1	SOC	---	1	SH Boardman
<i>Cladidium bolanderi</i>	Lichen	G4	S1	---	---	2	Harris Beach
<i>Cryptantha leiocarpa</i>	Seaside cryptantha	G3G4	S1	---	---	2	SH Boardman
<i>Dudleya farinosa</i>	Sea-cliff stonecrop	G5	S2	---	---	---	Brookings area, SH Boardman
<i>Heterodermia leucomela</i>	Lichen	G4	S2S3	---	---	2	McVay Rock, SH Boardman

Harris Beach MU Rocky Shores: Existing Conditions

Table 3 Listing of “species of interest” continued

	Scientific Name	Common Name	Heritage Global Rank	Heritage State Rank	Federal Status	State Status	ORBIC List	Documented in general vicinity of
Plants/Fungus	<i>Lasthenia ornduffii</i>	Large-flowered goldfields	G2	S2	SOC	C	1	SH Boardman
	<i>Lilium occidentale</i>	Western lily	G1	S1	LE	LE	1	Harris Beach, SH Boardman
	<i>Microcladia coulteri*</i>	Delicate sea lace	G3G4Q	S2	---	---	3	Harris Beach
	<i>Microseris bigelovii</i>	Coast microseris	G4	S2	---	---	2	Goat Island
	<i>Nereocystis luetkeana*</i>	Bull kelp	---	---	---	NRStr	---	General area
	<i>Phacelia argantea</i>	Silvery phacelia	G2	S2	SOC	LT	1	SH Boardman, McVay Rock
	<i>Phyllospadix spp.*</i>	Surf grass	---	---	---	NRStr	---	Harris Beach
	<i>Postelsia palmaeformis*</i>	Sea palm	---	---	---	NRStr	---	SH Boardman
	<i>Ramalina pollinaria</i>	Lichen	G4	S1S2	---	---	2	SH Boardman
	<i>Rhynchospora capitellata</i>	Brownish beakrush	G5	S1	---	---	2	Harris Beach
	<i>Senecio triangularis var. angustifolius</i>	Bog groundsel	G5TNR	S1?	---	---	3	Harris Beach
	<i>Teloschistes flavicans</i>	Lichen	G4G5	S1	---	---	2	Harris Beach
	<i>Usnea rubicunda</i>	Lichen	G4G5	S2	---	---	3	SH Boardman
	<i>Viola langsдорфii</i>	Lichen	G4	SNR	---	---	3	Harris Beach
	Invertebrates	<i>Pisaster ochraceus*</i>	Ochre sea star	---	---	---	NRStr	---
<i>Vespericola spp.</i>		Hesperian	GNR	SNR	---	---	---	SH Boardman

recreation and other related intertidal use include black oystercatcher, brown pelican, Pacific harbor seal, sea palm (*Postelsia palmaeformis*), kelp (*Nereocystis*), and ochre sea star (*Pisaster ochraceus*) (Table 3).

Other species that are listed on the most recent update to Oregon’s “Rare, Threatened, and Endangered” list and are possibly located within the area but were not identified below the genus level in this study include: *Laminaria longipes* (ORBIC List 3, G4S1) *Porphyra torta* (ORBIC List 3, G4S2). *Microcladia coulteri* (ORBIC List 3, G3G4QS2) was noted to the species level. All of these species are noted as occurring in Curry County and were documented to at least the genus level within the HB Management Unit during the 2009 PISCO survey (ORBIC, 2010).

The beach at Harris Beach is one of the state’s regular water quality monitoring sites. The Department

of Human Services (DHS) tests the water in several areas along the shoreline including at Harris Creek. Up-to-date results of the testing can be found on the Oregon Coastal Atlas as well as data going back to 2002 (DLCD, 2009). There are quite a few instances of detectable levels of contaminants with several resulting in water quality warnings at these stations, particularly near Harris Creek.

Interpretive Resources:

The Harris Beach Management Unit parks offer unique interpretive opportunities ranging from wildlife viewing to geology. Currently, the parks are not guided by an Interpretive Plan. However, development of one is scheduled for the 2011-2013 biennium.

The Territorial Sea Plan notes that “Harris Beach, the southernmost Marine Garden, is ideally situated as a site for public interpretive and informational

displays about Oregon's rocky-shore resources and areas. Such a program could include material on all kinds of rocky shores, including intertidal and offshore rocks and reefs (OPAC, 1994)."

Permanent management unit interpretive staff provides on-site services, including coordinating visits from school-groups that call ahead as well as occasional off-site programs (community outreach). During "prime season" (summer), campground programs are offered 7 nights a week (e.g., tidepools, beach/nature). Weather permitting, staff will also offer programs at least 2/month either in the day (guided walks, including beach/tidepool) and twilight walks. The rest of the year, staff tries to offer beach/tidepool walks once a month.

Existing on-site interpretive facilities include: a outdoor amphitheater (HB), a campground information shelter (HB), a rest area information shelter (HB), a meeting room at the former rest area site (HB), an observation deck (SHB), a JR interpretive yurt (HB), viewing platform (SHB-Natural Bridges), viewpoint (SHB-House Rock) as well as sign clusters at each park. Harris Beach MU interpretive signage is currently limited to several of the old "Welcome to Our Home" rocky shore interpretive panels.

USFWS provide a team of seasonal volunteer interpreters whom they recruit and train. The volunteers primarily spend their time at Harris Beach talking with visitors about the refuge's coastal islands, seabirds and marine mammals. However, they occasionally visit other parks in the area to provide interpretive services.

Scenic Resources:

All of the parks in the district are often used by visitors for enjoyment of the scenic nature of Oregon's coast and ocean. The scenic qualities of the parks are important to the recreational experience of visitors. The overlook areas are frequently used by visitors to get a quick glimpse of the powerful ocean, marine mammals and birds as well as the geologic features that make the area unique. The natural features of the rocky shoreline and tidepool areas allow visitors

to visually observe the ecosystems that live in the interface between the land and sea and the geologic features created by the passage of time.

Cultural Resources:

Evidence of cultural resources has been found in the vicinity of the park and the area is considered a "high probability" zone by the State Historic Preservation Office (SHPO). Reports for known sites are filed with SHPO. Pursuant to state law, this information is not available for public review.

The park land is a traditional-use area for the Siletz Indians and their cultural heritage within the area is of considerable antiquity. In addition to pre-contact and historic archaeological sites, Oregon tribes who are affiliated with the area view cultural resources as those resources that continue to be used by Native peoples, such as foods, medicines and basketry materials (Nancy Nelson, pers. comm., 2009).

Harris Beach MU: Existing Conditions

Recreational activities:

Visitor day-use at the parks varies significantly from year to year since counts began in 1965 (fig. 9). At both Harris Beach and SH Boardman SSC, although visitation fluctuates from year to year, there is an continuing upward trend evidenced by parking lot counts.

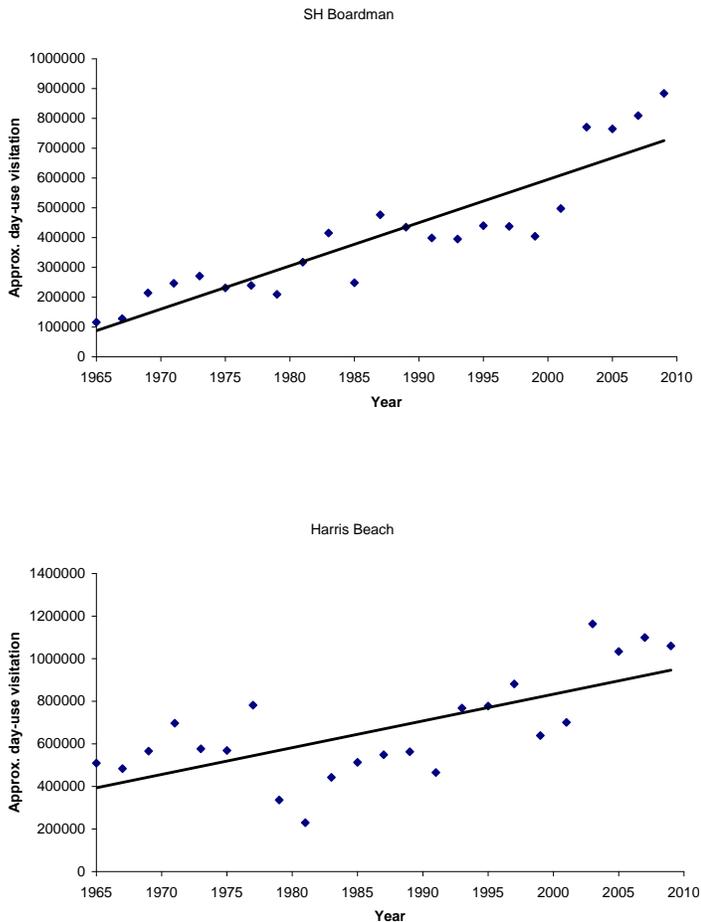


Figure 9. Visitor use based on day use parking lot data from Harris Beach and SH Boardman State Parks (1965-2009).

Although it is not known what percentage of these visitors move beyond the parking lots, and the methodology assumes some things that may slightly overestimate or underestimate visitation (the counters count cars and a multiplier is used to determine the average number of passengers per car), it does give a general sense of site popularity. For example, the many school buses that are known to frequent these

parks (primarily Harris Beach and Lone Ranch) are not fully accounted for in these numbers.

To help answer this question in more detail, visitor use surveys were conducted in the spring and summer of 2009 to measure actual visitation to the rocky shore and characterize types of visitor use. A full report (along with a description of methodology) is located in Appendix A and only key findings are summarized here. Due to funding limitations, data was only collected for the presumed high use areas of Harris Beach

During the 14 day visitor observation period that occurred between May 28-August 8th, a total of 775 visitors were observed recreating on the shoreline at Harris Beach (Table 4). Counts include the entire span of low tide use as they occurred one hour before the

Table 4. Visitor count totals for each of the 14 survey dates at Harris Beach. Canine visitors are indicated by (+n). The one partially rainy day (light rain/fog) is indicated with an asterisk

Day Type	Dates	Number of visitors
WdS	5/28/2009	49(+5)
	5/29/2009	79(+3)
	6/8/2009	43(+4)
	6/9/2009	22(+2)
		$X' \approx 48$
WeS	5/30/2009	109(+5)
	6/6/2009	28(+4)
	6/7/2009	26(+2)
		$X' \approx 54$
WdH	6/23/2009	64(+7)
	6/24/2009	34(+10)
	7/24/2009*	13(+2)
	8/7/2009	33(+5)
		$X' \approx 36$
WeH	7/25/2009	90(+4)
	7/26/2009	95(+5)
	8/8/2009	90(+7)
		$X' \approx 92$
TOTAL		775 (+65)
Average		$X' \approx 58$

predicted morning low tide to four hours after the low (Fox, 1994).

Visitation

Results for visitor use counts, distribution (temporally and spatially) and recreation types are summarized below. Limitations of the survey methodology (information is a snapshot in time) mean not all visitation is captured. The numbers from this survey simply demonstrate relative visitor use pressure. Details about methodology are available in the Appendix.

The average number of visitors observed per low tide period at the Harris Beach is 58 with a range between 13 visitors on July 24th and 109 on May 30th (Table 4). During the 14 days sampled, the average number of visitors per hour ranged from 3 to 27 persons with an average hourly visitation of 14 visitors per hour.

On average, weekend days (73 visitors/day) get more use than weekdays (42 visitors/day) and less visitors come when school is in session (51 visitors/day) than during summer vacation (60 visitors/day). Days that fall on weekends when school is on vacation (WeH) appear to receive the highest mean use (92 visitors/day) with weekdays during summer vacation (WdH) receiving the least (36 visitors/day) amount of visitation pressure (Table 4).

In previous surveys of rocky intertidal sites, it was discovered that, as anticipated, most visitors schedule their visit to correspond to the time of low tide. However, during this survey, this was not the case for Harris Beach. Visitation to the shoreline peaks two to three hours after low tide with 31% of visitors choosing this time frame to visit the site. It appears that many visitors do not base the time of their visits on the time of low tide, with only 31% of visitors counted during the peak time of one hour before to one hour after. Similar reasons were given for visiting the site in the interview period, which for most visitors did not include tidepooling. A large portion of the site includes sandy beach and the area is popular for beach recreation.

Regardless of the time of low tide, there appears to be a general trend of increased visitation in late-morning, especially between 10 AM-noon. The early morning is the least popular time of day with very few visitors observed before 7 AM (1-2% of visitors).

Regardless of the time of low tide, the most popular time to visit tends to be between 9-11 AM. Visitation is extremely low in the early morning with very few visitors observed before 7 AM.

These results are slightly different from those found at many other rocky shore sites. At Seal Rock, the majority of visitors do base the time of their visits on the time of low tide, with the hour after low tide being the most popular time frame (OPRD, 2007). At Devil's Punchbowl, the highest counts were found between one and two hours after low tide (Fox, 1994; Hillmann, 2005). At Sunset Bay the pattern is similar to Harris Beach where the time of low tide isn't as important as the time of day. There appears to be a general trend of increased visitation in late-morning, especially between 10 AM-11 AM.

Distribution

Distribution across the intertidal area is relatively evenly spread across the shoreline. However, visitors do favor certain segments of the shoreline (fig. 10). The most popular section of the shoreline at Harris Beach is the area just to the south of the rock beach trail access point (fig. 10). This is area "D" as noted in figure 10 and receives approximately 20% of visitation. It is not surprising that this section receives high levels of visitation as it is immediately below the beach access trail leading from the campground.

The next popular sections of shoreline are areas A and B (both 18%) as well as area C (17%). The shoreline in sections A-C is primarily sandy. The least use area (G) is on the far south end of the park and is accessed by either a trail leading off of a viewpoint or by walking up or down the beach. Area E includes some offshore rocks that become accessible during low tides. Some level of visitation was observed near these offshore rocks (fig. 10).

Harris Beach MU Rocky Shores: Existing Conditions

While attempts were made to make the sections of shoreline approximately the same length, it was also necessary to pick easy to recognize “landmarks”. Therefore, some sections are larger than others.

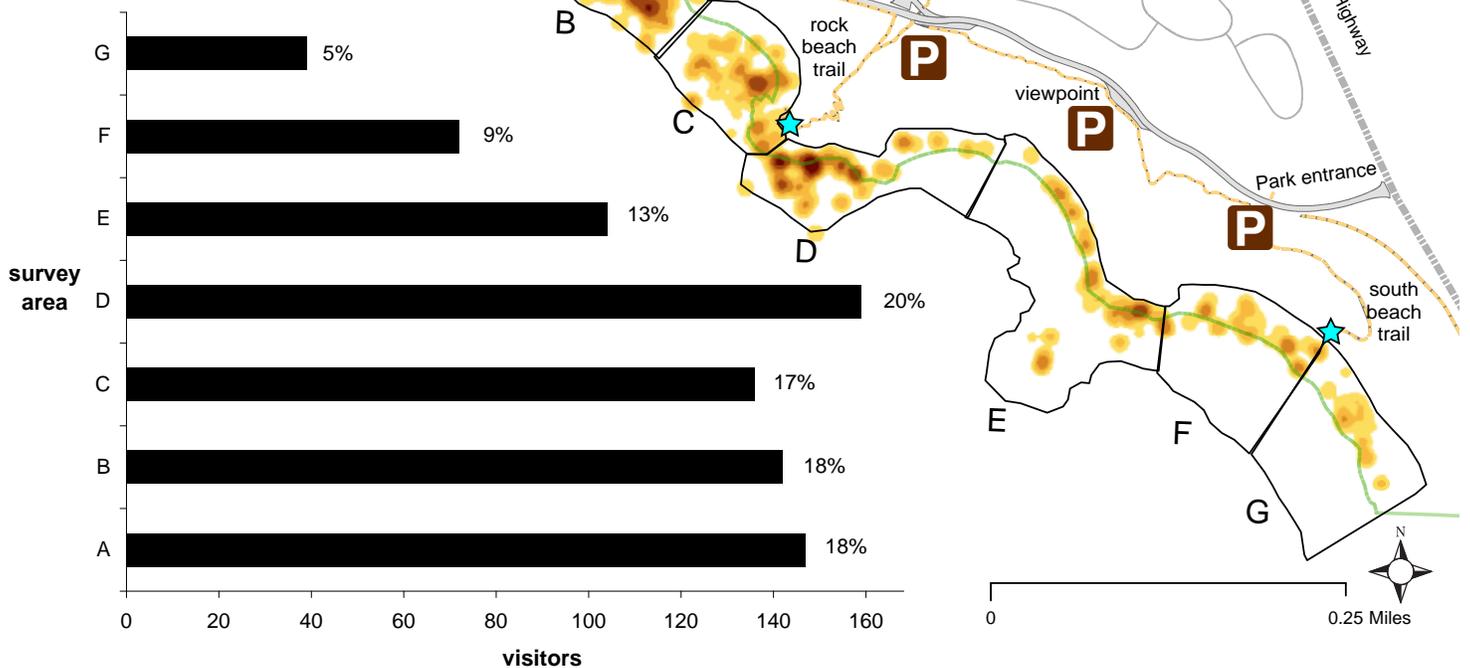


Figure 10. Visitor count levels in survey areas A-G at Harris Beach (n=842). Total number (bar chart) and percentage (text boxes) of visitors in each survey section are shown on the above chart (left) and visitor intensity is shown on the map (right).

Types of recreation

Beach recreation was the most common activity with 48% of visitors (fig. 11). A large portion of the shoreline at Harris Beach is made up of a sandy beach so this is not surprising. Active collecting (17%) was the second most common activity (fig. 11). Educational (schoolgroup) visits make up approximately 6% of visitation.

Most of the rocky area within the park is included

within the Harris Beach Marine Garden. Collecting of invertebrates is not allowed within the Marine Garden. The remainder of the shoreline is part of the Brookings Research Reserve. Removal of organisms is only legal with a scientific research permit issued by the Department of Fish and Wildlife (ODFW) within the research reserve. A relatively large number of visitors were observed collecting during the survey period. Most of what visitors were observed collecting was non-living (e.g., rocks, shells), although it is not always possible to see what people are collecting.

Fishing from shore makes up a much smaller percentage of visitor use (~1%) than at some other sites. Miscellaneous activities noted include running/jogging, painting, feeding the squirrels by hand, participating in a ranger-led tour, biking, picking up trash, and putting in boats (canoes/kayaks). Seventy percent of visitors observed were adults. More than half of dogs were noted on leash (60%).

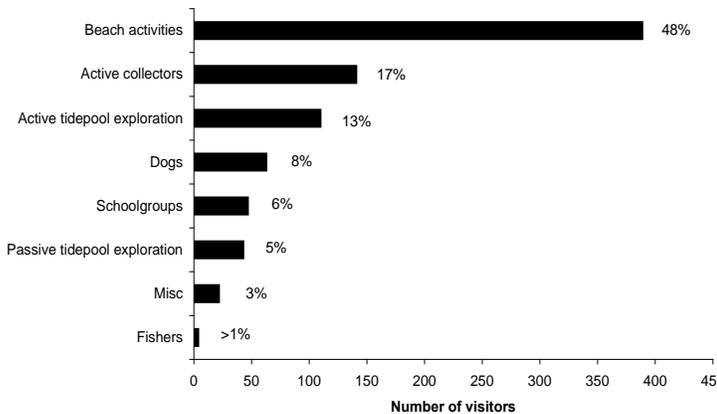


Figure 11. Recreational activities at Harris Beach (n=842)

Demographics

Based on the on-site survey conducted as part of this process, the average group size for visitors to Harris Beach is three people with a range between 1-15 people. Slightly over 1/3 of visitors (39%) came in groups of two, with thirteen percent traveling alone and only one percent traveling in groups of 50 or more.

Approximately 4/5 of visitors (78%) were with families, 13% traveled alone, and only one school group from Grants Pass was present during the interview period. Six percent were travelling with family and friends and three percent with friends only.

Slightly under 2/3 of the visitors (64%) said they were repeat visitors to Harris Beach. The average visit time for return visitors is two hours 13 minutes with a range between 15 minutes and 8 hours. 44% of visitors spent between 1 to 2 hours at the site. Sixty eight percent of return visitors indicated visiting Harris Beach between one to five times per year with an

average of 8 visits per year and a range between less than one and 150 days.

Of those visitors that came to Harris Beach for the first time, 19% indicated it was also their first visit to the Oregon Coast. A majority (63%) of first-time visitors indicated they would return to Harris Beach at some time in the future. The average visit to the beach is one hour 45 minutes with a range of one half hour to 5 hours. 39% of visitors spend one to two hours at the site.

The typical visitor to the rocky intertidal at Harris Beach:

- Travels in a family group of two
- Is a return visitor who visits 1-5 times per year;
- Spends one to two hours at the site;
- Is an Oregonian from Southern Oregon.
- Travels 431 miles to reach the site (fix);
- Comes to the site to relax and sightsee;
- Visits other rocky shores on the Central Coast
- Has an interest in learning more about tidepools, preferably via ranger-guided/roving ranger tour; and
- Is not aware of special protections afforded to intertidal areas, however, in general they support protections and believe collection is not allowed.

Recreational activities at the other rocky shores was not studied during the 2009 survey. However, anecdotal information about relatively popular activities is available based on park staff knowledge of the sites. McVay Rock: Beachcombing, recreational clamming, and rockfishing (use of dog-park may increase use by owners walking dogs on beach). Lone Ranch Beach: beachcombing, hiking/walking, birdwatching, marine mammal viewing, sightseeing, collecting, surfing, surf-fishing, clamming, and school groups. Whaleshead Beach: Beachcombing, tidepooling, hiking/walking, wildlife viewing/photography, dog-walking, kite flying, surf-fishing and sightseeing. Surf fishing also occurs at in the area.

Additionally, Whaleshead Beach and Harris Beach

were surveyed during the 2002 Ocean Shore Management Plan surveys (Shelby and Tokarczyk, 2002). Harris Beach is in the top 10 “highest weekend use-level beaches” in the state (9/10). The approximately 1/2 mile section of beach surveyed for the ocean shore survey found that not surprisingly, Harris Beach has the highest weekend use for the segment on the far southern coast which runs from the Sixes River mouth to the California border (Crissey Field beach). The average number of visitors observed on weekends was 19 at Whaleshead and 54 at Harris Beach. On weekdays it drops to 8 for Whaleshead and only slightly for Harris Beach to 52. The percentage reporting some crowding at Whaleshead was 23% and 42% at Harris Beach.

Recreation Needs and Opportunities

An assessment of the recreation needs and opportunities is based on a review of the following information sources: 1) The 2003-07 and 2008-2012 Statewide Comprehensive Outdoor Recreation Plans (SCORP); 2.) The Oregon Ocean Shore Management Plan (OSMP); 3.) Oregon Trails Statewide Action Plan; and 4.) The Rocky Shore Recreational Use Study conducted as part of this planning process and summarized in the visitation section. Additionally, information collected from the advisory committee and staff team in the issue scoping process is factored into the goals and strategies involving recreation needs and opportunities.

2003-2007 SCORP

The Statewide Comprehensive Outdoor Recreation Plan (SCORP) for 2003-2007 looks at outdoor recreational demand and participation trends for a wide range of activities, both regionally and statewide (OPRD, 2003). The Harris Beach MU parks are in in SCORP Planning Region 4, which is the coastal area from just south of Florence to Brookings.

For each of the planning regions in the SCORP, estimates of recreational participation were measured (in “user occasions”) in 2002. In some cases, it was possible to compare these numbers with data from 1987 to look at change in recreational demand over time. Activities that are potentially associated with these parks are presented in the below table, showing

Table 5. Recreation demand and change over time in SCORP Region 4

Recreation Activity	2002 User Occasions	% Change 1987-2002
Ocean beach activities	1,202,482	NA
Beach Activities, including swimming (fresh & salt)	1,147,085	38.50%
Bird watching	1,033,808	NA
Nature/Wildlife Observation	982,483	74.80%
Sightseeing/Driving for Pleasure	510,892	-45.40%
Non-motorized boating (ocean, lake & river)	376,800	-77.80%
Day Hiking	308,710	-45.40%
Running/walking for exercise on trails (all surfaces)	308,271	NA
Outdoor Photography	308,197	19.70%
Fishing from a bank or shore	301,837	NA
Walking for pleasure on trails (all surfaces)	278,887	NA
Picnicking	183,182	-69.30%
Clamming	88,556	NA
Camping on an ocean beach	98,330	NA
SCUBA diving or snorkeling	48,384	NA
Sea kayaking	8,422	NA

2002 user occasions as well as, if available, change since 1987 (Table 5). Many of the activities did not have older data to determine change over time. The highest relevant growth activity for Region 4 is nature/wildlife observation (75%) followed by use of beaches (39%) (Table 5). Activities that appear to be decreasing the most in popularity regionally include non-motorized boating in an ocean, lake or river (-78%) and picnicking (-69%). Relevant popular activities in the region include ocean beach activities, bird watching, nature/wildlife observation, sightseeing for pleasure, and non-motorized boating (Table 5).

2007-2012 SCORP

Unlike previous SCORP planning efforts which focused on regional planning, in this SCORP, OPRD addressed a limited number of important demographic and social changes facing Oregon's outdoor recreation providers in the coming years including: a rapidly aging population, fewer youth learning outdoor skills, an increasingly diverse population, and the physical activity crisis (OPRD, 2007).

Important findings of relevance to this plan are summarized very briefly below and in tables 6 and 7, which show some results from these focused surveys (OPRD, 2007). Table 7 shows the top 10 recreation types that members of Oregon's aging population indicate they participate in at least once per year, along with how many times they say they participate and an average number of hours per day spent doing that activity (OPRD, 2007).

Aging Oregonians

- The most popular outdoor recreation activities for Oregonians between the ages of 42-80 included walking, picnicking, sightseeing, visiting historic sites and ocean beach activities (Table 6). Not too far behind, in 8th place (based on percent participating at least once a year) is exploring tidepools with 37% participation (Table 6). Other nature/wildlife observation is in 10th.
- The average number of days spent exploring tidepools is 1.5 with approximately 2.5 hours spent exploring each day (Table 6).
- The top five activities in terms of future participation intensity 10 years from now included walking, bicycling, jogging, bird watching and day hiking.
- The most important current motivations or reasons for participating in outdoor activities were to have fun and be in the outdoors.
- Ensuring clean and well-maintained parks and facilities was the most important management action that will lead to a large increase in recreation, followed by developing walking/hiking trails closer to home and providing more free-of-charge recreation opportunities.
- Over a third of Oregon "Boomers and Pre-Boomers" indicate they volunteer in their community, with an average time commitment of 5.3 hours per week (with 43% expecting changes in their activities, with most of the changes involving greater volunteerism, more time, and looking for new opportunities). Providing more information appeared to be the key to increase



Visitors enjoy the beach Harris Beach State Recreation Area

Harris Beach MU Rocky Shores: Recreation Needs and Opportunities

volunteerism.

- Oregon's recreation managers can expect substantial increases in the number of visitors with a physical or mental disability using their recreational facilities and services.
- Priority should be given to trails, picnic areas, sightseeing areas, and historic sites in terms of where resources should be directed for providing accessibility accommodations
- Coastal Oregon has been, and is likely to continue to be, one of the most popular destinations for people moving to Oregon from other states.
- On average across all activities, respondents expect to spend 28% more days recreation 10 years from now than they currently do (potentially breaking the trend of decreasing recreation with age).

Within the next decade, 15 percent of Oregon's total population will be over the age of 65 and by 2030 that

number will grow to nearly 20 percent. An enhanced focus on promoting and preserving the health of older adults is essential if we are to effectively address the health and economic challenges of an aging society. Clearly, Oregon's park and recreation providers have the facilities and programs in place across the state to take a leadership role in promoting and preserving the health of older adults through encouraging and facilitating their involvement in active outdoor recreation activities. The Harris Beach MU parks have the potential to provide opportunities to do a variety of the activities that aging Oregonians enjoy participating in.

Table 7 shows the top five outdoor recreation types, by numbers of people participating, for two other categories (minorities and youth) that were surveyed as part of the 2007-2012 SCORP (OPRD, 2007). For the minorities surveyed, an average figure is also presented.

Table 6. Top 10 Outdoor Recreation Types (by percent participating) for Oregon's aging population.

Rank	Recreation Type	Percent participating	Mean days	Mean hours/day
1	Walking	80%	64.3	1.8
2	Picnicking	68%	5.2	3.2
3	Sightseeing	63%	9.9	4.1
4	Visiting historic sites	62%	3.6	3.1
5	Ocean beach activities	54%	4.1	3.9
6	Day hiking	52%	6.6	3
7	Children/grandchildren to playground	39%	5.7	2.1
8	Exploring tidepools	37%	1.5	2.5
9	Bicycling	33%	2.6	4.8
10	Other nature/wildlife observation	31%	5.4	2.8

A Growing Minority Population

- Walking for pleasure, fishing and hiking were the most commonly mentioned favorite activities.
- In terms of percent participating, walking, picnicking/family gatherings, and relaxing/hanging out were the top activities (Table 7).
- Over half of respondents indicated they participate in ocean/freshwater beach activities.
- The majority of respondents participated in their favorite activity with immediate family members
- The most common location to do their favorite activity was in a park or other area outside one's town or city.
- Ensuring clean and well-maintained parks and facilities were the most important management action followed by keeping parks safe from crime, providing more free-of-charge recreation opportunities and expanded facilities.
- The most commonly recommended facilities for development in parks were picnic tables, followed by trails and campgrounds.
- Overall, the internet was the most frequently noted as the desired information outlet.
- Lack of information and cost were reported as the main constraints to participation in children's outdoor programs.

Oregon Parents and Youth Study

- The most popular (highest average days in the

- past year) outdoor activities for parents was walking, viewing natural features, and relaxing/hanging out (Table 7). For children, the most popular were walking, followed by outdoor sports/games, relaxing/hanging out, and general play at neighborhood parks/playgrounds.
- 67% of parents and 73% of children indicated they participate in ocean or freshwater beach activities.
- The more a parent engages in an outdoor recreation activity, the more their child does.
- Almost all parents felt that it was a priority for their child to spend more time in outdoor activities.
- Youth preferred to do their favorite program activity with friends and in groups of 3-5 or 6-10 people.
- Recreation resource managers should attempt to understand if their existing and proposed facilities are appropriate for Oregon's youth
- Recreation resource managers should strive to develop partnerships with appropriate recreation entities.

Oregon Trails 2005-2014: A Statewide Action Plan

In 2003, OPRD staff completed a series of nine regional trail issues workshops across the state. Trail issues were defined as any high-impact issue related to providing recreational trail opportunities within the region. At each regional workshop, meeting participants voted to identify top priority issues.

Table 7. Top 5 Outdoor Recreation Types (by percent participating) for Oregon's minorities and parents/youth (note: the children's favorite activities do not correspond exactly with the other groups (for example, bicycling is tied for first for their favorite but isn't listed in this table and viewing natural features is not in their top 5 because of the popularity of biking, outdoor sports/games and swimming).*

Recreation Type	Hispanic	Asian	Average	Parents	Youth*
Walking for pleasure	77%	80%	78%	74%	80%
Picnicking and family gatherings	74%	63%	70%	69%	77%
Relaxing, hanging out, etc.	67%	53%	63%	56%	64%
Viewing natural features	62%	56%	60%	60%	58%
Ocean/freshwater beach	56%	52%	55%	67%	73%

The following top non-motorized trail issues were identified for the Southwest Trails Planning Region which includes Coos, Curry, Josephine, Jackson and Douglas Counties.

- Need for trail connectivity in the region including making trail connections within urban areas and to trails in adjacent public lands to connect communities with nearby parks and open spaces and connect land-based trails with water trails
- Need for funding and technical assistance for easements, permitting fee title, and acquisitions for trail projects. Population growth has increased the cost of land acquisition and easements and reduced the supply of available land acquisition opportunities.
- Need for additional funding for trail maintenance within the region. Increased grant funding priority should be given to maintaining what we currently have before adding additional trail facilities.

These issues point out the importance of a joint trails planning effort between OPRD and adjacent landowners (private, federal or state) to identify opportunities for trail linkages between systems. It also suggests that OPRD should, if funding is limited, focus on improving and maintaining existing trails before adding new trails. OPRD is currently working on improving connections in the region and will continue to do so in the future.

Ocean Shore Management Plan

For the Ocean Shore Recreational Use Study conducted as a part of the Ocean Shore Management Plan, Harris Beach Management Unit is in recreation segment 6 (Shelby and Tokarczyk, 2002). However, many of these beaches were not included in the survey because they are primarily rocky shorelines and rocky shores were not included in the survey. The closest area that was included was a portion of Harris Beach along with Whaleshead Beach. The results are summarized briefly in the recreation section, above.

Issues

A number of issues have been brought up through the public interview process (not yet), as well as staff and stakeholder meetings regarding the parks within the Harris Beach Management Unit. Issues that can be addressed in this planning process are reflected in the goals and/or resource management guidelines. Not every issue identified as part of this process is appropriate to address in this plan. For example, this is not a Master Plan, so no development proposals are being made. Therefore, those issues that cannot be reasonably addressed are mentioned for potential future consideration by OPRD in other appropriate programs. Some issues are addressed through related follow-up work, including suggested future studies and work with agency partners.

In this section, a list of issues is presented by general category and a matrix outlines potential solutions and barriers, and potential partners (Table 8). Then, as appropriate, issues are addressed in the goals and/or resource management guideline sections.

Facilities:

- The parking lot at Harris Beach is often over-capacity during the peak season.
- Many of the day-use areas generally were not built to accommodate RV's, although they continue to use the sites, especially during the summer.
- Potential future growth and new development (e.g., near Lone Ranch) could possibly bring in more people than the site can handle (above and beyond existing parking capacity).
- There are no trash/recycling receptacles immediately at the beaches and some visitors complain about litter, including cigarette butts (particularly at viewpoints).
- USFWS suggests that all trash cans should be gull, crow, feral cat and raccoon proof as well as wind proof to eliminate feeding wildlife in the park.
- Some visitors complain about distance to reach the restroom facilities/lack of facilities. McVay Rock needs a restroom (just a port-a-potty now).
- Beach access is in poor condition at McVay Rock and access is difficult in most of Boardman SSC.

- The trail at Rock Beach is narrow/dangerous.
- ADA access to the beach is not possible, except possibly via the new ramp at Harris Beach, if visitors are able to cross the sandy beach.
- The rocky shore is dynamic and the sand/rock has an impact on the parking lots and facilities.

Recreation:

- Some visitors experience crowding on the beach, as the beach is relatively small, and visitors are in concentrated areas split up by rocky outcrops. This clusters people in between/concentrates use areas.
- Dogs are frequently off-leash at all parks, even if owners are told to put them on leash. This results in conflicts with other users and dogs, as well as occasionally with marine mammals and birds.
- There is a potential human health concern when people do not pick up after their dogs.
- Recreational safety of visitors climbing over the barriers and other cliff areas, especially with ongoing erosion occurring in the area.
- Consistent use of "unofficial" and potentially dangerous trails in the area, particularly at various points within the SH Boardman SSC (some branching off of the Oregon Coast Trail). Rock Beach trail is also a problem area.
- Rocks fall all along the cliffs, particularly within SH Boardman SSC. This happens both naturally (e.g., erosion/storms) and from people (and dogs) climbing on the rocks/cliffs that may exacerbates the problem.
- Visitors occasionally get stuck when they explore certain sections of rocky shoreline at low tide and then the tide comes in. This is generally a problem at all sites within the area. It is important that OPRD staff work with USFWS to deal with trespass issues on Refuge lands.
- The beach at Harris Beach receives some use by kayakers/boaters during calm days. Potential hazard/conflict with wildlife on offshore rocks (particularly Goat Island), although communication has improved the situation dramatically in recent years with the help of USFWS volunteers. The USFWS recommends all boaters keep a distance of 500 feet from all rocks, reefs and islands to reduce or eliminate disturbance.
- Growing paraglider "club" and use by its members

at Harris Beach. Potential for wildlife disturbance and conflict with other users. Need to coordinate with USFWS on potential wildlife disturbance.

- There is poor emergency communication in some areas (i.e., cell/radio coverage). In some areas cell phones work and in others radios do, and vice-versa.
- Beach safety issues at all sites (e.g., slippery rocks, sneaker waves, difficult access at bottom of trails, access via unofficial trails, getting stuck on outlying rocks at high tide, attractive nuisances, undercut cliffs on the trails). Some areas make alerts/reporting difficult because of lack of radio/cell communication and ability to access the sites.
- Access at Harris Beach and Lone Ranch is constant and easy. It is very easy to access the tidepools. This makes signage and management difficult but is good for accessibility.
- Human disturbance of marine mammals that are hauled out on accessible rocks (and occasionally the beach), as well as shorebirds. This includes potential disturbance by dogs off leash.
- Harris Beach often has warnings about water contact. This has implications for recreation but also possibly for the rocky shore species.
- New bike trail may bring more hiker/bikers at Harris Beach.
- Recreational gold mining permits, have issued some for handheld mining (SH Boardman).
- Hard to know where the boundaries of the research research/marine garden are (and also park boundaries for those rules).

Natural Resource/Environmental:

- Level of direct human impact from trampling/collection to the rocky shore (intertidal) is not currently known. Minimized at Harris Beach because of ability to walk on sand.
- Active tidepool recreation (e.g., picking things up, handling organisms, touching organisms and/or turning over rocks) along with collecting were common activity noted during the survey. 17% of visitors observed at Harris Beach were engaged “active collecting” and another 13% in active recreation.
- Some small level of illegal collection occurs at the research reserve and marine garden. None of

the visitors interviewed indicated they were there for the primary purpose of collecting something. However, the number of people actually observed collecting something during the observation period (17%) indicates collection is occurring. As with all observations, it is likely this number is underestimated since snap-shots likely will not pick up quick activities such as picking an item up. Staff notes that collection is mostly non-living items (e.g., shells/rocks) however, sea stars are collected along with some clams/mussels from the legal section south of the marine garden.

- Potential disturbance of resident and migratory shorebirds and seabirds by visitors on the beach and rocky shore.
- There is potential for disturbance of shorebirds/seabirds/marine mammals by those flying by (e.g., USCG, recreational planes/helicopters). Wildlife harassment is against the law.
- Lighting (at night) may disturb wildlife.
- Black oystercatchers, a USFWS species of concern, nest in the area and could potentially be disturbed by recreating visitors and off-leash dogs. Oystercatcher habitat exists along the whole stretch of shoreline and is some of the most important in the state.
- Predators of oystercatchers and other nesting seabirds/shorebirds (e.g., raccoons, river otters, gulls, ravens, crows, feral cats, and rats) are drawn to recreation areas by human trash and may predate on nests and chicks (Dawn Grafe, pers. comm., 2009).
- Few visitors are aware of rules and guidelines for protecting marine mammals and native birds (including seabirds and shorebirds) and occasional disturbance has been observed, including disturbance by dogs off-leash. During the survey, under half of dogs were noted off leash at Harris Beach (40%).
- The offshore rocks and islands are part of the Oregon Islands NWR and are managed as sensitive wildlife habitat and wilderness. Climbing or otherwise accessing these areas is against the law.
- While it is not possible to patrol “24/7”, it is the interpretive message that is important to get

Table 8. Issues matrix for Harris Beach MU Rocky Shores. The table should be read across the spread and is continued on the next 8 pages. If possible the potential solutions, partners, and barriers are filled in.

Issue	Issue Type
Parking lot is sometimes over-capacity, mainly at Harris Beach (but also Lone Ranch and Whaleshead) during the summer	Facilities
No trash receptacles/recycling close to beaches at some areas and litter has been noted both on the beaches and at scenic overlooks and parking areas (including cigarette butts).	Facilities
Access trails at several locations (e.g., McVay Rock) is in poor condition, poor ADA access throughout.	Facilities
Limited development at several areas outside the parks with rocky shore access does not stop use . There is the potential for increased conflict between users and neighbors.	Facilities
Some visitors experience crowding on the ocean shore	Recreation
Dogs frequently are noted off leash at all sites. Results in conflicts with other users/dogs/marine mammals. There is also a human health issue if/when people do not pick up after their pets.	Recreation
Rocks fall at all sites both naturally and from people/dogs climbing on the rocks/cliffs. Safety of visitors climbing over barriers (e.g., along the OCT) and other cliff areas, especially with ongoing erosion as well as consistent use of “unofficial” trails in the area.	Recreation
Visitors occasionally get stuck when they explore certain sections of rocky shoreline at low tide. Potential trespass issues if visitors end up on areas closed to the public (USFWS refuge lands).	Recreation
Use by boaters (e.g., kayakers) during calm days with the potential for wildlife disturbance. Wildlife disturbance and access to the Oregon Islands NWR Complex is illegal.	Recreation
Poor emergency communication in some of the area (i.e., cell/radio coverage).	Recreation
Beach safety issues at all sites. Lack of communication coverage compounds issue.	Recreation

Harris Beach MU Rocky Shores: Issues

Potential Solution(s)	Potential Barrier(s)	Potential Partners
New striping for busses, regular striping, encourage to use other sites, coordinate with schools	Funding, no room for expansion, staff time	OPRD Operations, OPRD RPP, Schools (Oregon and out-of-state), USFWS, volunteers
Closely monitor any other means of transporting visitors to the park that may significantly increase visitation above existing capacity		
Install a bag dispenser for visitors to pick up beach trash to deposit at the trash cans by the restrooms. Explore other trash options (e.g., receptacle for butts).	Funding, space to put the dispenser, cultural clearance required.	OPRD Operations, SOLV
Examine geological situation more thoroughly, close when deemed unsafe	Geological issues, funding, no location to relocate?, instability of terrain/ ongoing erosion, no affordable engineering solution (?)	OPRD Operations, DOGAMI
Work with neighbors and user groups to determine best course of action. Improve interpretation.	Staff time, funding to implement potential solutions, cooperation of partners	OPRD Operations, Neighbors, User groups
Do not increase parking capacity		OPRD Operations, OPRD RPP, USFWS
Focus on asking visitors to keep dogs on leash as a courtesy to other visitors and natural resources. Provide doggie bag pick-up stations. Coordinate with USFWS enforcement as necessary.	Funding, staff time, lack of compliance	OPRD Operations, OPRD RPP, USFWS
Interpretive/warning signage, on-site presence. Encourage access at developed trails/access points	Funding, staff time	OPRD Operations, OPRD RPP
Interpretive/warning signage, on-site presence	Funding, staff time	OPRD Operations, OPRD RPP, USFWS
Interpretive/warning signage, on-site presence. Inform boaters about keeping a distance of 500 ft from all rocks, reefs islands	Funding, staff time	OPRD Operations, OPRD RPP, USFWS
Interpretive/warning signage	Funding	OPRD Operations, OPRD RPP
Interpretive/warning signage, on-site presence. Share information with partners for inclusion on their websites/publications (e.g., Chamber).	Funding, staff time	OPRD Operations, OPRD RPP

Table 8. Issues matrix cont.

Issue	Issue Type
Human disturbance of marine mammals that are hauled out on accessible rocks (and occasionally the beach), including disturbance by dogs off leash. Disturbance of seabirds/shorebirds in accessible areas is also possible. Wildlife disturbance is illegal as is access to areas within the Oregon Islands NWR Complex.	Recreation/Environmental
Boat access (e.g., kayaks) may lead to potential disturbance of shorebirds/seabirds/mammals	Recreation/Environmental
Water quality warnings from high indicator bacteria counts occurs intermittently during the year with a higher frequency in the summer months.	Recreation /Environmental
Impact of visitors to rocky shore is unknown . However, anecdotal information indicates we may be “loving it to death” and that the tidepools “aren’t what they used to be” in some areas.	Environmental
Potential future disturbance of nesting black oystercatchers and other shore/seabirds by airborne devices in the future.	Environmental
Potential disturbance of resident and migratory shorebirds and seabirds by visitors on the rocky shore and beach. Also disturbance by those flying by (USCG, recreational planes/helicopters etc.). USFWS recommends aircraft flying below 2000 feet above ground level maintain a 0.5 mile lateral distance from all rocks, reefs, islands, and cliffs to avoid disturbance to marine wildlife. Wildlife harassment is against the law.	Environmental

Harris Beach MU Rocky Shores: Issues

Potential Solution(s)	Potential Barrier(s)	Potential Partners
Interpretive signage, on-site interpretive services, provide viewing guidelines online. Focus on asking visitors to keep dogs on leash as a courtesy to other visitors/natural resources.	Staff time, funding	OPRD Operations, OPRD RPP, NOAA/USFWS
Interpretive signage/ on-site interpretation, including at the boat ramp. Include language about maintaining 500 ft distance	Lack of compliance, funding for new signage	OPRD Operations, OPRD RPP, USFWS
Coordinate with DEQ to determine the extent of problem, explore potential impacts to the rocky shore	Staff time	OPRD Operations, OPRD Safety Program, DEQ, Surfrider, ODA
Use baseline inventories/visitor surveys to develop more focused & long-term impact studies.	Funding, staff time	OPRD RPP, OPRD Operations, Oregon University System (e.g., OIMB).
Encourage visitors to view things from the sand/bare rock. Parking may limit increases in use.	Funding, staff time, coordination	OPRD RPP, OPRD Operations, ODFW, USFWS
Share information about other less sensitive sites. Explore partnership opportunities		
Encourage these types of activities at sites without nesting seabirds so close by; see above (interpretive strategy). Interpretive signage.	Lack of compliance, lack of knowledge, staff time (enforcement and education), funding for new signage	OPRD Operations, OPRD RPP, USFWS/USGS
Coordinate with USFWS on development of interpretive strategy (signage, on-site message etc.)	Lack of compliance, lack of knowledge, staff time (enforcement and education), funding for new signage	OPRD Operations, OPRD RPP, USFWS
Coordinate with USCG/other local operators to encourage activities during non-sensitive periods; coordinate with USFWS on recreational disturbance issues	Lack of compliance, lack of knowledge, staff time (enforcement and education)	OPRD Operations, USFWS, local air tour operators, relevant recreational clubs

Table 8. Issues matrix cont.

Issue	Issue Type
Visitors access offshore rocks at low tide and are generally unaware of protections in place for seabirds, shorebirds and marine mammals.	Environmental/Interpretation
Active tidepool recreation (e.g., picking things up, handling organisms, touching organisms and/or turning over rocks) was a common activity noted during the survey.	Environmental/Interpretation
Some illegal collection occurs (Lone Ranch/Harris Beach)?	Environmental/Interpretation
Overall lack of interpretive signage related to rocky shores	Interpretation
Visitors are generally unaware of the protected status (marine garden, research reserve)	Interpretation
The laws are confusing for the public and hard to explain (federal vs. state, various state agency rules). OPRD has no authority to enforce federal rules or even other state agency rules.	Interpretation
Resources not readily available for teachers to facilitate intertidal visits	Interpretation

Harris Beach MU Rocky Shores: Issues

Potential Solution(s)	Potential Barrier(s)	Potential Partners
Interpretive signage explaining why the area is closed to public access, explain federal crime for larger effect, new interpretive signs, roving ranger effort, educate staff on protections	Lack of compliance, lack of knowledge, staff time (enforcement and education), funding for new signage	OPRD Operations, OPRD RPP, USFWS
Interpretive signage explaining appropriate etiquette, interpretive brochures, roving ranger can explain to visitors	Lack of compliance, lack of knowledge, staff time (enforcement and education), funding for new signage/brochures	OPRD Operations, OPRD RPP, ODFW, DSL
Interpretive signage explaining protections, interpretive brochures, roving ranger can explain to visitors	Lack of compliance, lack of knowledge, staff time (enforcement and education), funding for new signage/brochures	OPRD Operations, OPRD RPP, ODFW, DSL
Coordinate with other agencies to develop a sign strategy for the parks. Explore cooperative funding options for new interpretive panels. Restrooms are a great interpretive opportunity given that most people go there at least once.	Funding, lack of compliance/ interest, staff time (enforcement and education), funding for new signage	OPRD Operations, OPRD RPP, ODFW, USFWS
Improve signage-making it clear that no collecting is allowed; this is a protected area. On-site interpretation (roving ranger). Determine sign "hot-spots." Educate staff on existing protections.	Staff time, funding	OPRD Operations, OPRD RPP, ODFW
Work with partners to help summarize the various rules/statutes/policies etc. Partner with the USFWS law enforcement officer to have the federal laws enforced.	Staff time, partner coordination	OPRD Operations, ODFW, USFWS
Have a teacher resource section on the OPRD website, including lesson plans and other tools for field trips	Staff time to develop content, coordination with schools	OPRD RPP, OPRD Operations, Schools (Oregon and out-of-state)

Table 8. Issues matrix cont.

Issue	Issue Type
<p>School groups sometimes do not coordinate with the park prior to their visits. It is hard to get in touch with schools (and more specifically the teachers that lead the field trips).</p>	<p>Interpretation</p>
<p>Need additional enforcement/oversight/education</p>	<p>Interpretation</p>
<p>High probability and “known site” cultural resource site</p>	<p>Cultural</p>

Harris Beach MU Rocky Shores: Issues

Potential Solution(s)	Potential Barrier(s)	Potential Partners
Discourage un-managed visits, consider a reservation system for large groups, explore option of a “control” station or check-in system (like a trail log book)	Staff time, volunteer compliance of request, funding if need to build/maintain something on the ground	OPRD RPP, OPRD Operations, Schools (Oregon and out-of-state), OUS
Facilitate scheduling with schools to improve experience, avoid crowding by reaching out to the education community. Encourage visits not just at the lowest tides (any below +1 are good for tidepooling and will satisfy most visitors, especially younger groups).	Support infrastructure, staff time, funding	OPRD RPP, OPRD Operations, Schools (Oregon and out-of-state), OUS, volunteers
Provide oversight guidelines	Staff time	OPRD RPP, OPRD Operations
Encourage educational focus for visits	Staff time, volunteer compliance, resources to support teachers, teacher time, participation of parent supervisors	OPRD RPP, OPRD Operations, Schools (Oregon and out-of-state)
Expand rocky shore interpretive season (March-Sept)	Funding, current staff has other duties beyond rocky shore interpretation	OPRD RPP, OPRD Operations,
Interns	Housing, funding	OPRD Operations, OPRD RPP, OUS
Volunteer docents/ “adopt a tidepool”/site monitors	Staff time to coordinate, need dedicated volunteers, training	OPRD RPP, OPRD Operations, Coastwatch, volunteers
Partner with the new OSU master naturalist program	Staff time, training	OPRD RPP, OPRD Operations, OSU Extension
Temporary signs with docents like at YHONA	Funding, staff time, need volunteers	OPRD Operations, OPRD RPP, YHONA, USFWS
Rocky shore “hosts” (volunteers)	Campsite, staff support (e.g., oversight, training), safety issues	OPRD Operations, OPRD RPP, SEA, USFWS, volunteers
Improve content on OPRD website including information on protections, etiquette, research occurring, when to come, information for school groups, permits needed etc.	Staff time, coordination with partners	OPRD RPP, OPRD Operations, OUS (OIMB/PISCO etc.)
Maintain current practices (e.g., require clearance forms, continue consultation for activities that could disturb resources such as signage). Coordinate on traditional harvest issues (if any).		OPRD Heritage Programs, OPRD Operations, tribes

across to visitors.

- People feed ground squirrel issues, they become aggressive, overpopulated. Impact on beaches/ other wildlife? Leads to people feeding other wildlife, including gulls, crows and ravens.
- Some rare/sensitive species that may attract niche visitors.
- Some non-compliance with requirement to get a scientific/educational permit for collecting.
- Abalone poaching issues in the area. Interest in this recreational activity has grown a lot recently.

Interpretation:

- Overall lack of interpretive signage within the management unit except for rocky shore panels at Harris Beach. Existing signage at the access points does not mention offshore rocks and shorebird/seabirds. Signage should be consistent along the coast and if in close proximity to the wildlife, designed not to attract additional visitors.
- Visitors are generally unaware of the protected status of the area (marine garden/research reserve). Very few visitors mentioned the protected status of the site as a marine garden or research reserve. However, the many visitors do believe that the areas have some sort of restrictions on collection of plants and animals.
- The laws are confusing for the public and hard to explain (federal vs. state, various state agency rules). OPRD has no authority to enforce federal rules or even other state agency rules.
- Resources are not readily available for teachers (and the general public) to facilitate visits.
- While many school groups do coordinate with the park, occasionally they do not. It is hard to get in touch with schools (and more specifically the teachers that lead the field trips) if they are not the “regular” groups that visit every year and contact the park.
- Harris Beach needs additional interpretive staff or volunteers to provide an oversight presence at the rocky shores. It would be helpful to have an interpretive strategy that directly addresses rocky shore recreation.

Cultural:

- The area is within a “high probability” and “known

site” zone for cultural resources. Some illegal collection and disturbance.

Natural, Cultural and Scenic Resource Management

This section outlines general guidelines for management of natural, cultural and scenic resources in the park based on OPRD policies and statewide guidelines.

Statewide Natural Resource Policy:

It is the policy of the Oregon Parks and Recreation Department to plan, design and implement resource management practices consistent with the principles of conservation, energy efficiency, and sustainability.

The following policy guidelines have been established:

- Manage OPRD properties to preserve and protect Oregon’s natural landscape; manage park properties to enhance the natural ecological processes that sustain natural resources in balance with current and future outdoor recreation interests.
- Manage natural resources in a manner emphasizing ecosystem-based approaches that protect the integrity of the natural environment and promote ecosystems that favor biodiversity, reduce ecological fragmentation, and promote native species.
- Comply with all applicable federal, state, and local rules and regulations, and seek ways to avoid or minimize ecological impacts that may occur as part of the implementation of operations and business systems. Where such impacts are unavoidable, OPRD will mitigate for such impacts.
- Develop and maintain an Environmental Management System (EMS) to conserve resources, reduce impacts to the environment, and implement sustainable operational policies and procedures.
- Implement energy conservation and efficiency measures in all aspects of agency operations including; facility design and maintenance, fleet and transportation systems, and department

administration.

- Incorporate sustainable practices into all facets of the department's mission, particularly: facility and site planning, design, construction, operation and maintenance; grant programs; contracting and procurement, and visitor programs and services.
- Reduce, and where possible eliminate, hazardous chemicals and toxic materials in construction, operations and maintenance activities.
- Reduce the department's contribution to atmospheric carbon dioxide and other pollutants.
- Create systems to eliminate waste in department operations.
- Train staff and volunteers to reinforce the agency's commitment to resource stewardship and conservation and to gain compliance with adopted practices.
- Conduct educational and interpretive activities to inform and inspire visitors and local communities to reduce their impact on the environment for the benefit of present and future generations.
- Support sustainable practices that strengthen local economies.
- Promote these guidelines to others for their adoption and use and, when working with others as partners in joint activities.

Oregon's Statewide Planning Goal 19 (Ocean Resources), applicable to the Territorial Sea, is to conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social value and benefits to future generations.

Territorial Sea Plan:

SH Boardman SSC (Hooskanaden and Cape Ferrelo Habitat Refuges): The objective of this suggested designated was to "Maintain undisturbed intertidal habitat" by

- discourag[ing] additional use of [the] intertidal area by not improving or adding new access or parking (except at Lone Ranch);
- prohibit[ing] collection or harvest of intertidal organisms, including marine invertebrates and marine algae (seaweeds), except single mussels for bait; and

- allow[ing] research-related collection by permit only (OPAC, 1994).

Harris Beach Marine Garden:

The management objective in the TSP is "to enhance enjoyment and appreciation of intertidal resources while protecting intertidal area from effects of overuse (OPAC, 1994).

Management Prescriptions: Continue public use of entire area;

- monitor impacts to intertidal area and implement rotational area closures as necessary to allow recovery of habitat;
- prohibit harvest of intertidal algae (seaweeds);
- prohibit harvest of intertidal invertebrates (except single mussels as bait) (OPAC, 1994).

Statewide Cultural Resource Policy:

OPRD's policy relating to its cultural resources, which include, but are not limited to, tangible resources and cultural practices is to:

- Foster an understanding and appreciation of the cultural resources entrusted to OPRD's management, both within and outside the agency, through appropriate programs of training, research, identification, treatment, and interpretation.
- Conduct sufficient research to locate and evaluate OPRD's cultural resources, prior to making decisions on their treatment. Treat the agency's property as significant until a final determination has been made.
- Evaluate all cultural resources that appear to meet the criteria for inclusion in the National Register of Historic Places. All those determined to be eligible will be nominated for listing.
- Employ The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings for any work that will be conducted on OPRD historic properties.
- Engage in active stewardship that ensures the agency's historic properties are preserved,

protected and made available, when appropriate, for public understanding and appreciation.

- Consider cultural resource preservation intrinsically as a form of sustainable conservation.
- Encourage appropriate uses of historic properties that will allow for and ensure their long-term protection while minimizing harm to character-defining features. Discourage inappropriate uses or changes to historic properties that adversely affect an historic property's character-defining features.
- Preserve and protect the cultural heritage of this state embodied in objects and sites that are of archaeological significance.
- Seek the acquisition or lease of sites of historic significance for state use, in accordance with Oregon Revised Statute 358.653. Conversely, should OPRD surplus property of historic significance, attach all appropriate preservation covenants to ensure the property's long-term protection.
- Adhere to all other applicable OPRD Commission policies and OPRD Operations policies while implementing this policy, including, but not limited to, consultation with Oregon tribes regarding cultural resources and tribal traditions of interest to the tribes.
- Recognize agreements between the Heritage Conservation Division and Operations as the basis for defining how the two divisions work together in achieving the policies listed above.

Scenic Resource Standards:

Scenic resources are very important to OPRD and are one of the primary factors considered by the ocean shore program when evaluating ocean shore permits. The following standards are part of state rule that applies to modifications to the ocean shore:

Projects on the ocean shore shall be designed to minimize damage to the scenic attraction of the ocean shore area. The following scenic standards shall be applied, where applicable:

- Natural Features -- Retain the scenic attraction of key natural features, for example, beaches, headlands, cliffs, sea stacks, streams, tide pools,

bedrock formations, fossil beds and ancient forest.

- Shoreline Vegetation -- Retain or restore existing vegetation on the ocean shore when vital to scenic values.
- View Obstruction -- Avoid or minimize obstruction of existing views of the ocean and beaches from adjacent properties.
- Compatibility with Surroundings -- Blend new additions to the landscape with the existing shoreline scenery (type of construction, color, etc.).

Oregon's Statewide Planning Goal 5 (Natural Resources, Scenic and Historic Areas, and Open Spaces) also discusses conservation of scenic resources. Local governments and state agencies are encouraged to maintain inventories of scenic views and sites.

USFWS has a Comprehensive Management Plan (CMP) that was produced to manage Oregon Islands NWR resources (USFWS, 2009c). USFWS is a key partner in rocky shoreline management and interpretation.

Goals and Strategies

This section establishes OPRD's goals and strategies for management of the parks in this management unit and adjacent rocky shoreline. The goals and strategies are based on consideration of the recreation needs assessment, and evaluation of the issues identified in the planning process and summarized in this plan as well as statewide agency policies. As an overarching principle, adaptive management will be employed to periodically review, and as appropriate update these goals and strategies.

Following are descriptions of the five main goals and potential strategies to achieve each goal. Strategies include individual steps or actions, which are designated with bullets and will be implemented when feasible and appropriate (note: These are not prioritized. Not all potential strategies are listed here,

since they are discussed by issue in the above issue matrix).

Goal 1: Provide recreation opportunities and experiences that are appropriate for the park resources and recreation settings.

Every effort will be made to provide visitors with an assortment of recreational experiences that continue to meet and exceed their expectations.

- Develop or rehabilitate recreational facilities, guided by indicators of need, the recreation settings, resource suitability, and the capacities of the parks to accommodate use without overcrowding, degradation of recreation experience, or conflicts with other uses. For example, continue to provide managed access to Harris Beach, Lone Ranch and McVay Rock. This may require frequent trail maintenance.
- Discourage recreational activities that threaten to harm the natural, cultural or scenic resources and/or the safety of the visitors. Alternatively or in combination with discouragement, re-route them to alternate locations that are less sensitive. For example, continue to discourage kayakers from getting too close to Goat Island.

The need for maintaining the current day-use experiences for park visitors is recognized, but potential future activities need to be anticipated. This is based on the anticipated increase in demand for recreation and recognizing parks needs to meet future visitor expectations. The current capacity for day-use in the management unit is at the right level given space and natural resource restrictions. There is no viable opportunity to increase parking capacity.

Given that parking capacity will not increase, the potential for future additional crowding is minimized. However, there is the potential for the parks to be “at-capacity” more often than they are currently. Therefore, those that experience crowding may increase.

- Explore the feasibility of options for monitoring access/tracking (e.g., a “trail log” book or check-in station for large groups) at Harris Beach. Consider whether crowding is occurring and needs to be managed.

- Provide information to visitors about other coastal parks and accesses that offer similar or complementary experiences.
- Coordinate with school groups to help minimize crowding and improve their educational experience at the parks.
 - Determine the appropriate maximum number of busses and look at providing designated parking.
 - Look at opportunities to work with the school districts to coordinate scheduling of school visits.
- Explore options for improving services to visitors with disabilities (e.g., potential ADA access).
- Investigate ways to improve facilities and services to accommodate Oregon’s youth. Work to develop partnerships with recreation providers that encourage youth outdoor exploration and interpretation.
- Any potential alternative methods of getting visitors to the parks that may significantly increase visitation above the current capacity will need to be closely followed to ensure resources are not adversely effected.

The anticipated increase in future demand for recreational activities includes activities such as walking, hiking, tidepooling and generally ocean beach activities.

- Continue to provide and maintain opportunities for these key recreational activities. As new trends emerge, consider the feasibility of providing for those at the appropriate park(s).
- Although general use may be declining, maintain facilities such as picnic tables and consider adding things like telescopes (for sightseeing/ birdwatching) to accommodate the interest of groups including aging Oregonians and minority populations in these particular activities.

Goal 2: Protect, manage and enhance as appropriate, outstanding natural, cultural and scenic resources.

Enjoyment and appreciation of resources will be enhanced while protecting those resources from effects of overuse.

Scenic resources:

One important aspect of visiting the parks is the views of some of the major features along the Samuel H. Boardman Scenic Corridor and the other offshore features in the area (e.g., Goat Island). These views focus on the ocean and more specifically, at the overlooks, of the geologic features of the unique coastline of the southern Oregon coast.

- Retain the scenic attraction of key natural features. Unforeseen future actions may impair views and efforts will be made to minimize the possibility for negative impacts on key viewsheds and features within the parks and adjacent ocean shore.
- Retain or restore existing vegetation when vital to scenic values.
- Avoid or minimize obstruction of existing views of the ocean and beaches.
- Blend new additions to the landscape with the existing shoreline scenery (e.g., type of construction, color).

Cultural resources:

The park land is an important traditional-use area of several tribes and their cultural heritage within the area is of considerable antiquity. In addition to pre-contact and historic archaeological sites, Oregon tribes who are affiliated with the area, view cultural resources as those resources that continue to be used by Native peoples, such as foods, medicines and basketry materials.

- Preserve and protect the cultural heritage of the parks in consultation with the tribes.
- Consult, as appropriate, with the various tribes to identify potential interpretive themes/stories to highlight at the parks.

Natural resources:

It will likely be necessary for OPRD to consult with other agencies and stakeholders to determine whether there are changes desired in ecosystem types or conditions over time and as new information becomes available. As resources become available, additional inventories and research will be completed and evaluated for the presence of threats and opportunities.

- Develop long-term monitoring of the high use

intertidal areas (and complementary control areas) to track potential impacts of visitor use. This may be part of a coast-wide strategy.

- Determine if there are times when visitation has less/more of an impact (foot traffic/trampling etc). OPRD could use that information to inform visitors about best times to visit and have information about when is the most important time to manage visitor use.
- Study the recreational carrying capacity for the rocky shores within this area.
- Work with partners such as the Oregon University System and the USFWS to explore opportunities to monitor impacts to marine mammals and shore/seabirds from foot, boat and aircraft activity.

The resources will be managed to minimize any unacceptable threats and to protect resources to ensure continued enjoyment and educational opportunities for current and future generations.

- Use scientific information to adaptively manage as new information becomes available.
- Continue to enforce current rules, including coordinating with partners on cross-jurisdictional issues. Explore partnership opportunities.
- As recommended in the Territorial Sea Plan, prohibit the harvest of seaweed (without a permit) within the boundaries of the existing research reserve and marine garden to make restrictions for plants consistent with those for intertidal invertebrates.
- On-site staff and/or volunteers will discourage illegal collection and efforts will be made to improve existing signage and increase voluntary compliance.
- As deemed appropriate based on monitoring and scientific research, and in coordination with appropriate agencies and stakeholders, implement temporary rotational area closures as necessary to allow recovery of intertidal areas receiving greatest use.
- Identify potential habitats for “species of interest” found within the park boundaries and adjacent ocean shore. Update the list of species and develop a monitoring plan, as appropriate.
- Work with Federal, State and Local agencies and other interested groups to protect at-risk

species, their habitats, and identify opportunities to improve key habitats and minimize negative interactions with visitors to assist with species survival and recovery. Examples are included below.

- Continue to coordinate with USGS/USFWS on the annual Black Oystercatcher surveys and track results to determine if issues with nest failures continue.
- Continue to coordinate with the USFWS to encourage the USCG to do training exercises and overflights during non-sensitive periods (i.e., avoiding, if possible, May 1-August 30).
- Work with partners to develop a site response plan for introduced aquatic/marine invasive species (likely as part of a larger coastal or regional plan). This plan may also include invasive mammals (e.g., rats, mice, feral cats, overpopulations of raccoons and river otters) that may spread disease or impact rocky shore resources and terrestrial plant species along the shoreline.
- Develop a site specific management procedure for strandings (e.g., marine mammals) and emergency response (e.g., beach safety, hazardous materials) on the shoreline.
- Work with partners agencies who are attempting to resolve environmental and safety risks associated with pollution that have the potential to effect park or ocean shore resources and/or present safety risks to park/ocean shore visitors.

Sustainable practices will be incorporated, to the extent practicable, in all aspects of OPRD's mission, particularly: facility and site planning, design, construction, operation and maintenance, contracting and procurement, and visitor programs and services.

- If plantings are necessary, efforts will be made to use plants native to the Oregon coast.
- Minimize use of hazardous chemicals and toxic materials used in operation and maintenance.
- Coordinate with natural resources staff if there is the potential for impacts to "species of interest".

Goal 3: Provide for adequate management, maintenance, rehabilitation, and park operations including safe, efficient, identifiable and pleasant access and circulation

To the extent that resources are available, recreational activities and facilities will be managed, maintained, rehabilitated and operated as needed for the safety, satisfaction and enjoyment of visitors. In allocating state park operational and facility investment funds, strive to provide adequate support for maintenance and rehabilitation of existing facilities, and an adequate level of oversight and enforcement in the park and adjacent ocean shore.

- Continue routine maintenance of the Harris Beach, McVay Rock, and Lone Ranch trails.
- Routine maintenance of the parking lots (including striping) may be able to help with appropriate parking of larger vehicles.
- As necessary and practicable, develop a site assessment and recreation safety plan, including a more detailed discussion of emergency communication issues and response plans (this could be part of a larger coastal or regional plan).
- Consider long-term solutions some of the trail in the parks, which are often located in geologically unstable and erosive areas, continues to degrade.
- When access is deemed hazardous for visitors, temporarily close the trail while solutions (temporary and long-term) are being sought. Place signage to indicate to visitors the reason and expected length of the closure, along with contact information. Study, as the condition worsens, the feasibility of continuing to maintain various access trails and explore options.
- Maintain, and install directional and informational signage to direct vehicular and pedestrian traffic to recreational use areas and facilities within the park.
- Look at long-term solutions to parking issues as they develop, such as signage. As mentioned in goal 1, this may include designating bus specific parking areas during peak-use periods.
- Coordinate with USFWS on signage for offshore islands and wildlife interpretation.
- Plant, remove and prune designed landscape areas where needed to beautify roads and parking areas, retain scenic views, and provide visual buffers within the park. Ensure coordination with natural resources staff occurs if there is the potential for impact to "species of interest".

Goal 4: Promote public awareness, understanding, appreciation, and enjoyment of the recreation settings through resource interpretation.

OPRD will strive to share and interpret park and local history along with geologic, scenic, and natural resources with a wider audience. The ocean shore and marine resources make the Brookings/Harris Beach area an outstanding location for interpretation. There is a great opportunity to educate visitors, especially since the majority of them have been to the area before and plan to return in the future. Even those that are visiting for the first time believe that they are highly likely to return in the future.

OPRD has a wonderful opportunity to get in touch with visitors, particularly those to the Harris Beach day-use area and campground. This point of contact needs to be capitalized upon as it would be possible to provide them with targeted information to improve their visit and reduce impacts to the rocky shore.

A large number (almost 50%) of visitors surveyed indicated they are interested in learning more about rocky shores/tidepools on a future visit. The preferred method of receiving this information was through on-site staff, either via guided tour or a roving ranger.

- Develop a rocky shore site specific interpretive plan (as part of the plan for the management unit) that includes themes, recommended programs and materials
 - The focus should be on improving on-site presence.
 - Use the information gained from the on-site recreation survey and staff knowledge to determine the optimal times for on-site presence and interpretive services.
 - Balance the need for additional signs with the desire to keep the areas “as natural” as possible.
- Work to improve on site interpretive services including roving rangers, signage etc. Work with partners and volunteers to help accomplish this.
 - Coordinate with USFWS to continue to place wildlife interpreters at Harris Beach and other parks in the area.
 - Explore expanding park volunteer programs to include environmental education and interpretive volunteers with partners.
- Work with USFWS, ODFW and others to decrease wildlife disturbance on refuge lands and adjacent shoreline by developing signs and other information to keep the public off rocks, reefs and islands that are accessible at low tide.
- As resources permit, increase coordination with large groups (e.g., school groups) to improve educational benefits of the visits and decrease impact to natural resources.
 - As practicable, organize OPRD-led groups so that they avoid peak visitation periods. This would mean having the groups avoid the time period between 10-noon.
 - Encourage groups to visit during days that do not necessarily have the lowest tides of the year. They will likely have a better experience since the area will not be as crowded, and the resource will not be as heavily impacted. Low tides below +1 are acceptable for tidepooling, and will provide for the needs of the average person interested in this recreational activity. Days when the low tide occurs earlier in the morning also receive far less use than those that occur between eight and 11 AM in the morning.
- Determine ways of reaching out to schools. Provide interpretive services to teachers leading field trips to the parks.
- Provide interpretive services to school groups to improve their educational experience at the site.
- Coordinate with the tribes on any interpretive stories that relate to cultural resources.
- Improve visitor awareness and understanding of the special protected status of the marine garden and research reserve.
- Deliver consistent messages about tidepool etiquette, including encouraging rocky shore recreation (including OPRD facilitated trips) to occur at the sand/rock interface.
- Provide information to harness the increasing availability and interest of aging Oregonians in volunteering in their communities.
- Communicate information about park resources and services on the OPRD website. Use social

networking sites to provide up-to-date information, particularly interpretive events.

- The majority of visitors that based their visit on the low tide (which is only 35 % at Harris Beach) used tide charts and/or the internet. Since OPRD produces tide charts that are distributed across the state, this is a potential avenue for information (which is currently limited to beach safety tips). This may be as simple as providing a web-link to allow visitors to access the tide-chart online as well as rocky shore information (e.g., etiquette, ecology). Another popular avenue for getting this information is OPRD staff and/or postings.

Rocky shore specific interpretive goals from the “Coos I Plan” for Sunset Bay are included below for easy reference (The Acorn Group, 2007). The focus of the following rocky shore specific interpretive goals is on what OPRD might like its visitors to take from a visit to the shoreline at Sunset Bay Management Unit parks and might also be applicable to Harris Beach.

- Visitors will appreciate these parks and the role they play in supporting marine habitats.
- Visitors will respect and value efforts directed at protecting park and ocean shore resources, including safeguards and protections that apply directly to visitor enjoyment, comfort, and safety.
- Visitors will understand that this region undergoes constant, gradual change caused by natural forces, processes, and cycles.
- Visitors will indicate awareness that tidepools and marine wildlife is protected.
- Visitors will understand that intertidal organisms are adapted to constant fluctuations in water level, temperature, and salinity.
- Visitors will gain an understanding of how intertidal organisms, despite their resilience to daily and seasonal environmental change, are less resilient to human behavior which may cause injury.
- Visitors will gain an understanding of the various ways human populations have been connected to this site over time.
- Visitors will know the rules and regulations that help protect and manage state parks and coastal waters and the reasons they are in place.
- Visitors will demonstrate heightened awareness

of, understanding of, and support for these parks through their adherence to rules and regulations. Park staff will seek voluntary compliance of rules whenever possible.

- Visitors will keep a safe distance between themselves and any marine mammals.
- Visitors will refrain from exploration that causes injury to organisms (e.g., prying off rocks, not returning items to their exact location after temporary removal, wading in tidepools, moving rocks, and collecting without a permit.)

Goal 5: Form partnership and agreements to aid in achieving goals

Many of the issues identified in the scoping for these parks identified partners as part of the solution.

- Identify and follow-through with viable potential partnerships, as practicable, to work through the above listed activities, and new ones that emerge in the future.
 - For example, one of the key issues is lack of staffing to provide on-site presence for interpretive purposes. Work with partners to improve volunteer opportunities, management, training, and recruitment to help supplement OPRD staffing needs.
 - Another key issue where partnerships is crucial is the coordination of research needs and implementation with other agencies and research institutions. Work with partners to improve the sharing of research results (current and future) and develop priority research and monitoring needs for the areas (e.g., recreational carrying capacity, direct impact of human use).
- Develop and formalize agreements as necessary to promote ongoing partnerships.
 - Coordinate with USFWS on implementation of items recommended in their recently released Comprehensive Conservation Plan including a potential MOU the parks in the area.
- Promote the use of the above goals and strategies when working with others as partners in joint activities at the parks.

References Cited

REFERENCES CITED

- Addressi, L. 1994. Human Disturbance and Long-Term Changes on a Rocky Intertidal Community. *Ecological Applications* 4 (4): 786-797.
- Armstrong, Chester H. History of the Oregon State Parks, Oregon State Parks and Recreation Department, Oregon Department of Transportation, 1965.
- Brosnan, D.M., and L.L. Cumrine. 1994. Effects of human trampling on marine rocky shore communities. *Journal of Experimental Marine Biology and Ecology* 177: 79-97.
- Castilla, J.C. 1999. Coastal marine communities: trends and perspectives from human-exclusion experiments. *Trends in Ecology and Evolution* 14(7): 280-283.
- Department of Land Conservation and Development (DLCD). 2009. The Oregon Coastal Atlas. Available online at: <http://www.coastalatlantlas.net/>
- Fox, D. 1994. Non-Harvest Human Impacts to Rocky Intertidal Habitats-A Pilot Project. Oregon Department of Fish and Wildlife. Retrieved 9/2/2005 from <http://hdl.handle.net/1957/286>.
- Fox, D., Merems, A., Miller, B., Long, M., McCrae, J., and J. Mohler. 1994. Oregon Rocky Shores Natural Resource Inventory. Oregon Department of Fish and Wildlife, Marine Region. 168 pages.
- Hillmann, 2006. Rocky Shore Management in Oregon: Status and Trends of Resources, Uses, and Management.
- Lund, E.H. 1975. Landforms along the Coast of Curry County, Oregon. The ORE BIN 37 (4): State of Oregon Department of Geology and Mineral Industries
- Naughton, M.B., D.S. Pitkin, R.W. Lowe, K.J. So, and C.S. Strong. 2007. Catalog of Oregon seabird colonies. U.S. Department of Interior; Fish and Wildlife Service, Biological Technical Publication FWS/BTP-R1009-2007, Washington, D.C.
- Oregon Biodiversity Information Center (ORBIC). 2010. Rare, Threatened and Endangered Species of Oregon. Institute for Natural Resources, Portland State University, Portland, Oregon. 105 pp. Retrieved 11/23/2010 from <http://orbic.pdx.edu/documents/2010-rte-book.pdf>
- Oregon Department of Fish and Wildlife (ODFW). 2006. The Oregon Nearshore Strategy. ODFW, Newport, Oregon.
- Oregon Department of Fish and Wildlife (ODFW). 2008. 2008 ODFW Pinniped Haulout Information [computer files].
- Oregon Department of Fish and Wildlife (ODFW). 2010. 2010 Oregon Sport Fishing Regulations. Retrieved 11/29/2010 from http://www.dfw.state.or.us/fish/docs/2010_oregon_sport_fishing_regs.pdf
- **See if can find things about Boardman/Harris Beach historical stuff
- Oregon Natural Heritage Information Center. 2007. Rare, Threatened and Endangered Species of Oregon. Oregon Natural Heritage Information Center, Oregon State University, Portland, Oregon. 100 pp.
- Oregon Natural Heritage Information Center (ORNHIC). 2009. Updates to the "Rare, Threatened and Endangered Species of Oregon." Retrieved 10/21/2009 from <http://oregonstate.edu/ornhic/publications.html>
- Oregon Natural Heritage Program. 2003. Oregon Natural Heritage Plan. Department of State Lands, Salem, OR. 167 pp.
- Oregon Ocean Policy Advisory Council (OPAC). 1994. Oregon Territorial Sea Plan. 250 pp. Retrieved 9/2/2005 from <http://159.121.112.22/coast/offshore/otsptoc.html>.
- Oregon Parks and Recreation Department (OPRD)

1995. Systems Plan. OPRD, Salem, Oregon.

Oregon Parks and Recreation Department (OPRD). 2003a. The 2003-2007 Oregon Statewide Comprehensive Outdoor Recreation Plan (SCORP). Retrieved 7/24/2008 from http://egov.oregon.gov/OPRD/PLANS/scorp03_07.shtml.

Oregon Parks and Recreation Department (OPRD). 2003b. The Curry County State Parks Master Plan. Retrieved 10/25/2010 from http://www.oregon.gov/OPRD/PLANS/docs/masterplans/curry_county.pdf

Oregon Parks and Recreation Department (OPRD). 2005. Ocean Shores Management Plan. 188 pages. Retrieved 09/14/05 from http://www.oregon.gov/OPRD/PLANS/docs/masterplans/osmp_hcp/FinalOceanShoresMP052305.pdf.

Oregon Parks and Recreation Department (OPRD). 2008. Outdoor Recreation in Oregon: The Changing Face of the Future. The 2008-2012 Oregon Statewide Comprehensive Outdoor Recreation Plan (SCORP). 246 pp. Retrieved 7/24/2008 from http://egov.oregon.gov/OPRD/PLANS/scorp08_12.shtml.

Rawichutiwan, A. 2006. School Group Use of Oregon's Rocky Intertidal Areas: Impacts and Management. Marine Resource Management Program, College of Oceanic and Atmospheric Sciences. Oregon State University.

Riemer, S.D, and R.F. Brown. 1997. Monitoring Human-Wildlife Interactions and Disturbance of Seabirds and Pinnipeds at Three Arch Rocks National Wildlife Refuge, 1993-1994. Oregon Department of Fish and Wildlife. 27 pp.

Rilov, 2010. Oregon State Parks Rocky Shore Species Inventories: Final Report for Year 2009. Note: This report is included in the appendix of this document.

Runyan Associates, Dean. 2009. Fishing, Hunting, Wildlife Viewing, and Shellfishing in Oregon, 2008. Retrieved 9/15/2009 from <http://www.dfw.state.or.us/>

[agency/docs/Report_5_6_09--Final%20\(2\).pdf](http://www.oregon.gov/OPRD/PLANS/docs/Report_5_6_09--Final%20(2).pdf)

Schoch, G.C., B.A. Menge, G. Allison, M. Kavanaugh, S.A. Thompson, and S.A. Wood. 2006. Fifteen degrees of separation: Latitudinal gradients of rocky intertidal biota along the California Current. *Limnol. Oceanogr.* 51(6): 2564-2585.

Shelby, B., and J. Tokarczyk. 2002. Oregon Shore Recreation Use Study. 130 pages. Retrieved 09/02/05 from http://www.oregon.gov/OPRD/PLANS/docs/masterplans/osmp_hcp/osmp_beach_study.pdf

The Acorn Group. 2007. Coos I Regional Interpretive Plan. Developed for the Oregon Parks and Recreation Department. The Acorn Group, Inc. Tustin, CA.

Underwood, A.J., and S.J. Kennelly. 1990. A.J. Pilot Studies for Designs of Surveys of Human Disturbance of Intertidal Habitats in New South Wales. *Australian Journal of Marine and Freshwater Research* 41:165-173.

United States Fish and Wildlife Service (USFWS). 2007. Black Oystercatcher Survey Results (2005-2007). Retrieved 11/5/2010 from <http://www.fws.gov/oregonfwo/Species/Data/BlackOystercatcher/default.asp>

United States Fish and Wildlife Service (USFWS). 2009a. Oregon Coast National Wildlife Refuge Complex Wildlife: Pinnipeds. Retrieved 8/10/2009 from <http://www.fws.gov/oregoncoast/wildlife/pinniped.htm#4>

United States Fish and Wildlife Service (USFWS). 2009b. Black Oystercatcher Preliminary Survey Results 2009. Retrieved 11/5/2010 from <http://www.fws.gov/oregonfwo/Species/Data/BlackOystercatcher/Documents/BLOY2009PreliminarySurveyResults.pdf>

United States Fish and Wildlife Service (USFWS). 2009c. Oregon Islands, Three Arch Rocks, and Cape Meares National Wildlife Refuges: Comprehensive Conservation Plan and Wilderness Stewardship Plan.