

Oregon Parks and Recreation Commission

September 24, 2013

Agenda Item: 12

Information

Topic: Reports

Agenda Item: 12a

Topic: Snowy Plover Management Plan

Attachment: Draft Western Snowy Plover Site Management Plan for Nehalem Spit
at Nehalem Bay State Park

Prepared by: Laurel Hillmann and Vanessa Blackstone

Background: OPRD completed a Habitat Conservation Plan for Western Snowy plover (HCP) that requires OPRD to complete four site management plans, in cooperation with and approved by the U.S. Fish & Wildlife Service (USFWS), for Bandon State Natural Area, Clatsop Spit (Fort Stevens State Park), Necanicum Spit (Gearhart Ocean SRA), and Nehalem Spit (Nehalem Bay SP). Bandon's site management plan was completed and approved by USFWS in 2012 and implemented beginning March 15, 2013. With pending approval of the three remaining management plans, active management is anticipated to begin March 15th, 2014 at these three other sites. Many of the restrictions will not go into place at these areas until Western snowy plover breeding adults are observed within their boundaries. The plans outline OPRD's activities to (1) protect potential plover nesting areas; (2) reduce recreational disturbance; and (3) implement natural resource management activities.

Update on Planning Efforts: The "Draft Western Snowy Plover Site Management Plan for Nehalem Spit at Nehalem Bay State Park" (Exhibit A) was submitted to USFWS on July 15, 2013. OPRD will be coordinating with the Army Corps of Engineers, City of Manzanita, and Tillamook County regarding habitat restoration and public outreach efforts at Nehalem Spit.

Next Steps: OPRD is waiting for USFWS comments on the Draft Nehalem Spit Site Management Plan. Additional revisions based on comments from USFWS may be necessary. Final plans for Clatsop Spit, Nehalem Spit, and Necanicum Spit will be presented to the Commission prior to final submittal to USFWS late 2013.

Prior Action by the Commission: The development of the HCP and agreements with U.S. Fish and Wildlife Service has been before the Commission as:

- March 2002, approved first federal grant for \$104,000
- August 2005, approved second federal grant for \$200,000
- June 2006, approved hiring Jones and Stokes to develop the HCP, amending contract in January 2007 for a contract total of \$559,686
- May 2010, approved the HCP to be submitted to the U.S. Fish and Wildlife Service toward obtaining an Implementing Agreement and Incidental Take Permit (ITP).

Agenda Item: 12b

Topic: Stewardship Projects funded by Land Rental and Salmon Plate Funds

Attachment: 2011-2013 Natural Resources Stewardship Grants Report

Prepared by: Noel Bacheller

Each biennium funds are allocated for special natural resource stewardship projects from the Land Rental Sinking Fund and the Salmon Plate fund for restoration and enhancement of natural resources on OPRD properties. For the 2011-13 biennium, \$240,000 was allocated for these projects from the Land Rental fund and \$400,000 was allocated from the Salmon Plate Fund. The funding allocated to these projects leveraged \$1,722,329 in external cash funding toward work on OPRD properties, in addition to significant external contributions of labor, equipment, and materials.

The attached report summarizes the project selection process and the results or progress made for the projects selected.

Agenda Item: 12c

Topic: Visitor Experience Staff Training Program Update

Prepared by: Vicki Sink

Overview

Oregon Parks and Recreation Department (OPRD) provides quality visitor experience training to guarantee visitors the most engaging, accurate, and appropriate interpretive experiences in State Parks, while clearly defining and supporting the responsibilities of its staff to deliver on quality visitor experiences. OPRD's Visitor Experience Program has been building for the last 13 years and has become one of the most recognized state park programs in the US. This is due in large part to the importance placed on staff training. In 2013, ten training programs were held statewide and four at the regional level with a total of 250 staff attending.

OPRD visitor experience staff delivers the majority of training. The professionalism is backed by the use the National Association for Interpretation's (NAI) certifications, Certified Interpretive Guide (CIG) and Certified Interpretive Trainer (CIT). There is currently nine visitor experience staff with NAI Certified Trainer (CIT) status. These trainers teach CORE, JR Ranger, Rocky Shores, NAI CIG, Environmental Education and EnVITe.

Statewide Training:

CORE Interpretive Training

Training Goals: Prepare front-line interpreters with skills to develop and deliver thematic interpretive programs.

Outcome: OPRD will see an increase in visitor attendance and an increase in the quality of programming.

OPRD staff with NAI CIT status, and other permanent interpretive staff, teach the annual CORE Interpretive Training, held every June.

A total of 42 participants (16 volunteer hosts, 3 permanents and 23 seasonal staff) attended this training.

JR Ranger Training

Training Goals: Prepare OPRD staff and volunteers responsible for delivering JR Ranger programs with the most updated information to successfully run the JR Ranger Passport program, and help reconnect youth with natural, cultural and recreational resources.

Outcome: OPRD will see an increase in signups for the JR Ranger Passport program, as well as an increase in quality, age-appropriate programs.

OPRD staff with NAI Certified Trainer status, and other interpretive staff who have a number of years' experience with the JR Ranger program, deliver the JR Ranger training. Prior to 2012, JR Ranger training was a separate day and a half prior to CORE. The training committee combined both trainings in 2012 for efficiency. This year, 42 participants attended.

Birding Workshop

Training Goals: Support full time OPRD Interpreters and Cooperating Association education staff with

- leading birding programs or events of various types throughout the year,
- opportunities to learn about available OPRD resources and how to tap into partner resources,
- opportunities to observe examples of birding programs and learn introductory skills.

Outcome: The agency will see an increase in a variety of birding programs, one activity ranked high by park visitors on the Statewide Comprehensive Outdoor Recreation Plan.

OPRD staff led these workshops. The former statewide interpretive coordinator and Tryon Creek park manager organized and led all aspects. This is the first year for birding workshops. One workshop in April focused on permanent staff, with 12 participants. The second was held the day before CORE/JR

Ranger Training, to include volunteers and seasonal interpretive. In all, this workshop gathered 26 participants.

Rocky Shores Training

Training Goals: Provide OPRD staff who work along the coast with

- skills and knowledge in understanding natural and cultural resources related to Rocky Shores Tidepools – including safety, science, geology, and marine debris,
- an opportunity to collaborate with other agencies and organizations that also provide visitor experiences along the coast.

Outcome: Increase in attendance and quality of programs along the Oregon coast and at tidepools.

This annual training, begun in 2000, is held the last week of June. OPRD interpretive staff work with other agencies to deliver the training. This year there were 23 participants from a number of agencies and organizations.

EnVITE Training (Engaging Visitors through Interpretive Techniques)

The Statewide Interpretive Team first proposed this training in 2009, going through the Interpretive Retreat held in October of 2010, and reviewed by the Executive Team and Parks Commission in April 2012. Interpretive Team sub-committee developed the training. During the inaugural summer of 2012, 124 participants, mainly seasonal staff, participated in ten trainings in the spring and summer of 2012. The responses to these trainings from volunteers and staff were overwhelmingly positive with additional interactive demonstrations requested.

The training was revised for 2013 based on observations and comments from the initial workshop. This spring/summer we provided 6 EnVITE trainings with 70 participants, the majority being seasonal and full-time staff. The EnVITE training team will reconvene this fall with plans to overhaul the material, looking to the Attract, Engage and Extend model.

Training Goals: Provide non-interpretive front-line staff and volunteers with

- an introduction to interpretation,
- techniques on how to engage visitors through positive customer service and interpretive principles.

Outcome: OPRD will see an increase in positive comments via the yellow comment cards, an increase in staff engagement with visitors, and an increase in staff support for interpretation.

NAI: CIG/CIT Workshop

Interpretive staff with CIT status deliver these workshops. One Certified Interpretive Guide (CIG) workshop was held in October 2012 at Yaquina Bay Lighthouse, with 21 participants. We had 14 OPRD staff attend, 2 from the State Fair, and others from BLM, Haystack Rock Awareness Program, and NPS. Interpretive staff are planning another workshop in October 2013. Tryon Creek State Natural Area hosted a Certified Interpretive Trainer workshop in May, with 2 OPRD staff attending.

Training Goals: Provide interpreters with access to new resources, maintain a professional quality to programs, and provide an opportunity for interpretive staff to increase training skills.

Outcome: OPRD will see an increase in program quality, and increase in additional skills for interpreters, and an increase in quality of trainings and trainers.

Interpretive Skills (Techniques) Workshop

In an effort to get some volunteers out on the trail and in the classroom roving this spring and summer, Friends of Tryon Creek and OPRD staff offered a one day Interpretive Roving Training at Tryon Creek. There were 9 participants.

Training Goals: Enhance interpretive staff skills with various interpretive techniques.

Outcome: Improve program quality and add to interpreter's skills.

Geology Workshops

OPRD partnered in the fall of 2012 with Robert Lillie, retired Professor of Geology at Oregon State University, for this series of geology workshops. Each region hosted a workshop for its staff. Overall, 36 OPRD staff attended the workshops.

Training Goals: Provide three regional workshops around the state, with emphasis on how the landscape and geological processes are integral parts of Oregon's natural and cultural history.

Outcome: Increase staff knowledge of basic geology and how Oregon's landscape was formed, and increase number of geology related programs.

Environmental Education Training

Eighteen (18) OPRD interpreters participated in the Environmental Education workshop in November 2012. Each region was represented.

Training Goals: Provide OPRD staff with understanding of Environmental Education (EE) and how it fits into OPRD.

Outcome: Provide opportunity for interpretive staff to develop EE programs using the Oregon Environmental Literacy Plan and Environmental Literacy Strands, and identify ways they can support schools at their parks.

Watercraft Safety Training

OPRD brought in trainers from Oregon Marine Board to provide training to Let's Go Paddling staff and interpreters who deliver interpretive kayak trips. Two dates, one in June and one in July, provided 12 participants each with American Canoe Association certification.

Training Goals: Provide certified safety training for new Let's Go Paddling program and other interpretive-led kayak tours, and identify opportunity to standardize all watercraft training throughout the state.

Outcome: Increase skills necessary to provide safe kayak and canoe trips, and learn important rescue skills.

Regional Training:

Interpretive Trainings in Mountain Region

Led by Paul Patton (Mountain Region Cultural Resources Coordinator)

May 9: Fort Rock Cave Tour Guide Refresher (review cultural significance of site in relation to on-going discoveries & tour guiding techniques/mechanics, etc.)

August 8: Mini-Interpretive Workshop at Emigrant Springs

August 16: Mini-Interpretive Workshop at Collier

- Making the transition to the Visitor Experiences Program (informative)
- Guided tour of the Cookhouse and outdoor logging museum "period cell" exhibits
- "No Way!; What?; Really?": Interpreting your park's unusual, un-ordinary and unique resources and stories
- Plenty of time for Q&A, brainstorming and sharing! (really a rah-rah session to build and sustain team/individual enthusiasm and energy toward the end of the summer season)

Tryon Creek/Milo McIver Mini-Workshops

Led by Dorothy Brown-Kwaiser (Park Ranger 3 – Tryon Creek)

There were 8 participants at each workshop.

July 5: Interpretive Meeting

- "Saving Lives" is a simple, fun activity to start on a light note.
- "Interpretive Handbook" for interpretive teams to modify for their parks

- Workplans, Resources and Projects
- "Roses & Thorns" – review of what is going well & what has been difficult
- "Goal Cards" – making a professional but personal road map for the summer

July 26: Interpretive Meeting

- Interpretive Mathematics & Quotes
- Interpretive Techniques
- InterpreTRIUMPH / InterpreFIASCO.
- Tour of Tryon Future Exhibit

Willamette District Mini-Workshop

Led by Vicki Sink (Valleys Region Visitor Experience Coordinator)

Willamette District interpreters met at Fort Yamhill during the archaeology dig for a close-up look into the fort's past. They not only received a glimpse of what life might have been like for soldiers stationed there in the mid-1800s, they also got a peak into daily life for the Park Ranger stationed there today. A discussion about the summer and upcoming trainings was held at the end of the day.

Valleys Region Interpretive Ranger Swaps

Valleys Region interpretive staff shadowed other interpretive staff by taking the opportunity to present at a different park, and hosting an interpretive ranger at their park. Staff submitted a reflection about their experience. Approximately 14 Portland District and 4 Willamette District staff participated.

NEHALEM SPIT NEHALEM BAY STATE PARK



Photo credit: K. Castelein



Nature
Discovery

Draft Western Snowy Plover
Site Management Plan

July
2013





DRAFT Western Snowy Plover Site Management Plan
Nehalem Spit (Nehalem Bay State Park)
July 2013

Internal OPRD review draft

Oregon Parks and 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.

Oregon Parks & Recreation Department

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Salem, OR 97301-0792

Info Center: 1-800-551-6949

egov.oregon.gov/OPRD/index.shtml

Title: DRAFT Western Snowy Plover Site Management Plan Nehalem Spit (Nehalem Bay State Park).

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Cover Image: Snowy plover image courtesy of Kathy Castelein, ORBIC. All other photos, OPRD.

Internal OPRD review Draft

Executive Summary

The Pacific coast population of the western snowy plover (*Charadrius nivosus nivosus*) is a state and federally listed (threatened) small shorebird that lives on sandy beach areas along the west coast of the United States and Mexico. In Oregon, the beaches are managed by Oregon Parks and Recreation Department (OPRD) as the Ocean Shore State Recreation Area (Ocean Shore). Management of the Ocean Shore, including recreation management, general beach management, and management of natural resources may negatively affect shorebirds, including snowy plovers and their habitat resulting in take of the species as defined under the Endangered Species Act (ESA).

OPRD completed a Habitat Conservation Plan (HCP) in August 2010 as part of the requirements to obtain an incidental take permit (ITP). The ITP (#TE30687A-0), issued in December 2010, provides OPRD with the long-term regulatory assurance that implementation of its coastal management responsibilities would comply with the ESA, while providing protection for snowy plovers (ICF International 2010a).

The HCP requires OPRD to complete a site management plan, in cooperation with and approved by the USFWS, for all of its Snowy Plover Management Areas (SPMAs). A draft plan for the Nehalem Spit SPMA, a currently unoccupied SPMA managed by OPRD, must be completed within two years of ITP issuance. A seven month delay was granted to allow OPRD additional time to address site specific challenges. The goal of the site management plan is to provide guidance for day-to-day activities that will lead to the conservation and recovery of western snowy plover and their habitat in a manner that balances this effort with human use of the Ocean Shore. Under the HCP, the Nehalem Bay site is identified as the Nehalem Spit SPMA. Active management of the Nehalem Spit SPMA will begin March 15th, 2015 or once suitable habitat is present (whichever comes first), however many of the restrictions will not go into place until the site is occupied. This plan outlines OPRD's activities to protect plover nesting areas; reduce recreational disturbance to encourage and maintain occupancy; and implement natural resource management activities, including habitat restoration. A summary of the proposed actions described in this plan is provided on the following page.

Summary of Proposed Management Actions at Nehalem Spit SPMA

- **Unoccupied Seasonal Recreation Restrictions (March 15 – July 15)**
 - Post access routes and the extent of beach use restrictions within the SPMA, encompassing designated areas of suitable habitat (suitable habitat area, SHA) and habitat restoration areas (HRAs, see Sec 3.1).

- Vehicles (motorized and non-motorized) prohibited on beach (except for administrative and permitted uses), or as otherwise restricted by existing Oregon Administrative Rule (OAR). *Note: this activity is already prohibited at this location.*
 - Dogs must remain on-leash. *Note: this activity is already required at all areas within the park boundary, unless otherwise marked.*
 - Seasonal posts and interpretive signage (but not ropes) will be installed to help ask for voluntary compliance of the following:
 - Request visitors voluntarily conduct recreational activities in the wet sand in designated suitable habitat areas. Posts and signs will define the dry sand breeding areas to be avoided.
 - Ensure beach access for equestrians; re-route horse access to beach as necessary to avoid SHAs and HRAs.
 - Driftwood collection may be allowed outside of plover nesting season by Special Use permit or other means, the details of which will need to be determined through a separate removal plan in coordination with USFWS.
 - If a plover nest is discovered, the SPMA will be managed as “occupied” through September 15, and will be considered occupied the following season.
- **Occupied Seasonal Recreation Restrictions (March 15 – September 15)**
 - Post access routes and the extent of beach use restrictions within the SPMA, encompassing SHAs and HRAs. Restrictions will not go into effect until suitable nesting habitat is present, either naturally or through restoration efforts (see Sec 3.1).
 - Prohibit vehicles (motorized and non-motorized) on the Ocean Shore (except for administrative use), or as otherwise restricted by existing Oregon Administrative Rule (OAR). *Note: this activity is already prohibited at this location.*
 - Prohibit dogs in designated suitable habitat areas, including HRAs, during nesting season.
 - Prohibit flying kites in designated suitable habitat areas, including HRAs, during nesting season.
 - Direct all recreational activities to the wet sand. Fences, ropes, and/or signs will define HRAs and other suitable habitat dry sand breeding areas to be avoided.
 - Possibly lift restrictions early if no nesting occurs by July 15.

▪ **Other Site Management Plan Commitments**

- Provide habitat restoration and maintenance. The location and size of the restoration area, when such efforts will be accomplished, and how they will be accomplished is outlined in the plan.
- Implement predator management efforts, species to be targeted, and the types and frequency of monitoring.
- Conduct detect/non-detect surveys while the site remains unoccupied. If the site becomes occupied, conduct breeding population monitoring during the nesting season. Assist USFWS in winter and breeding window surveys. Report findings to USFWS annually and work with snowy plover partners to evaluate the effectiveness of the HCP.
- Provide public interpretation and education efforts (e.g., interpretive staffing, signage, and brochures).
- Provide one full-time beach ranger, State Park staff, local law enforcement, and additional senior State troopers, as needed, to facilitate informational and enforcement activities.
- Review plan implementation every five years.

Internal OPRD review draft

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Internal OPRD review draft

Acronyms and Abbreviations

USACE	U.S. Army Corps of Engineers
APHIS-WS	Animal and Plant Health Inspection Service (Wildlife Services)
ATV	All-terrain vehicle
BLM	United States Bureau of Land Management
CWA	Clean Water Act
DEQ	Oregon Department of Environmental Quality
DLCD	Oregon Department of Land Conservation and Development
DSL	Oregon Department of State Lands
FESA	Federal Endangered Species Act
HCP	Habitat Conservation Plan
HRA	Habitat Restoration Area
GLO	General Land Office
ITP	Incidental Take Permit
OAR	Oregon Administrative Rule
Ocean Shore	Ocean Shore State Recreation Area
ODFW	Oregon Department of Fish and Wildlife
OESA	Oregon Endangered Species Act
OPRD	Oregon Parks and Recreation Department
ORBIC	Oregon Biodiversity Information Center
ORNHIC	Oregon Natural Heritage Information Center
ORS	Oregon Revised Statutes
Recovery Plan	Western Snowy Plover Pacific Coast Population Recovery Plan
RMA	Recreation Management Area
Services	U.S. Fish and Wildlife Service and National Marine Fisheries Service
SHA	Suitable Habitat Area
SPMA	Snowy Plover Management Area
SVL	Statutory Vegetation Line
USDA	U.S. Department of Agriculture
USFS	USDA U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

Acknowledgments

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Internal OPRD review draft

Section 1. Background

The Pacific coastal population of the western snowy plover (*Charadrius nivosus nivosus*) is a small shorebird that lives along the west coast of the United States and Mexico. The Pacific coast population of the western snowy plover was listed as threatened under the Federal Endangered Species Act (FESA) in 1993. The species was noted as threatened by the Oregon Fish and Wildlife Commission in 1975 and reaffirmed under Oregon's Endangered Species Act (OESA) in 1989.

In Oregon, the beaches are managed by Oregon Parks and Recreation Department (OPRD) as the Ocean Shore State Recreation Area (Ocean Shore). Snowy plovers forage, roost, nest, and raise chicks on sandy beach areas, which often fall within the boundaries of the Ocean Shore. Management of the Ocean Shore, including recreation management, general beach management, and management of natural resources may negatively affect snowy plovers and their habitat resulting in take of the species as defined under both state and federal ESAs (ICF International 2010a).

OPRD completed a Habitat Conservation Plan (HCP) in August 2010 as part of the requirements to obtain an incidental take permit (ITP). The ITP (TE30687A-0), issued in December 2010, provides OPRD with the long-term regulatory assurance that implementation of its coastal management responsibilities would comply with the ESAs, while providing protection for snowy plovers (ICF International 2010a).

The HCP requires OPRD to complete a site management plan, in cooperation with and approved by the USFWS, for all of its Snowy Plover Management Areas (SPMAs). A draft plan for the Nehalem Spit SPMA, currently an unoccupied SPMA managed by OPRD, must be completed within two years of ITP issuance. Under the HCP, the Nehalem Bay State Park site is identified as the Nehalem Spit SPMA. Active management of the Nehalem Spit SPMA will begin March 15th, 2014. This plan outlines OPRD's activities to protect potential plover nesting habitat; reduce recreational disturbance; and implement natural resource management activities, including habitat restoration.

1.1 Landownership and Management History

1.1.1. Landownership History

The approximately 1,152-acre property known as Nehalem Bay State Park is currently owned and managed by OPRD. The park was established in the 1930's. OPRD ownership typically goes to mean high water, below which the land is also owned by the state, typically by the Department of State Lands (DSL).

1.1.2. Management History

The upland property is currently managed and has been managed (since the 1930's) as a State Park with an extensive scenic setting and diverse opportunities for recreation and wildlife enjoyment (OPRD 2009). On the ocean-front side, OPRD manages the beach as part of the Ocean Shore State Recreation Area to extreme low water. The park is located within Tillamook County, Oregon.

1.2 Legal and Site Description

1.2.1. Legal Description

The Nehalem Spit SPMA falls within the boundaries of Nehalem Bay State Park and the Ocean Shore State Recreation Area and is located within Sections 5, 8 and 17 of T2N, R10W (Figure 2). Figures 2 and 3 show the boundary of the Nehalem Spit SPMA superimposed on aerial photography and a USGS topographic map, respectively. It is important to note that the hydrographic features shown on these maps are highly dynamic and change seasonally and from year-to-year. Several of the features noted in the figures are likely to move over time and the aerial and topographic backgrounds may not exactly match current conditions. The dates of the backgrounds are noted in the captions.

1.2.2. Site Description

The Nehalem Spit SPMA encompasses over 540 acres and includes a wide variety of habitats including sandy ocean shore beaches, the foredune, inland dunal areas, and shoreline along the Nehalem River estuary from the southern end of the spit to the day use parking area approximately two miles north (Figure 1 and Figure 2). Nehalem Spit is used by the recreating public for beach recreation which is described in more detail in Section 1.5. The only official beach access points within the SPMA are from the Ocean Shore north of the SPMA, a pedestrian trail from the day use parking area, and the service road/trail at the southern end of the spit directly north of the jetty, which is frequently utilized by horseback riders and hikers (Figure 1). Numerous unofficial beach access points also exist through the dunes from the main trail which runs north-south down the interior of the spit. Most park visitors access the beach from the day use parking area just outside the northern boundary of the SPMA, where it is then possible to hike south along the beach into the SPMA itself (Figure 1).

Historic conditions

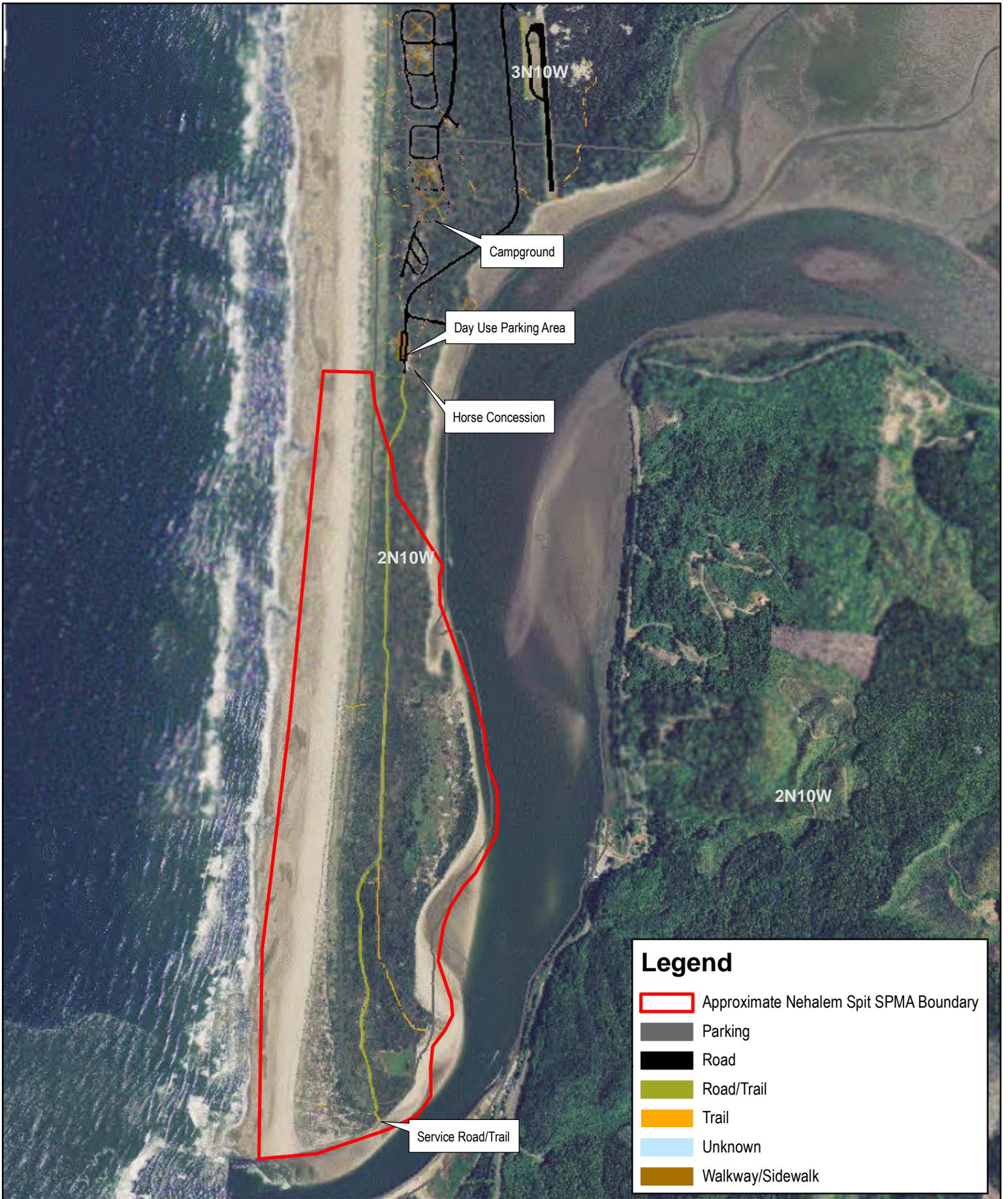
The General Land Office (GLO) surveys conducted in the mid-1800's included the area of the Nehalem Spit now designated as the SPMA (ORNHC 2008). The entirety of the area was classified as unvegetated sand dunes, which is reiterated by historical aerial photography. Historically, the dunes at Nehalem Bay supported significantly less vegetation

than they do today. Historical aerial photography from 1902 displays vast swaths of sparsely vegetated sand dunes. Trees clung to isolated patches of higher ground while shifting low-lying dunes sparsely covered with native grasses made-up the predominant plant communities. Presumably, American dunegrass (*Leymus mollis*) was the dominant graminoid species on the shifting dunes. The less extensive and developed deflation planes of that era supported depressions that flooded with fresh or brackish water and gave rise to various wetland plant communities (Duck Creek Associates 2006).

Planting for dune stabilization began on the Oregon Coast in the 1930s by utilizing non-native European beach grass, Scotch broom, and shore pine. The desire to stabilize the dunes arose from the incompatibility of shifting blowing sand and regional development. Stabilization work may have begun later than the 1930s in the Nehalem Bay State Park area as evidenced by historic photographs (Duck Creek Associates 2006). The plantings from as early the 1950s have successfully stabilized the dunes. However, this has taken time, and in the early 1970s the park's nickname was still "Sandblast State Park" referring to lots of blowing sand and little vegetation (OPRD 2009).

Historically, beaches in this area were characterized by much lower foredunes or undulating low and relatively flat sand drifts and mounds. Most areas probably consisted of low rounded mounds built up by native sand stabilizing plant species such as American dunegrass (*Leymus mollis*), yellow sand verbena (*Abronia latifolia*) and silver beach-weed (*Ambrosia chamissonis*). On Oregon's sandy beaches, vegetation cover greater than 20% was uncommon (Wilson 1980). More densely vegetated sandy areas formed low dunes that were generally oriented perpendicular to the coast, rather than parallel to the coast as is now generally the case.

Other species commonly present in the sparsely vegetated dune habitats include seashore bluegrass (*Poa macrantha*), beach morning glory (*Convolvulus soldanella*), red fescue (*Festuca rubra*), seaside lupine (*Lupinus littoralis*), beach silvertop (*Glehnia littoralis*), yarrow (*Achillea millefolium*), pearly everlasting (*Anaphallis margaritaea*), beach evening primrose (*Camissonia cheiranthifolia*), beach knotweed (*Polygonum paronychia*), beach strawberry (*Fragaria chiloensis*), salt rush (*Juncus lesueurii*), seaside tansy (*Tanacetum camphoratum*), beach pea (*Lathyrus japonicus*), gray beach pea (*Lathyrus littoralis*), and seaside dock (*Rumex maritima*). An at-risk plant species that may be found in this habitat is the state- endangered pink sand verbena (*Abronia umbellata*). Pink sand verbena represents a currently rare species that was more abundant and which may have even been relatively common in this area prior to widespread colonization by European beachgrass (*Ammophila arenaria*).



This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Oregon Lambert Projection
Datum NAD 83
2009 Aerial Imagery

Path: N:\Bioscience\Wildlife\Birds\Western Snowy Plover\Site Management Plans\Nehalem SPMA Figure 1.mxd
Date: 9/24/2012

0 375 750 1,500 Feet



Figure 1. Boundary of Clatsop Spit SPMA overlain on a 2009 aerial photograph.

W I L D L I F E
I S L A N D S
O R E G O N



Legend

 Approximate Nehalem Spit SPMA Boundary

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Oregon Lambert Projection
Datum NAD 83
USGS Quad Nehalem

Path: N:\Bioscience\Wildlife\Birds\Western Snowy Plover\Site Management Plans\Nehalem SPMA Figure 2.mxd
Date: 9/24/2012

0 375 750 1,500 Feet



Figure 2. Boundary of Nehalem Spit SPMA overlain on a USGS Topographic Quadrangle

Current conditions

Introduced to the U.S. west coast in the late 1800's, European beachgrass (*Ammophila arenaria*) has since fundamentally changed the nature of Oregon's coastal sand dunes (Cooper 1958, Green 1965, Franklin and Dyrness 1973, Wilson 1980, Zarnetske et al. 2010). A sand stabilizing species, European beachgrass has created foredunes not previously evident on the Oregon coast dominated in large part by that species (Wilson 1980). Beachgrass has generally decreased beach width, increased slope, reduced the amount of un-vegetated areas above high tide line and provided more cover for snowy plover predators (Wilson 1980, Zarnetske et al. 2010, ICF International 2010a).

In addition to European beachgrass, shore pine (*Pinus contorta*) and Scotch broom (*Cytisus scoparius*) were actively planted on the spit for the purposes of sand stabilization. The stabilization effort has significantly altered the plant communities and the topography of the dunes. Originally foredunes, the tall-ridges formed by sand trapping plants on the leeward side of the sparsely vegetated beach, were lower in elevation and less rich in nutrients (Christy et al. 1998). The planting of European beachgrass and its subsequent spread throughout the region has resulted in less wind erosion and a taller foredune than was originally present. Additionally, the decomposition of the European beachgrass has led to increased nutrients on the foredune that allows the foredune to more easily support vegetation. These enhanced foredunes trap sand blowing inland from the beach while increasing in size and cutting off sand to the interior dune. Consequently the landform adjacent to the foredune on the leeward side, known as the deflation plane, has increased substantially in width over the last 50 years. The majority of area of the Nehalem Bay State Park now lies on a densely vegetated deflation plane (Duck Creek Associates 2006).

Current habitat types with the Nehalem Spit SPMA include sparsely vegetated beaches, a steep foredune dominated entirely by European beachgrass, and an American dunegrass (*Leymus mollis*) plant community on the leeward side of the foredune. The remainder of the SPMA is a mix of woodland, shrubland, and herbaceous-covered deflation plane. The dominant plant association is a shore pine/Scotch broom/European beachgrass forest plant association. This habitat type has developed both from being planted as part of the dune stabilization efforts and from natural colonization of areas through seed dispersal. Wetland habitats are also common within the SPMA on the lower elevations of the deflation plane. Herbaceous wetland habitats are characterized by slough sedge (*Carex obnupta*) and Pacific silverweed (*Argentina egedii*). Forested and shrubland wetland habitats generally have components of shore pine (*Pinus contorta*), scattered Sitka spruce (*Picea sitchensis*), Hooker's willow (*Salix hookeriana*) and Douglas spiraea (*Spiraea douglasii*).

Inclement stormy weather is relatively common at Nehalem Spit, especially during late October through May. Storms coming out of the southwest form relatively warm fronts and may create higher tides than predicted in tide tables.

From June through August, frequent strong winds come in from the north. There is often a wrack line along much of the shoreline at Nehalem Spit. The exact amount of wet sand and wrack material available varies a great deal depending on weather, tides and other environmental factors.



Figure 3. Ocean Shore habitat within the Nehalem Spit SPMA

Plovers prefer open sandy habitat for breeding. Habitat modification that has occurred largely due to the introduction and spread of European beachgrass has reduced the amount of nesting habitat available (USFWS 2007), including within the Nehalem Spit SPMA where habitat is largely been eliminated (Figure 3). The steep foredunes prevent overwash and scour that naturally maintained plover's preferred habitat (ICF International 2010a). Plovers do not currently nest or raise their young at Nehalem Spit and it is considered an unoccupied SPMA (ICF International 2010a). Currently, there is no sizeable acreage of suitable habitat available for the snowy plover at Nehalem Spit, due to foredune height and a relatively narrow beach width, and high density of driftwood on the southwest portion adjacent to the jetty. Habitat restoration will be a necessary component of management within the SPMA in order to encourage use of the site by plovers.

Occupancy

Nehalem Spit SPMA is currently unoccupied – no snowy plover breeding has occurred in the past two years. However, the SPMA will be considered occupied if at least two snowy plovers are present during the nesting season and/or nest scrapes are discovered within the SPMA boundaries. The area will then be managed as occupied until July 15th. If a nest is discovered, then the SPMA will continue to be managed as an occupied area and will be recognized the next year as occupied.

Once Nehalem Spit is occupied, it will only become unoccupied when nesting or nesting activity has not occurred in the area for two consecutive nesting seasons.

1.3 Regulations

An U.S. Army Corps of Engineers (USACE) Section 404, Clean Water Act (CWA) permit is required for discharge of dredged or fill material into waters of the United States. This includes bulldozing sand west of the high tide line on the beach at Nehalem Spit. An USACE Rivers and Harbors Act Section 10 permit is also required for actions that occur in, under, over or would impact navigable waters (including the Columbia River and Pacific Ocean). Discharges subject to federal permitting must also comply with state water quality standards (CWA Section 401) which are regulated by the Oregon Department of Environmental Quality (DEQ). Currently, OPRD activities are covered by nationwide permit(s).

Oregon's statewide planning goals (namely, Goal 16: Estuarine Resources, Goal 17: Coastal Shorelands and Goal 18: Beaches and Dunes) are relevant to the actions proposed in this site management plan. The goals are achieved through local comprehensive plans completed by counties. Tillamook County has a comprehensive plan and local ordinances which have been acknowledged by the coastal program of Oregon's Department of Land Conservation and Development (DLCD). The HCP and its provisions have been reviewed by DLCD and were determined to be consistent with the Coastal Zone Management Act (CZMA).

1.4 Historical and Current Status of Plovers

Overall, snowy plover numbers and breeding locations have declined on the U.S. Pacific coast over the past century (ICF International 2010a). Between 1977 and 1980 there were an estimated 2,300 breeding snowy plovers along the coasts of Washington, Oregon, and California (Page et al. 1991). In 1988–1989 this number was estimated to be 1,900 (Page et al. 1991). In 2006, the estimated maximum population was slightly under 2500 adult birds spread out between

the Washington (70), Oregon (177-179) and California coasts and San Francisco Bay (2,231, USFWS 2007). For this west coast bird, the recovery bar has been set at an average of 3,000 breeding adults per year for 10 years. Oregon and Washington combined need to support 250 breeding plovers (USFWS 2007). In 2012, the number of resident plovers in Oregon was estimated at between 271-278 birds (Lauten et al. 2012). During Washington's 2010 breeding window survey, only 38 adult plovers were found, the lowest in the past five years (Pearson et al. 2010). Since intensive recovery efforts and monitoring began in 1993, the Oregon Coast population has been increasing (Figure 5).



Figure 4. Snowy plovers roosting on dry sand

Currently, snowy plover monitoring is conducted through the Oregon Biodiversity Information Center (ORBIC) as a joint task between BLM, USFS, USFWS, and OPRD. Distribution and abundance monitoring efforts include breeding and winter window surveys, detect/non-detect surveys, and productivity monitoring. Window surveys provide an index of population size and minimum number of birds, but not complete population counts. Detect/nondetect surveys determine site occupancy at each SPMA, and are described in Section 3.3.3. Productivity monitoring includes locating nests and tracking the outcomes, banding young, and tracking fledgling survival and is further described in Section 1.4.2.

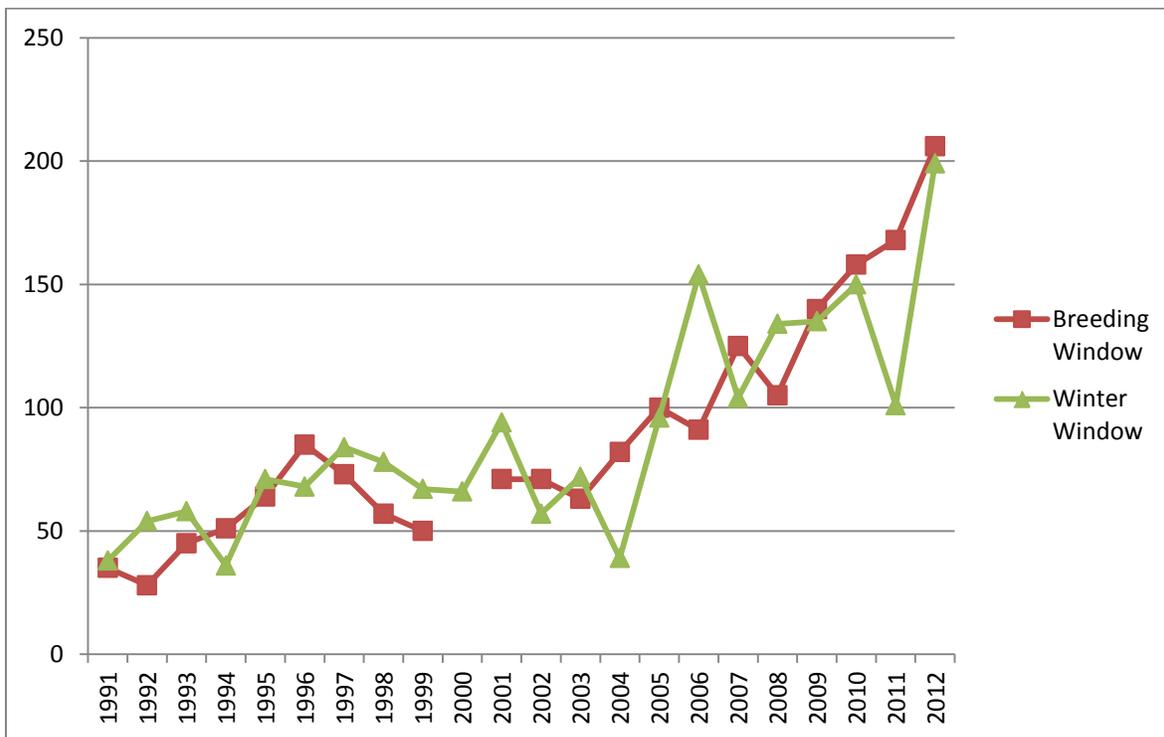


Figure 5. Oregon Coast breeding and winter window survey results

1.4.1. Population Status at Nehalem Spit

Historical records of snowy plover presence at Nehalem Spit date back as far as 1920, and the most recent record of a snowy plover at Nehalem Spit occurred as an incidental observation in 2012 (USFWS unpublished data). Breeding site occupancy is defined as an area where there has been at least one nest or nesting attempt in the previous two years (ICF International 2010a); the most recent confirmed nesting attempt was also in 1984. Nehalem does not currently serve as an overwinter site.

Wintering

Plovers mainly overwinter in coastal areas between southern Washington to Central America (Page et al. 1995), with less than 3% of the total population wintering in Oregon (USFWS unpublished data). Approximately 80% of the Oregon breeding plover population is believed to overwinter on the Oregon coast (ICF International 2010a), where there are eight known overwintering site (ICF International 2010a). Winter surveys at Nehalem Spit have occurred sporadically since 1991, but no birds have been detected during surveys (Table 1); the most recent incidental wintering record was in 2012 (USFWS unpublished data). Numbers of snowy plovers counted during winter window surveys vary widely from year to year, in part due to reduced detectability associated with poor weather as well as plovers moving more

frequently over a large area during winter. Winter window surveys are intended to provide a range-wide index of the plover population over time; these surveys provide a minimum estimate of plovers at current, historic, and potential breeding sites (USFWS 2007). Winter window surveys are conducted during a migratory period, when inland and coastal birds can overlap. Since the two populations are visually indistinguishable, the winter survey provides a minimum count of coastal and inland birds combined. While direct comparisons of overwintering sites are not viable, winter surveys identify overwinter sites and detect shifts in distributions. Survey methods are described in Appendix J of the Recovery Plan (USFWS 2007).

Breeding Season

In the early 1970's, the estimated coast wide population estimate was about 300 birds with 216 observed at 19 beaches in Oregon (Wilson 1980). In 1978, annual breeding window surveys began and ranged between 139 in 1981 and 30 birds in 1992 (USFWS 2007). In 2012 the breeding window surveys detected 206 birds, and a minimum of 231 snowy plovers were known to have nested in Oregon (Lauten et al. 2012).

In addition to lower numbers of breeding pairs when comparing breeding window surveys to historical data, there are also fewer breeding sites. Snowy plovers historically bred at over 20 locations on the coast (USFWS 2007). By 1978, evidence of nesting activity was present at only 12 of these beach sites in Oregon (Wilson 1980). Breeding window surveys have been conducted regularly at Nehalem Spit since 2008 and sporadically since 1992 (Table 1). The most recent confirmed nesting activity was in 1984. No breeding activity has occurred since, leaving Nehalem SPMA unoccupied. An incidental observation was also recorded in 2008 (USFWS unpublished data).

Similar to winter window surveys, breeding window surveys are intended to provide a range-wide index of the plover population over time; these surveys provide a minimum estimate of plovers at current, historic, and potential breeding sites (USFWS 2007). This index of population size also provides regional distribution and abundance data.

1.4.2. Nest Success and Productivity

Productivity monitoring includes locating nests and tracking the outcomes, banding young, and tracking fledgling survival. This monitoring helps determine estimates of nest abundance, nest fate, fledging success, use of habitat restoration areas, adult populations through marked individuals, and efficacy of predator management methods. Survey methods are described in Castelein et al. 2000a, 2000b, 2001, 2002, and Lauten et al. 2003. Tracking nest success, brood success, and hatch-year returns can help identify factors affecting the recovery of the species and guide management decisions.

Table 1. Nehalem Spit breeding and winter window survey results

Year	Breeding Window	Winter Window
2012	0	0
2011	0	0
2010	0	0
2009	0	0
2008	0	0
2007	0	0
2006	NS	0
2005	0	0
2004	NS	0
2003	0	0
2002	NS	0
2001	NS	0
2000	NS	0
1999	NS	NS
1998	NS	NS
1997	NS	NS
1996	NS	0
1995	NS	NS
1994	NS	NS
1993	NS	0
1992	0	0
1991	NS	0

¹ NS = Not surveyed

Source: USFWS unpublished data

Nest Success

Nest success in this site management plan is defined as the number of successful nests divided by total number of nests (apparent nest success; *from* Lauten et al. 2003). Nest success appears to rely on effective predator management, recreation management, and various environmental factors. Since no plovers occupy Nehalem SPMA, nest success is not applicable. Once the site becomes occupied, efforts to increase nest success will be implemented.

Predator Management: Nest success at Nehalem SPMA may be bolstered by lethal and non-lethal predator management methods combined with effective use of exclosures. Predator management is described in more detail in Section 3.2.

Disturbance and Recreation Management: People recreating in the area have the *potential* to impact nest success including people walking near symbolic fences, illegal fireworks, dogs-off leash and kite-boarders. Recreation disturbance is discussed in more detail in Section 2.1. Recreation management is described in Section 4.

Habitat variables: The encroachment of vegetation into suitable nesting habitat areas may provide cover to predators, and have an indirect effect on nesting success. Habitat restoration efforts may enhance the success of nests. Habitat management is described in Section 2.2 and 3.1.

Environmental Conditions: Other factors that may limit nest success at Nehalem include weather, high tides, and weather events (e.g., storms and strong winds that lead to sand inundation).

Productivity

In addition to nest success, the number of young that survive is another important component of snowy plover productivity and imperative to the recovery of the species. Reproductive success, the number of young fledged per adult male, is based on males because they provide post-hatching parental care, and females lay clutches for multiple males (Warriner et al. 1986). Reproductive success provides an index for comparing productivity between sites and years. Fledgling success, the percentage of hatched young that reach flying age, is not affected by exclosure use since hatched birds quickly vacate the nest area (Lauten et al. 2010).

Food availability, weather, predation, human disturbance, and other unknown potential effects are factors that can influence fledgling success. Snowy plovers forage in the wet sand and wrack line on invertebrates (USFWS 2007).

There is occasionally a wrack line along the shoreline at Nehalem SPMA; OPRD volunteer observers during 2012 reported low densities of invertebrates, suggesting that food availability may limit plover should Nehalem become occupied; however, observers in 2013 did note some macroinvertebrate presence. These reports were anecdotal, however, and did not quantify food availability. The exact amount of wet sand and wrack material available varies a great deal depending on weather, tides and other factors. Inclement, stormy weather is relatively common at Nehalem Spit during the nesting season, especially during the early portion of the season. Storms coming out of the southwest form relatively warm fronts and may create higher tides than predicted in tide tables. Later on in the plover nesting season, frequent strong winds from the north occur and may impact fledgling success. Issues related to predation at Nehalem Spit are described in Section 2.3.

Currently, management techniques to improve fledgling success at occupied sites consist of predator management (Section 3.2), habitat management (Section 3.1) and recreation management (Section 4). Should Nehalem become occupied, these techniques will be employed in consultation with USFWS and the Western Snowy Plover Working Team.

1.4.3. Survival

A final component to recovery of western snowy plover is survival. Adult survival is important to population dynamics and is addressed in the HCP by focusing on reduction of the identified threats to the snowy plover, discussed in the Recovery Plan (USFWS 2007). Adult survival can vary by site (Mullin et al. 2010). Efforts to assess adult survival on the Oregon coast are in process (E. Gaines pers.comm). In the absence of site-specific adult survival data, strategies to minimize these threats (outlined in this plan) may help improve and maintain survival at Nehalem Spit SPMA.



Figure 6. Snowy plover habitat and fencing at Bandon SPMA

1.5 Human Use of the Site

1.5.1. Recreation

Participating in beach-related activities is one of the top ten outdoor recreational activities for Oregonians and out of state visitors (OPRD 2003). Approximately six million annual beach visits to coastal regions are estimated to occur every year, with over half of those visits (4.2 million) by Oregon residents (OPRD 2003). Non-coastal Oregonians made up the majority of the visits; however, a smaller number of coastal residents visit the beach many more times than those who travel from elsewhere (OPRD 2003, OPRD 2005). There are more than 40 different recreation-related activities that occur on Oregon's Ocean Shore, of which 29 are the primary reason people go to the beach (Shelby and Tokarczyk 2002, OPRD 2005). Of course, activities vary seasonally and along the coast.

The Nehalem Spit SPMA falls within the north coast region, and more specifically in beach segment 1 (Columbia River-Nehalem River) in the 2002 Ocean Shore Recreational Survey conducted by OPRD (Shelby and Tokarczyk 2002). Some types of recreation are limited seasonally near and in potential plover habitat and areas at Nehalem Spit. The most popular activities noted in segment 1 were walking (38%), picnicking (27%) and scenic enjoyment (12%, Shelby and Tokarczyk 2002).

Compared to other beaches in the state, particularly on the central and north coast, the Nehalem Bay beaches receive average to slightly lower than average visitation (128/weekend day), and most of those that visit do not experience crowding (63%, Table 2.). SPMA's were chosen, in part, because the areas receive relatively lower levels of visitation during peak summer months than adjacent or nearby beaches (ICF International 2010a). The estimated yearly visitation for the Ocean Shore between Neahkanie Mountain and the Nehalem River is 49,972 visits (Shelby and Tokarczyk, 2002). This estimate includes a larger section of beach (~5.5 miles) than the target SPMA, so is likely quite a bit greater than actual use for the specific area of interest (ICF International 2010b). Use of the south end of the spit where the SPMA is located is anecdotally much lower than areas to the north due to access and distance.

The most common activities noted at the beach between the Neahkanie Mountain and Nehalem River, which includes the Nehalem Spit SPMA, is relaxing/scenic enjoyment (60%; Table 3), followed by walking/other exercise (22%). Other activities that are not as common but have the potential to impact plovers include dog walking (8%) and kite-flying (3%). Anecdotally, kiteboarding may be growing in the area, some land sailing occurs along with some surf-fishing/jetty fishing, horseback riding at south end, camping on the beach, and some surfing at the south end of this stretch of beach.

Recreational activities that occur at and have the potential to cause disturbance to plovers at the Nehalem Spit SPMA are described in more detail in section 2.1.1.

Table 2. Neahkanie Mt. to Nehalem River River Use Levels and Recreational Activities.

Recreational Activity	Percentage
Walking/other exercise	22
Nearshore Activities	3
Camping	0
Kite-flying	3
Dog Exercising	8
Relaxing/Scenic Enjoyment	60
Average Number of People/Weekend Day	128 (23/mile)
Average Number of People/Week Day	141 (26/mile)
Percentage reporting some crowding	37

Other Activities: Horseback riding, kayaking, hang gliding, fishing from beach. Source: Shelby and Tokarczyk, 2002.

1.5.2. Non-recreation uses

Beach Management

The Ocean Shore is a dynamic ecosystem, with constant change brought about by the Pacific Ocean, both naturally and as a result of the interface between humans and nature. OPRD is responsible for managing other types of non-recreational activities that occur on the Ocean Shore such as marine mammal strandings/removal, boat strandings/salvage operations, public safety, and law enforcement. These activities may require beach disturbance, walking and driving for beach access (including ATVs), operating machinery, and occasionally crowd-control. These activities will be implemented in a manner that minimizes impacts to plovers as described in the HCP (Section 3.3.2: Beach Management Activities).

Marine mammals, boats, and other items wash up on the Ocean Shore and sometimes, depending on the situation, require intervention by park and other agency staff (e.g., removal/burial of marine mammals and other items). In order to help preserve the public's safety while recreating on the beach, OPRD staff also engage in a variety of safety/maintenance activities such as maintaining emergency access points; investigating/removing unsafe drift logs; and investigating/facilitating the removal of hazardous materials on the beach (ICF International 2010a). Law enforcement activities by both OPRD staff and other law enforcement personnel involve investigating crimes and enforcement of rules on the beach.

Natural Resource Management

A variety of natural resource management activities are conducted by OPRD, including snowy plover management and habitat restoration activities for other sensitive species on the Ocean Shore. In the future, snowy plover management activities at Nehalem Spit may include predator management, managing volunteers who conduct public outreach and education to beach users, habitat restoration and maintenance work, and monitoring and reporting activities (ICF International 2010a). Habitat restoration for other species (although not currently planned), such as the state listed pink sand verberna, may also involve dune management or other activities (e.g., removal of exotics, planting native species) to restore native conditions. While these efforts are likely to also benefit the snowy plovers, some incidental impacts may occur (ICF International 2010a).

Internal OPRD review draft

Section 2. Management Issues

2.1 Human Disturbance

2.1.1. Recreation

Human recreation is often cited as one of the major threats to the breeding success of the snowy plover (ICF International 2010a). On the Oregon coast, human recreation may contribute to snowy plover reproductive failures and disturbance (ICF International 2010a).

Anecdotally, kiteboarding and land sailing may be growing in the area. Other noted recreational activities include surf-fishing and jetty fishing, horseback riding at the south end of the spit, camping on the beach, and some surfing at the south end of this stretch of beach.

Recreational activities that occur at and have the potential to cause disturbance *in the future* if snowy plovers nest at Nehalem Spit include:

- Disturbance by humans (e.g., hiking, walking, jogging) and/or pets getting too close to incubating or brooding birds. Dogs are currently required to be on-leash within and adjacent to Nehalem Bay State Park.
- Surf fishing, clamming, and beach camping could result in prolonged disturbance to nesting or brooding snowy plovers (ICF International 2010a). Beach camping is not allowed on the Ocean Shore adjacent to Nehalem Bay State Park. Infrequent illegal beach camping occurs, mainly near the end of the spit and on the river side of the spit. Surf fishing occurs, likely close to the beach access and on the river side of the spit, where people are “ferried” across by a local business
- Recreational users, including picnickers and campers, might leave behind food or trash, which could attract predators (ICF International 2010a). There is some picnicking, primarily near the campground and on the river side of the spit.
- Driftwood removal for fire building could disturb incubation, cause accidental crushing of eggs or chicks and remove important components of plover habitat (ICF International 2010a). This is not a location where people tend to go to collect large amounts of driftwood since it is a long walk back to a parking lot and driving is not allowed. However, there are large accumulations of driftwood along this beach and it builds up, especially near

the jetty. Occasional collection may occur by illegal campers or by day-users for small beach fires, likely relatively close to the beach access, for the most part.

- Illegal use of motorized vehicles on closed beaches could harass nesting plovers, crush nests and young chicks, and destroy sensitive native dune vegetation (ICF International 2010a). This activity occurs very infrequently at Nehalem Spit.
- Some kite-flying, land-sailing, and kite boarding occurs in the vicinity of Nehalem Bay State Park. Plovers might perceive kites as avian predators and temporarily or permanently abandon nests or young. The sudden movement of an adult leaving the nest or young might also attract the attention of corvids or other predators that will then depredate the nest or young.
- Equestrian use of the beaches could disturb plovers and potentially crush nests and young chicks. There is both a horse-camp and horse concession at Nehalem Bay, along with day-use facilities for horseback riders. Campers and day-users frequent the park to ride horses on the beach and trails. Equestrians typically access the beach from a trail on the south end of the spit, near the North jetty.
- Illegal use of fireworks might occur at Nehalem Spit.

These and other recreational activities will be managed in a manner that minimizes impacts to plovers as described in the HCP (Section 5.4.2: Public Use/Recreation Management) and this plan (Section 4: Recreation Management). For illegal activities, law enforcement (e.g., beach rangers) will respond to minimize impacts to plovers.

2.1.2. Non-recreation disturbance

Beach Management

OPRD is responsible for managing other types of non-recreational activities that occur on the Ocean Shore such as marine mammal strandings/removal, boat strandings/salvage operations of boats and other items, public safety, and law enforcement. At Nehalem Spit, the more frequent activities are routine enforcement of beach regulations and trash removal. Beach management activities will continue to be conducted in a manner consistent with the requirements of the HCP. OPRD will consult with USFWS regarding these activities, as necessary, within the Nehalem Spit SPMA prior to conducting the activity. Emergency situations, such as fires may require immediate actions. Emergency situations are considered to be an unforeseen circumstance, which are addressed in the HCP.

Marine Mammal Strandings and Removal: Marine mammal strandings involves the investigation, reporting, and either burial or removal of the mammal from the Ocean Shore. Activities may involve beach disturbance (in the case of a burial), driving and operating machinery by OPRD staff, and often involves groups of people and vehicles gathered on

the beach. These activities may necessarily occur inside, as well as outside, the SPMA. The carcasses are generally buried. These activities will be implemented in a manner that minimizes impacts to plovers (if present) as described in the HCP (Section 3.3.2: Beach Management Activities) and as follows.

If a marine mammal carcass is found within a plover area, the Marine Mammal Stranding Network (MMSN) and USFWS will be contacted as soon as possible. If a carcass must be buried immediately, the following information will be collected and conveyed to the MMSN: a photo of the carcass and a record of the date, time, and GPS coordinates. In some cases (e.g., fresh dead small cetaceans), the MMSN will want to retrieve the carcass. As a temporary measure, the carcass will be buried in a shallow pit in order to reduce the threat posed to plovers and prevent scavenger damage until MMSN can arrive at the site. The site will be well-marked to ensure MMSN retrieval. It may be necessary to relocate a large marine mammal carcass (e.g., elephant seal) off-site until MMSN can arrive at the site. Relocations will be coordinated between MMSN and agency representatives (e.g., ocean shore natural resource specialist and/or beach ranger(s)).

Public Safety: This activity involves OPRD staff maintaining emergency access points; investigating reports of unsafe drift logs, and where necessary, the removal of those logs; monitoring, photographing, and documenting erosion and storm damage; investigating reports of hazardous materials on the beach; and closure and coordinated cleanup of spilled hazardous materials.

Law Enforcement: This activity involves OPRD staff members supervising and enforcing OPRD rules that include implementing SPMA recreational restrictions, monitoring and checking for valid permits and illegal taking of natural resources, patrolling beaches, compliance monitoring, and conducting outreach. One full-time Beach Ranger (responsible for the ocean shore in Clatsop and Tillamook Counties) conducts these activities at Nehalem Spit SPMA. However, certain employees at State parks have citation authority, and occasionally patrol State park beaches and beach access sites. OPRD personnel may also assist law enforcement personnel with injury/death or other crime-related investigations as requested. Assistance involves OPRD staff accessing and moving along the beach by walking, riding horseback, or driving a motor vehicle (including an ATV).

2.2 Habitat

Habitat modification that has occurred largely due to the introduction and spread of European beachgrass and other non-native vegetation has reduced the amount of nesting habitat available within the Nehalem Spit SPMA. Non-native species that were actively planted for dune stabilization purposes are well established and have dramatically altered

natural conditions conducive to plover habitat. Active invasive species control and removal of existing plant communities is a necessary component of habitat management in order to provide for snowy plovers within the SPMA.

Build-up of driftwood logs within the SPMA may impact plover habitat. Currently, large quantities of driftwood ranging in size from small sticks to large tend to build up just north of the Nehalem River jetty during the winter through early June (Figure 7). Driftwood piles up substantially in front of higher foredune areas, covering the flat sparsely vegetated dry sand, and impacts the availability of nesting habitat. The high density of driftwood may also impair juvenile plover access to foraging areas at the wrack line. Driftwood removal activities have been identified as a threat to plovers during the nesting season (USFWS 2007). Not all driftwood is detrimental; smaller amounts can provide plovers protection from the weather and predators (USFWS 2007; ICF International 2010). Managing the beach to maintain suitable levels of driftwood will be an annual task.



Figure 7. Driftwood accumulation adjacent to the jetty

Natural Events

Non human-mediated events such as those related to weather (e.g., high tides, strong winds) also lead to nest failure (ICF International 2010). While these occur naturally, cumulative impacts to the plovers, including habitat alteration, increased predation due to introduced species and attraction by human activities, and human recreational activities, plovers have a harder time coping (ICF International 2010). At Nehalem Spit SPMA, storm run-up on the beach may destroy nests and also has management implications for OPRD. Fencing installed early in the season (March-early June) may get inundated and need to be replaced resulting in nests that are temporarily unprotected from pedestrians as well as additional disturbance when fencing is reinstalled.

2.3 Predation

Predation appears to be the main cause of nest failure at monitored sites in Oregon (Lauten et al. 2011), responsible for 45% of failed nests in 2011, and 48% of failed nests when pooled from 2003-2011. (). In 2011, predation by corvids (20%), unknown predators (22%), and nest loss to unknown causes (18%) are the highest sources of failure (Lauten et al., 2011). Nest failure from mammal predation, such as red foxes and rodents (3%) contribute to nest failure as well as nest abandonment (15%). Should Nehalem become occupied, it is likely that corvid predation will be the main source of nest failure due to the high density of corvids in the area. Other predators may also pose a threat, such as foxes, coyotes, skunks, feral cats, and raptors that prey on adult plovers.

Predation pressure can be exacerbated by other factors. For example, human or other disturbance causes adult birds to move or flush their nests, which exposes eggs and makes nests more vulnerable to predation. Also, lack of habitat management allows extensive regrowth of vegetation which can create cover for predators and result in higher predation rates in adjacent suitable habitats. Integrated management of these factors is necessary to ensure recovery and survival of plovers.

Table 3. Causes of snowy plover nest failure at monitored sites on the Oregon Coast (2003-2012)

Year	Total Nests	Failed Nests	Adult Plover Predation	Egg Predations				Other Failure					
				<i>Corvid</i>	<i>Unk Predator</i>	<i>Mammal</i>	<i>Rodent</i>	<i>Weather</i>	<i>Abandon</i>	<i>1 egg nest</i>	<i>Over-wash</i>	<i>Infertile</i>	<i>Unk. Cause</i>
2012	314	171	1	26	57	5	0	4	17	14	4	1	35
2011	289	143	3	28	32	3	1	4	21	23		2	26
2010	261	167	1	8	40	7	23	9	20	25	3	3	28
2009	236	154	0	13	44	2	33	1	11	19	3	2	26
2008	196	127	2	19	36	2	0	7	19	22	7	1	11
2007	202	116	1	20	23	12	0	3	18	23	4	4	8
2006	147	77	5	8	14	1	0	10	10	12	0	3	14
2005	146	73	0	22	12	2	0	6	25	0	0	1	5
2004	117	45	0	5	18	3	0	1	9	0	0	3	6
2003	91	44	0	6	12	2	0	3	5	0	2	5	9
Total	1,999	1,117	13	155	288	39	57	48	155	138	23	25	168

Source: Lauten et al. 2012. Data prior to 2003 is not included due to different predator control methods

Section 3. Conservation Measures

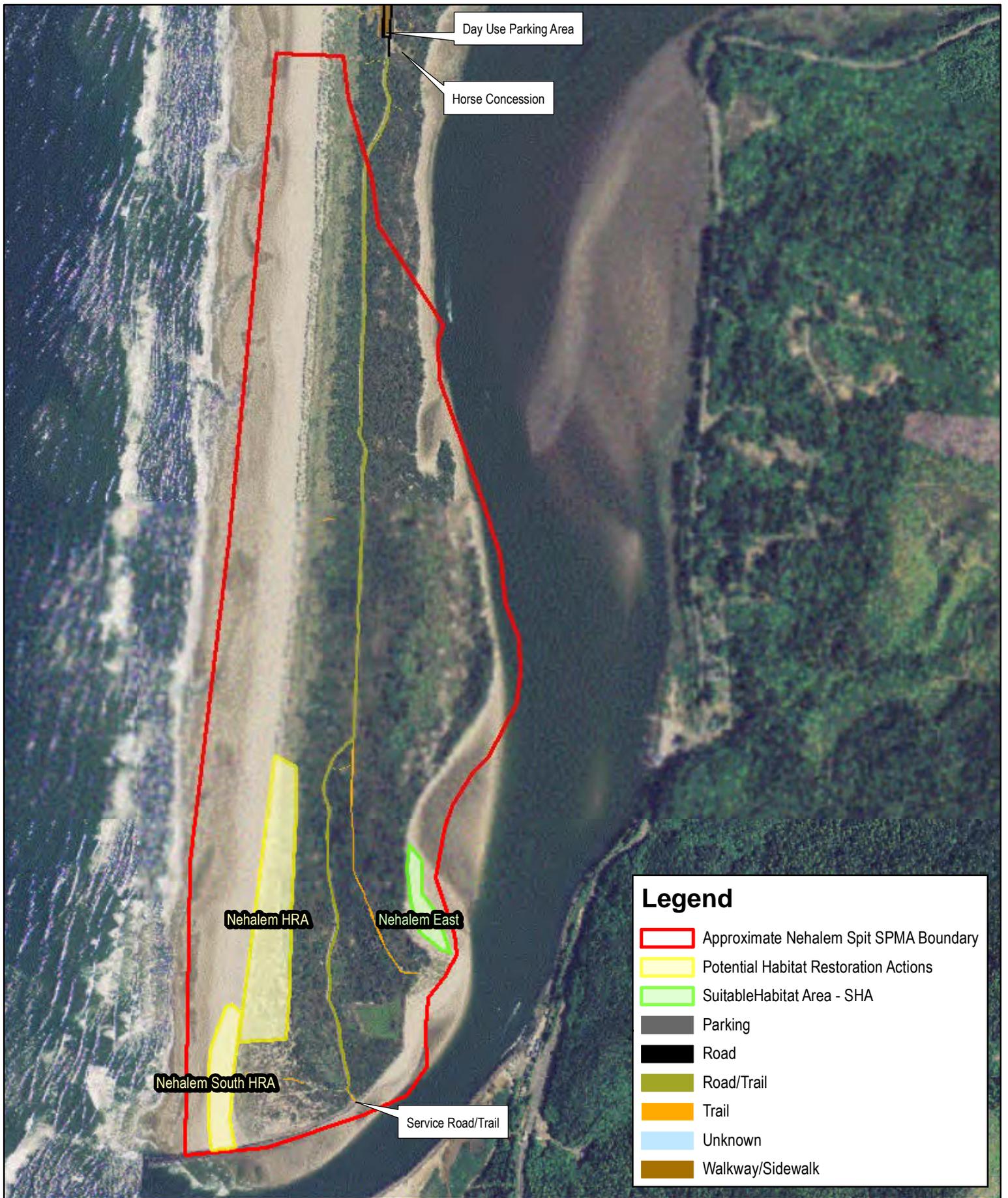
OPRD's management of the Nehalem Spit SPMA will be guided by the principles that OPRD will:

- Contribute to the conservation and protection of the Pacific coast population of western snowy plover in Oregon;
- Manage for conservation and recovery of western snowy plover and their habitat in a manner that balances effort with human use on the Ocean Shore; and,
- Work in cooperation with partners to increase public awareness and support snowy plover and their habitat needs.
- Meet the requirements of the HCP and associated ITP.

Actions to help achieve these goals are outlined in this plan including the following conservation measures: habitat restoration and maintenance as needed, predator management, and monitoring.

3.1 Habitat Restoration and Management

Goal: Provide and maintain a minimum of ~20 acres of quality habitat available for nesting and wintering western snowy plovers at Nehalem Spit. To meet the habitat restoration parameters established by the HCP, OPRD will restore and maintain up to 40 acres of habitat at the Nehalem Spit SPMA. Within the potential habitat restoration area, an initial 10 acre HRA will be created along with two smaller 2-acre pockets for a total of 14 acres of new habitat (Figure 8), with future restoration planned in subsequent phases depending on the success of attracting plovers to the site. Habitat restoration efforts will strive to create a semblance of historic conditions on the Nehalem Spit, when open sand dominated and native dune plant communities thrived.



Legend

- Approximate Nehalem Spit SPMA Boundary
- Potential Habitat Restoration Actions
- SuitableHabitat Area - SHA
- Parking
- Road
- Road/Trail
- Trail
- Unknown
- Walkway/Sidewalk

This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Oregon Lambert Projection
Datum NAD 83
2009 Aerial Imagery

Path: N:\Bioscience\Wildlife\Birds\Western Snowy Plover\Site Management Plans\Nehalem SPMA Figure 7.mxd
Date: 9/24/2012

0 375 750 1,500 Feet

Figure 7. Snowy Plover Habitat Areas at Nehalem Spit SPMA

3.1.1. Habitat Restoration

Presently, suitable habitat for the snowy plover on the Nehalem Spit is relatively scarce and limited to a narrow beach on the river side of the spit (Nehalem East SHA, Figure 8). Erosive action of the river is incutting into the spit, and it is likely this area will continue to move westward and self-maintain. With some driftwood removal, approximately 6 acres on the Ocean Shore north of the jetty could provide suitable nesting habitat (Nehalem South HRA, Figure 8). This action is not encouraged by USACE (Kate Groth, personal comm.). Also on the Ocean Shore, a very narrow strip of dry sand between the high tide line and a relatively steep foredune could provide some minimal nesting habitat. Vegetation on the foredune is predominantly the non-native European beachgrass (*Ammophila arenaria*), which alters the morphology of the beach by creating a steep foredune. Invasive species also remain a persistent problem on the spit, nearly half of all plant communities on the Nehalem spit are considered to be in marginal or poor condition due to the presence of non-native species (Duck Creek Associates 2006). European beachgrass, Scotch broom, and shore pine were planted to stabilize the sand spit in the 1950's and persist as the dominant plant community within the SPMA.

The entire SPMA totals over 540 acres, but areas of unvegetated beach suitable for plover nesting are limited to approximately 3 acres on the river side (Nehalem East SHA). The creation of additional habitat is necessary to make the area more attractive to plovers and increase the likelihood of nest success. Initial habitat restoration efforts will restore 14 acres of additional habitat, with the possibility of future habitat restoration as success is evaluated. Eventually, up to 40 acres of native dune habitat suitable for snowy plover nesting will be restored on the spit. The creation of an additional open sand area within the SPMA will provide birds with an increased diversity of nesting sites located off of the immediate beach, and increase the potential of the area to accommodate more nesting pairs.

Habitat restoration at the Nehalem spit primarily involves restoring coastal dune habitat through driftwood removal, lowering the foredune through excavation, and the removal of invasive species to allow over-wash from storm waves and sand transport to occur, facilitating natural disturbance that will keep the site open and relatively unvegetated. Restoration will include bulldozing of the foredune, removal of European beachgrass, and leveling and re-grading of backdune habitat to allow for inundation during winter storms. This work will be conducted in areas that will not impact existing structures or cultural resources.

The chosen site for the initial restoration area is located in the southern section of the SPMA. The site has been selected for initial restoration efforts due to its distance from the more populated areas of the park, the USACE requested distance from the jetty, proximity to some of the scattered remaining native dune plant communities on the spit, and the relative lower height of the existing foredune reducing the amount of excavation required. One of the drawbacks of choosing a restoration area in the southern part of the spit is the extensive driftwood accumulation that

occurs in this area due to the proximity of the jetty, but overall this site is most suitable for plovers due to the other contributing habitat factors. By removing driftwood from Nehalem South HRA another 6 acres of suitable habitat could be gained. Driftwood removal would be an annual maintenance need, and may not be the most efficient or cost-effective restoration option.

The exact location of restoration areas will need to be selected based on consultation with USACE and current field conditions. Figure 8 shows the potential area where a 10-acre core HRA will be restored. Initially, a large amount of driftwood removal will be necessary along the open beach immediately adjacent to the HRA. The 10 acre core area of habitat will be restored, creating areas suitable for nesting by removing the foredune and leveling the area behind the foredune in an effort to expand the availability of open sand habitat suitable for nesting. Additionally, two approximately 2-acre cut outs will be restored in the vicinity of the 10 acre core area with the intention of providing dispersed nesting habitat. The cut outs will remove a portion of the foredune and level the area of vegetation behind the foredune in an effort to encourage nesting off the beach and away from recreation activities while still allowing access to the beach for foraging.

Providing dispersed nesting habitat may also reduce the risk of predation, (USFWS 2007, Page et al. 1983). Recent work has shown western snowy plovers ceased incubation and left nests when observers approached within 80 m (Muir and Colwell 2010). To increase the likelihood of snowy plovers successfully utilizing the cut outs, suitable nesting habitat should be available at a minimum distance of 100 m from where symbolic fencing can be maintained.

3.1.2. Habitat Maintenance

Park managers in cooperation with staff biologists and OPRD natural resource specialists will determine habitat management efforts on a year-to-year basis based on on-site inspections with the objective of maintaining suitable habitat for nesting plovers. Given the prevalence of invasive species on the spit, it is expected that vegetation maintenance will be necessary in order to maintain the habitat. OPRD will maintain the initial 17 acres of habitat for snowy plover nesting by performing the following activities when necessary:

- Mechanical vegetation removal. The initial method of restoration will utilize a bulldozer to remove the existing beachgrass and shrubs that occupy the restoration area. All work will be performed between September 15 and March 15 (after the nesting season). OPRD will determine when restoration will be required by an on-site inspection of the SPMA to determine vegetation encroachment. The restoration area will be maintained for suitable nesting habitat and vegetation removal will be determined by OPRD management and natural resource staff on a case-by-case basis. Limited re-growth of native species will be acceptable as plovers use

some vegetation for cover, but extensive re-growth or re-growth of non-native species will be managed. Mechanical maintenance work may occur every one to three years depending on habitat condition. Agricultural equipment and tillage may be used in the future as a means of reducing cover of beachgrass.

- Based on results of best available management practices, herbicides may be used as a tool on a small scale experimental basis to reduce thick re-sprouts of beachgrass and determine if a more broad-based spray is appropriate in the future. If successful, a more broad-based spray may be incorporated into habitat management (See Appendix A – Herbicide Use).
- Driftwood removal will be needed within the restoration area. Driftwood has a tendency to accumulate along the southern reaches of the spit, and extensive accumulation can block brood movements. Driftwood removal would occur between September 15 and March 15 (after the nesting season).
- It may be necessary to use an excavator to remove logs. Condition of the habitat restoration will determine if log removal is necessary.

On-site inspections by OPRD staff biologists and natural resource specialists will help determine the condition of habitat and whether vegetation removal, herbicide application and log removal is necessary on a year-to-year basis with the objective of maintaining suitable nesting habitat. Recent research indicates vegetative cover should not exceed 40% and be patchy (Muir et al. 2010). A combination of topographic features (beachgrass hummocks, foredune height), vegetation height, vegetative cover, and other cover (driftwood, shells, etc.) can affect suitable habitat and maintenance schedules. For example, as beachgrass hummocks build in size, more rapid accumulation and stabilization of sand could occur, and removal of hummocks before this point would be more efficient. OPRD will develop a matrix of these features to help provide an assessment applicable to the Nehalem Spit and other SPMA's. Some literature can provide baseline metrics (Muir et al.2010, Hacker et al. 2011); OPRD will coordinate with USFWS on the development of the matrix.

3.2 Predator Management

Goal: Improve productivity of western snowy plover by reducing predator populations while maintaining adult population numbers.

While Nehalem SPMA is unoccupied, predator management will be limited to trash management and public outreach. This allows available funding to be utilized for actions with a more direct impact on snowy plover recovery, e.g. predator management and habitat restoration at occupied sites and habitat restoration to attract plover to unoccupied sites. During monthly detect/non-detect surveys, monitors will record numbers of predators and signs observed to develop a better understanding of predators at the site. In addition, OPRD maintains a database of nuisance wildlife (i.e. coyotes) interactions with visitors. If evidence indicates that Nehalem remains unoccupied due to high predator density, OPRD may consider predator management actions.

Should Nehalem SPMA become occupied, OPRD will consult with USFWS, ODFW, and the Western Snowy Plover Working Group and ODFW to determine the best methods for encouraging snowy plover nesting success. This will likely include OPRD, in cooperation with partner agencies (e.g., BLM, USFS, USFWS) contracting with APHIS-WA to conduct predator management to encourage snowy plover nesting success. Information on current predator management actions at occupied sites on the Oregon Coast is available in annual reports prepared by APHIS-Wildlife Services (Burrell 2011). OPRD will follow the procedures as outlined in the Western Snowy Plover Integrated Predator Damage Management Program Action Plan (Predator Management Action Plan, USFS et al. 2011). The Predator Management Action Plan is updated annually and provides direction for implementation of the program in the coming year.

Potential predators of snowy plovers that may be targeted for control include red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), river otter (*Lutra canadensis*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), spotted skunk, Virginia opossum, feral cat (*Felix domesticus*), domestic dog (*Canis domesticus*), mink (*Martes vison*), weasel (*Mustela* spp.), rodents, common raven, American crow, gulls, and raptors.. A variety of non-lethal and lethal methods may be employed to control corvids and other predators if they are determined to be targeting plovers.

Animals determined to be a threat to nesting plovers will be deterred or removed using the most effective, selective, and humane methods available. OPRD will use the Predator Management Action Plan to manage for predators at Nehalem and will contract with APHIS-WA for predator management work. A variety of tools and definitions in the Predator Management Action Plan are summarized as follows:

Non-lethal tools could include any or all of the following, depending upon the circumstances: increased or improved trash management; removal of carrion; relocation of live trapped animals; aversive methods that harass or deter predators such as pyrotechnics, electronic calls, vehicle harassment, repellents, effigies, electrified or non-electrified exclusionary nest site fencing and enclosures; and habitat modification. A public education program to inform the public

about the effects of cats and dogs, as well as the potential of attracting predators by leaving litter near plover use areas may also be implemented. Trash removal is effective on all predators by reducing food resources. Patrolling is effective mostly for ravens, crows, gulls, raptors, fox, coyote, dogs, and cats. Effigies may be effective for ravens and crows as well as some raptors.

Plover nest exclosures allow passage of adult snowy plovers, but exclude larger predators and can be effective for most predators except weasels, mice, and rats. Nest success of exclosed nests has been higher than non-exclosed nests (Lauten et al. 2011). However, in some cases the use of exclosures may have contributed to increased mortality of adult plovers. When nest success is within expected ranges (41-58%, Colwell et al. 2005, Page et al. 1983, and Powell et al. 2002) or higher, using exclosures may not increase overall productivity since other factors such as fledgling survival also play a role (Lauten et al. 2010). Guidelines have been developed to both appropriately deploy exclosures and minimize adult mortality (ORBIC 2012). Cautious use of exclosures in areas experiencing high predation is encouraged. Since adult plovers tend to return to nesting areas where they successfully hatched a nest (Lauten et al. 2011), using exclosures when plovers first return to Nehalem may increase chances the site will be colonized.

Lethal tools could include any or all of the following depending upon field circumstances: shooting; euthanasia in conjunction with cage traps; padded-jaw leg-hold traps; nets; snares; gas cartridges; DRC-1339 (avicide); nest removal and egg destruction; snap traps; or zinc phosphide bait (rodenticide).

Targeted animals that are live-trapped are humanely euthanized according to standards approved by the American Veterinary Association. APHIS-WS personnel will determine what method or combination of methods is most appropriate and effective for each unique situation using the APHIS-WS Decision Model outlined in the Predator Management Action Plan. Specific actions taken will be based on whether an animal is considered a priority or non-priority species, or if focused attention is observed:

Priority or target species are animals that have the greatest tendency to prey upon plover eggs or nests. The following animals will be prioritized for removal: red fox, American crow, common raven, feral cat, skunks, and rodents.

Non-priority or non-target species are animals that pose a lesser threat as suggested by the data from previous years' control work. These include: raccoons, weasels, mink, Virginia opossums, gulls, dogs, raptors, owls, bobcats, river otters, coyotes, and gray fox among others. These species will only be removed if they exhibit focused attention on plovers or plover nests. However, all Virginia opossums trapped will be euthanized per state law.

Focused attention means a predator is digging under or circling a nest enclosure, pursuing adults or chicks, or depredating nests. A non-priority animal may be targeted for removal if it exhibits these behaviors.

Prior to the removal of non-priority species, the OPRD ocean shore natural resource specialist will be contacted by APHIS-WS. Non-priority species caught incidentally in the pursuit of priority species will be released unharmed unless they are injured and unlikely to survive in the wild. In such cases, the animal will be humanely dispatched. Efforts will be made to take feral cats and domestic dogs to the nearest animal shelter.

APHIS-WS specialists will use animal sign, sightings, and specialized methods to locate, study, deter, capture and dispatch, or release target predators. Predators will be removed if the wildlife specialist in the field determines using the Decision Model and the criteria contained in Action Plan, that the predator is a threat to snowy plovers.

3.3 Monitoring

The three types of monitoring and associated goals for which OPRD is responsible are:

1. Wintering and Breeding Window Surveys

Goal: Survey for wintering and breeding populations to provide data to USFWS that will assist in developing rangewide comparisons regarding population trends, observing presence, and calibrating seasonal recovery efforts.

2. Snowy Plover Breeding Population Monitoring

Goal: Determine the productivity of the breeding population of snowy plovers in the occupied SPMA.

3. Snowy Plover Detect/Non-Detect Monitoring

Goal: Confirm occupancy and determine whether snowy plovers are dispersing to unoccupied SPMA.

Findings will be reported to USFWS annually and OPRD will work with snowy plover partners to evaluate the effectiveness of the HCP and this site management plan.

3.3.1. Wintering and Breeding Window Survey

OPRD will continue to provide resources to assist with conducting wintering and breeding window surveys at SPMA. USFWS coordinates these surveys utilizing agency staff and trained volunteers. These surveys will be conducted as indicated in Appendix J: Monitoring Guidelines for the Western Snowy Plover, Pacific Coast Populations (USFWS 2007)

and the results will be compiled annually and submitted to USFWS. The objective of collecting these data is to help partners determine occupancy and detect trends across the range.

3.3.2 Breeding Population Monitoring

OPRD will continue funding to monitor breeding populations at occupied sites via ORBIC (or other monitors agreeable to OPRD and USFWS) and in cooperation with the Western Snowy Plover Working Group. This information will help provide the data necessary for partners (e.g., USFWS) to determine population levels and productivity, and support the productivity goal of one fledgling per male as outlined in the Recovery Plan. The results of breeding population monitoring will be communicated (e.g., via email) to USFWS on a weekly basis. Monitoring reports will focus on ongoing concerns, such as recreational use violations or predation at a particular SPMA. This information will also be documented in an annual report provided to USFWS for review and will be used to determine the effectiveness of the snowy plover conservation management activities and to make adaptive management decisions.

3.3.3. Detect/Non-Detect Monitoring

Trained OPRD staff and volunteers will continue to participate in detect/non-detect monitoring activities along the Ocean Shore at unoccupied SPMA sites to determine whether nesting populations of snowy plovers are present.

Detect/non-detect surveys (March 15 through July 15) will be conducted to determine occupancy. One survey will be required in March and July; in April through June two surveys per month will be conducted. USFWS also performs surveys in April (early season) and May (range wide breeding window surveys), and these may be used in conjunction with OPRD's surveys. Scientific research has shown that 4 surveys per site conducted during May-July successfully determined site occupancy with 99% accuracy (Pearson et al. 2008). OPRD's survey schedule should be sufficient to determine site occupancy. Final results will be compiled and submitted annually to USFWS as part of the annual compliance report. If any snowy plovers are detected OPRD will notify USFWS as soon as possible. Methods are adapted from Appendix J: Monitoring Guidelines for the Western Snowy Plover, Pacific Coast Populations (USFWS 2007): surveyors will walk the SPMA, scanning for western snowy plovers. Surveys should be conducted during good weather conditions (no more than light rain and X wind speed) and at high tide when feasible. Data collected will include number and location of observed plovers, a photograph if possible, color band combinations if observable, and notes on human recreation, food presence, and predators.

Surveys will be conducted under OPRD's Recovery Permit (TE97807A-0), either by the permit holder or by staff or volunteers that meet the requirements listed in Appendix J of the Western Snowy Plover Recovery Plan and are listed

as sub-permittees under the OPRD Recovery Permit. OPRD will provide USFWS-approved training to staff and volunteers that will conduct detect/non-detect surveys.

If a surveyor detects a plover, OPRD will immediately inform USFWS and determine if follow-up surveys are required. If a pair of plovers or evidence of nesting is observed, additional surveys to determine breeding status will be conducted during the following two weeks (3 visits during the first week if possible). Efforts to identify any color bands will be a priority after determining breeding status. If breeding is confirmed, potential predator management actions will be discussed with USFWS.

Internal OPRD review draft

Section 4: Recreation Management

Goal: Reduce the potential for disturbance of snowy plover by recreational users during the breeding season by managing recreation uses and beach access within or near SPMA while continuing to provide public beach access on the Oregon coast.

OPRD's management of the Nehalem Spit SPMA will be guided by the actions outlined in this plan, including recreation management measures to protect nesting areas from the recreating public through access restrictions, outreach and education and continued enforcement. This site management plan will define the geographic area of restricted recreation within the SPMA that will go into effect following USFWS approval.

4.1 Recreation Restrictions

Goal: Reduce potential disturbance to snowy plover by recreational users while providing public beach access.

OPRD will implement recreational-use restrictions in the SPMA for specific activities that pose potential threats to snowy plover and their habitat, including activities that may be preventing plovers from establishing. Since the SPMA contains unsuitable upland used for recreation, these areas will not be subject to plover-specific recreation restrictions unless sea level rise or other factors prompt restoration efforts. In 2013, OPRD will ask for voluntary compliance with the seasonal recreation restrictions listed below between March 15th – July 15th. Starting in 2014, the following seasonal recreational restrictions will be in effect in designated areas within the Nehalem Spit SPMA, as long as it remains *unoccupied*, between March 15th – July 15th:

- Vehicles (motorized and non-motorized) prohibited on beach (except for administrative and permitted uses), or as otherwise restricted by existing Oregon Administrative Rule (OAR). *Note: this activity is already prohibited at this location.*
- Dogs must remain on-leash. *Note: off-leash dogs are already prohibited within the park, unless otherwise marked.*
- Once suitable habitat is created, either naturally or through restoration efforts, that area will be designated as an HRA or SHA, respectively. Seasonal posts and interpretive signage (but not ropes) will be installed around the SHA and/or HRA to request voluntary compliance of the following within the HRA:

- Request visitors to recreate on the wet sand adjacent to the SHA and/or HRA and avoid suitable habitat in the dry sand to help snowy plover that may use the dry sand area. OPRD will ask for voluntary compliance for all recreation in this HRA area, including but not limited to visitors walking on the beach, equestrians and dog-walkers.
 - Ensure equestrian beach access; re-routing equestrian access to beach may be necessary to avoid the HRA.
- Driftwood collection may be allowed outside of plover nesting season by Special Use permit or other means, the details of which will need to be determined through a separate removal plan in coordination with USFWS.
- If a nesting plover is discovered the site will be managed as occupied at designated areas within the SPMA boundary, and the following year the SPMA will be managed as occupied. "Designated areas" within the SPMA will consist of SHAs, HRAs, and beach areas where disturbance could impact plovers.

OPRD will implement recreational-use restrictions in the SPMA, if it becomes occupied, for specific activities that pose potential threats to snowy plover and their habitat. The following seasonal recreational restrictions will be in effect in the Nehalem Spit SPMA, between March 15th – September 15th, when it becomes *occupied*:

- Vehicles (motorized and non-motorized) prohibited on beach (except for administrative and permitted uses), or as otherwise restricted by existing Oregon Administrative Rule (OAR). *Note: this activity is already prohibited at this location.*
- No dogs will be allowed on the wet and dry sand in designated areas of the Ocean Shore or river beach within the SPMA. Trails through upland areas will not be subject to this restriction. "Designated areas" within the SPMA will consist of SHAs, HRAs, and beach areas where disturbance could impact plovers.
- Prohibit flying kites on the dry and wet sand in designated areas of the Ocean Shore or river beach within the SPMA. during nesting season. "Designated areas" within the SPMA will consist of SHAs, HRAs, and beach areas where disturbance could impact plovers. *Note: Kite flying includes kite flying, hang gliding, paragliding, and remote control planes.*
- All other recreational activities directed to the wet sand (fences, ropes, and/or signs will define the dry sand breeding areas, once habitat is created, to be avoided). Visitors may use existing upland trails to go around the

SPMA and reach the wet sand. Alternative trails may be created to provide additional beach access that does not impact plovers.

- Recreation restrictions on the river side of the spit will require coordination with DSL. Bait collection (sand shrimp), clamming, picnickers, and boaters use the wet and dry sand.



Figure 9. Beach access at the service road/trail within Nehalem Spit SPMA

4.1.1. Access

There are two major areas leading to the beach within the SPMA that may impact potential plover nesting habitat: at the day use parking area and a trail adjacent to the North Jetty. An unimproved service road (for official use only) which is also utilized as a pedestrian and equestrian trail leads from the day use area to the end of the spit near the North Jetty (Figure 1), and will remain intact per USACE request for future jetty repair. Beach access from the road/trail can reach the ocean beach by following an existing trail (Figure 9). The river beach can be accessed by crossing along the jetty or through upland habitat. Beach access north of the SPMA exists at the campground and equestrian campground; visitors coming from these areas will either walk along the Ocean Shore or follow the unimproved road/trail. Additionally, access

to the SPMA is possible from the river by beaching watercraft on the wet sand on the river beach. Hikers following the Oregon Coast Trail utilize a private company to ferry across from Nehalem Spit to the South Jetty. Numerous unofficial beach access points also exist through the dunes from the main trail which runs north-south down the interior of the spit; these access points will need to be removed or re-routed around any suitable nesting habitat areas. Most park visitors access the beach from the day use parking area just outside the northern boundary of the SPMA, where it is then possible to hike south along the beach into the SPMA. Temporary and permanent regulatory and interpretive signage will be installed at the east and west boundaries of the SPMA, the day use parking area, and the horse concession with plans to expand signage where needed.

Volunteers, enforcement and directional signs will aid in directing people away from plover areas.

4.1.2. Symbolic Fencing

Once Nehalem Spit SPMA is occupied, OPRD will install symbolic fencing and maintain it through the nesting season. The fencing will be installed by OPRD staff and volunteers around SHAs and HRAs and will include stakes, ropes, and signage. Winter storm activity at Nehalem Bay State Park will dictate where initial fencing will occur. Fencing of the HRA and the areas where storm surges will not damage fencing will occur by March 15. As the snowy plover nesting season progresses and winter storm activity subsides, OPRD will expand the fencing as needed

Later season fencing will need to be done in consultation with plover biological monitors to determine nesting sites so that nesting adults are not disturbed by fencing installation. Fencing may be realigned to encompass plovers that have nests on the beach face.

4.2 Signage

Goal: Use signs to inform the public where and why restrictions occur for protection of the western snowy plover and their habitat.

To better reflect OPRD's mission to protect and conserve all natural resources, signs will designate the SPMA as a shorebird conservation area nonspecific to western snowy plover. Recreation restrictions to benefit snowy plover will also benefit other shorebirds, and conservation efforts for groups of species is more effective than single species management. Sign use will change based on the occupancy status of the SPMA. When unoccupied, signs will inform visitors of potential nesting birds, dogs must remain on leash, and that no vehicles are permitted. Visitors will be encouraged to recreate on the beach north of the SPMA where no seasonal restrictions will be in place. Once occupied,

signs will direct visitors with dogs to the ocean beach on the west side of the park, away from the nesting sites, and other visitors to recreate on the wet sand. OPRD may utilize volunteer hosts to assist with outreach and access. OPRD will install symbolic fencing and signage to direct people away from nesting areas. Placing directional signs at the roped area pointing people to go around nesting areas is intended to reduce the number of incidents. Weather, beach conditions, and increased traffic and/or violations may dictate the need for additional signs or changing the location of signage.

4.2.1. Interpretive Signs

OPRD will provide signage at access points to inform the public of the potential presence of nesting seabirds and shorebirds, including snowy plovers, and the importance of shorebird protection measures. Various species of shorebirds may forage along the spit. The recreation management at the SPMA will benefit these bird species in addition to plover. To provide more awareness about shorebirds and the coastal dune ecosystem, OPRD prefers to use more general information at this site. Western snowy plovers will receive emphasis in the overall interpretive message.

Two interpretive panels are proposed; the exact location having yet to be determined, although potential locations include the day use beach access, the horse-camp, campground, and at the end of the spit road/trail. These panels will inform the public of the status of the snowy plover and to help instill the “share the beach” message developed by state and federal partner agencies working on plover management. Panels will likely be similar to interpretive panels at other sites (e.g., Bandon SPMA), updated to reflect site specific information.



Figure 10. Snowy plover interpretive sign at Bandon SPMA

OPRD will assist with any future interpretive sign design that the plover working group recommends and will dedicate OPRD staff to assist with the design and installation of signage at Nehalem Bay State Park.

4.2.2. Boundary Signs

Seasonal boundary regulatory signage will be installed at trail access points and periodically along designated areas within the SPMA informing the public on applicable recreation restrictions. While Nehalem Spit remains unoccupied, seasonal boundary signage will be posted around SHAs and HRAs. These signs will request visitors to voluntarily remain outside of the nesting areas to help attract plover to designated sites. Seasonal regulatory signs will be installed by March 15 and removed after July 15 unless breeding plovers are detected at the SPMA.

Once occupied, signage indicating the presence of nesting snowy plovers and the boundaries of dry sand restrictions will be installed at the boundaries of restricted areas within Nehalem Spit SPMA. Symbolic fencing and regulatory signs will be installed by March 15 and removed after September 15 to avoid further impacts to nesting plovers during installation. As with symbolic fencing, winter storm activity at Nehalem Spit SPMA will dictate where the initial fencing/signing will be posted. Signs will be posted along SHAs, HRAs and the areas where storm surges will not

damage signs by March 15. As the snowy plover nesting season progresses and winter storm activity subsides, OPRD relocate and post new signs as needed. Later season sign posting will need to be done in consultation with plover biological monitors to determine nesting sites so that nesting adults are not disturbed by installation.

Regulatory signage installed with the symbolic fencing will include wording to inform beach visitors that access to dry sand areas is prohibited and legal action will occur if violations are observed.



Figure 11. OPRD beach rangers install plover signage at Bandon SPMA

4.3 Outreach and Education

Goal: Inform park staff, volunteers and the general public about the ecology of western snowy plover, the significance of Oregon's beaches for successful species recovery, and the management actions taken to conserve the species, including responsible beach use in plover areas.

Nehalem Bay State Park will conduct summer interpretive programs at the campground to educate the public on the plight of the snowy plover. An interpretive park ranger at Nehalem Bay is responsible for all interpretive activities at the park and will provide programs (e.g., evening and Junior Ranger programs) directed toward the snowy plover recovery

effort. Outreach efforts to equestrians at the horse concession will be developed. OPRD may also recruit and train volunteers to serve as docents for public outreach and education at popular access points to the Nehalem Spit SPMA. Volunteers recruited by Nehalem Bay State Park may provide valuable on-site education to the public at the beach access. Volunteers will be able to talk to beach visitors and provide brochures informing them of the plover and the restrictions that apply when walking the beach.

The beach ranger and natural resource specialists will also provide on-site outreach and education to the public at Nehalem Bay State Park.

4.4 Enforcement

Goal: Ensure that the public is aware of and adheres to OPRD rules and regulations governing Oregon's Ocean Shore and the conservation of wildlife within the boundaries of Oregon State Park property, including the public use restrictions that will lead to recovery of the western snowy plover.

OPRD will continue to provide one full-time beach ranger to patrol the Ocean Shore in Clatsop and Tillamook Counties, including providing enforcement patrols at Nehalem Bay SPMA. Park staff from Nehalem Bay State Park will assist in enforcement and coordinate with local law enforcement and Oregon State Police to facilitate enforcement activities. OPRD enforcement staff may attend workshops and other training opportunities that are directly related to plover issues (e.g., law enforcement workshops coordinated by USFWS).

4.4.1. Responsibilities for Enforcement

Patrols will be made by OPRD's beach ranger, Nehalem Bay Management Unit state park staff, and Oregon State Police. Local law enforcement (city police departments, county Sheriffs) will be contacted as needed to serve as back-up for OPRD enforcement contacts that may require assistance.

4.4.2. Enforcement Timing

Unoccupied nesting sites will have enforcement patrols of at least once/week during the March 15 to July 15 seasonal recreation restrictions for the designated unoccupied SPMA's at Nehalem Bay State Park. Additional patrols may be scheduled as park and beach staff become available and may include one additional patrol per week or weekend saturation patrols with an emphasis on education. Education will be emphasized over enforcement for the first two years following complete of the site management plan.

Occupied nesting sites will require increased enforcement and education to include patrols and education contacts concentrating on beach and habitat restoration areas of the SPMA. The enforcement season will be extended to September 15 due to the occupied status of the site. Areas with higher recreational use will receive a higher level of enforcement that will depend on staff time and availability times that will include holiday periods during the nesting season at the three sites, e.g., Spring Break, Memorial Day, Independence Day, and Labor Day. Patrols will need to be varied to include early morning as well as evening depending on the safety needs of staff. Weekends certainly need attention, but a varied schedule throughout the week is advised.

4.4.3. Special Requirements

OPRD beach rangers will be commissioned officers that will have the authority to write citations for OPRD Oregon Administrative Rules (OAR). Contracts with Oregon State Police (OSP) and other local law enforcement may be a tool to increase uniformed presence on the beach and to serve as back-up for OPRD enforcement officers. Past contracts have been with OSP to provide overtime opportunities to troopers to patrol the Ocean Shore and Oregon State Park campgrounds. OPRD will continue to pursue coordination with other enforcement agencies for beach patrols at plover sites, but will depend on availability of staff from those enforcement agencies.

Agreements with Oregon Department of State Lands (DSL) and OPRD to manage estuary lands at Nehalem Bay State Park are being developed. Two options exist in regard to enforcement on DSL jurisdiction. One is to sign a management agreement whereby OPRD would manage and enforce HCP restrictions within estuaries. The second option is for DSL to create snowy plover rules for the estuaries within the SPMA's. The second option would not allow OPRD enforcement officers to write citations as OPRD is only commissioned to write citations on OPRD managed property. Oregon State Police and contract Sheriff Officer would need to be contacted for violations.

Section 5. Adaptive Management

Goal: Allow for changing conditions or circumstances and new information in determining management actions at OPRD's SPMA's.

Adaptive Management is a process that allows resource managers to adjust their actions to reflect new information or changing conditions in order to reach a goal (ICF International 2010). OPRD will use adaptive management to minimize take of snowy plover resulting from management of Oregon's beaches and to ensure the long-term survival of the snowy plover along the Oregon coast, while minimizing recreational impacts (ICF International 2010). Future research efforts to inform adaptive management measures will be undertaken through joint efforts with the other entities involved in snowy plover recovery efforts including USFS, BLM, USFWS, and ODFW (ICF International 2010).

To allow for changing conditions, circumstances, and new information, management actions outlined in this site management plan for the Nehalem Spit SPMA will be reviewed annually while the site remains occupied, and every five years once occupied. Reviews will likely coincide with the Western Snowy Plover Working Group annual meetings.. Information from annual reporting meetings between OPRD and USFWS will be used to review the performance of management efforts (e.g., habitat restoration, predator management, recreational restrictions) per the requirements of the HCP (ICF International 2010). If after five years of recreation restrictions and habitat restoration, no western snowy plovers have occupied the site, the methods outlined in this plan may be changed if data indicates other factors not discussed in this document are limiting snowy plover use of the site.

OPRD will continue to work with the WSP Working Group to achieve more rigorous statistical analysis of nest success, productivity, adult over-winter survival, and the effects of predator management in annual biological monitoring reports to better inform adaptive management decisions. Environmental covariates such as weather and climactic patterns (e.g., el nino, la nina), tides, etc., should be included in statistical analyses.

If biological monitoring indicates consistent snowy plover population declines along the Oregon Coast when compared to population numbers provided in previous biological monitoring reports, OPRD and USFWS will work together to determine if inadequate management actions on the part of OPRD are determined to be responsible, in whole or in part, for such declines (ICF International 2010). In addition, if statistical analysis of snowy plover population data indicates current management methods are detrimental to snowy plover, OPRD will consult with USFWS to adjust techniques. If new techniques are available for more effectively implementing management actions, then revisions to the management prescriptions outlined in this plan will be considered. Adjustments can be made by consensus agreement as outlined in

the HCP. For example, through monitoring of nest success, OPRD may evaluate the use of exclosures and their effectiveness in preventing predation and nest disturbance. Nest exclosure success would then be examined to determine if changes in the management application (e.g., elimination of the exclosure, timing changes for application of the exclosure, design changes) should be considered. An implementation schedule (subject to adaptive management), outlines the management practices, objectives, actions, staff responsibilities, and approximate timeline for this plan (Table 4).

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Table 4. Nehalem Spit SPMA site management plan implementation schedule

Management Practice	Goal	Management Objective	Action	Timeline	Responsibility
Habitat Restoration and Maintenance (see section 3.1)	Provide and maintain approx 17 acres of quality habitat for nesting and wintering western snowy plovers	Maintain the ~3 acres of existing suitable habitat in functional condition and restore ~14 acres of habitat	1. Apply herbicide based on best management practices and results of experimental application	Application will be predicated on industry herbicide application standards, OPRD internal written policy, results of experimental testing and with USFWS input.	OPRD staff
			2. Remove heavy infestations of European beachgrass through bulldozing or other mechanical means as necessary		
			3. Remove logs	As needed as determined by OPRD in consultation with USFWS. Maintenance frequency depends on site indicators such as percent beachgrass cover referencing current literature values. Work will be conducted between Sept. 15-March 14 to avoid impacts to nesting plovers.	OPRD staff
Predator Management (section 3.2)	Improve productivity of western snowy plover by reducing predator populations while maintaining adult plover population numbers.	Conduct lethal and non-lethal predator management to reduce predation on the breeding population	Contract for predator management with APHIS-WS in coordination with the Snowy Plover Working Group	Ongoing once the site is occupied. Predator management timing will be determined through the Snowy Plover Working Group (as outlined in the annually updated Action Plan).	OPRD staff, APHIS-WS.

Management Practice	Goal	Management Objective	Action	Timeline	Responsibility
Monitoring (Section 3.3) Monitoring (Section 3.3)	Monitor status of plovers at Nehalem SPMA to evaluate effectiveness of meeting HCP goals.	1. Wintering and breeding window surveys: Provide data to support rangewide comparisons regarding population trends, observe presence, and calibrate seasonal recovery efforts.	Continue to provide staff time to assist partners	Annually	OPRD staff
		2. Breeding population monitoring: Help provide data to determine productivity of the breeding population in the SPMA.	Continue to provide annual contract funding for breeding surveys.	Once occupied, annually, during the breeding season.	OPRD staff, contractors (ORBIC)

Management Practice	Goal	Management Objective	Action	Timeline	Responsibility
Monitoring (Section 3.3)		3. Detect/non-detect monitoring: Confirm occupancy and determine if plovers are dispersing to unoccupied SPMA's in order to adaptively manage OPRD sites.	OPRD will continue to provide staff time to assist its partners	At the beginning of the breeding season (March) through July 15 as described in the USFWS monitoring protocol.	OPRD staff
Unoccupied Recreation Restrictions (section 4.1)	Increase SPMA attractiveness to snowy plover by reducing disturbance by recreational users while providing public beach access.	1. Seasonal recreational restrictions will be in effect between March 15 and July 15 to increase likelihood that prospecting snowy plover are not disturbed by recreational traffic.	1. Vehicles (motorized and non-motorized) prohibited on wet/dry sand 2. Dogs must be leashed 3. All other recreational activities voluntarily directed to the wet sand (signs will define dry sand breeding areas to be avoided)	Recreational restrictions will become voluntarily effective March 15, 2013 and enforced March 15, 2014. Annual restrictions may be lifted early if no nesting occurs by July 15 th .	OPRD Staff

Management Practice	Goal	Management Objective	Action	Timeline	Responsibility
Occupied Recreation Restrictions (section 4.1) Occupied Recreation Restrictions (section 4.1)	Reduce disturbance to snowy plover by recreational users while providing public beach access.	1. Seasonal recreational restrictions will be in effect between March 15 and September 15 to ensure that nesting snowy plover are not disturbed by recreational traffic.	1. Vehicles (motorized and non-motorized) prohibited on wet/dry sand 2. Dogs and flying kites prohibited on wet/dry sand 3. All other recreational activities directed to the wet sand (fences, ropes, and/or signs will define dry sand breeding areas to be avoided)	All recreational restrictions will become effective the season a pair of western snowy plovers are located on the SPMA, or a nest scrape is discovered. Annual restrictions may be lifted early if no nesting occurs by July 15 th .	OPRD staff
		2. Symbolic fencing/regulatory signage to notify and educate the public on restricted nesting areas	Symbolic rope fencing with signage will be installed from the west SPMA boundary to Nehalem East Overwash	Annually from March 15 to September 15	OPRD staff
Signage (Section 4.2)	Use signs to inform the public where and why restrictions occur for protection of the snowy plover and their habitat.	Regulatory (i.e., boundary) and interpretive signage to notify and educate the public on restricted nesting areas.	Regulatory signage will be installed around HRAs and the SPMA as natural processes permit	Annually from March 15 to July 15 if unoccupied, from March 15 to September 15 if occupied	OPRD staff

Management Practice	Goal	Management Objective	Action	Timeline	Responsibility
Signage (Section 4.2)			OPRD will assist with any future interpretive sign design that the Snowy Plover Working Group recommends and will dedicate OPRD staff to assist with the design and installation of signage at Nehalem Bay	As funding permits	OPRD staff in coordination with Snowy Plover Working Group
Outreach and education (section 4.3)	Inform park staff, volunteers and the general public about the ecology of western snowy plover, the significance of Oregon's beaches for successful species recovery, and the management actions taken to conserve the species.	Provide on-site interpretation and education. Engage in appropriate outreach efforts with neighbors and others as practicable.	Distribute brochures to neighbors (e.g., KOA Campground) and visitor's centers. Provide interpretive programs at Nehalem Bay State Park.	Seasonally	OPRD staff and volunteers
Enforcement (section 4.4)	Ensure that the public is aware of and adheres to OPRD rules and regulations, including the public use restrictions that will lead to recovery of the western snowy plover	Provide patrols during critical snowy plover nesting periods.	Patrol the Nehalem Spit SPMA during busy periods, with a focus on the critical snowy plover nesting period from March 15-September 15.	Annually, focused on snowy plover nesting season ((from March 15 to July 15 if unoccupied, from March 15 to September 15 if occupied)March 15-September 15) and high traffic time periods (e.g., holidays)	OPRD staff, OSP, local law enforcement

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2011-13 Natural Resource Stewardship Grants

Projects Funded with Salmon Plate and Land Rental Sinking Funds

The Land Rental Sinking Fund and Salmon Plate funds together make funding available to OPRD field staff and partners to design and implement natural resource restoration, enhancement, and monitoring projects on OPRD lands. Projects types often include native vegetation restoration, invasive species control, erosion control, hydrologic restoration, fish passage improvements, and wildlife habitat improvements. These OPRD funds are used either alone or in conjunction with external funding to accomplish the vast majority of natural resource management projects on OPRD lands.

Before the beginning of each biennium, Stewardship section staff solicits ideas and applications for project funding through a process very similar to a grant program. The solicitation process involves sending a notice of availability of funding to all park, district, and region managers with direction to contact Stewardship staff with project concepts and plans. Stewardship staff then collaborates with field staff to develop project scopes and identify firm purpose, need, goals, alternatives, partners, and constraints. Some projects are planned completely by field staff, and some solely by Stewardship staff – but most are collaborative.

Upon receiving project funding applications, Stewardship staff rank and prioritize projects based on their relative values, then award funding to the top projects until available funding is used. Project applications exceed available funding, and the process is competitive. Awards are generally made before the beginning of the biennium in which the funds will be spent so that projects that will start immediately after the change of biennium will not be delayed.

The following pages summarize the projects implemented in the 11-13 biennium with either Salmon Plate or Land Rental Sinking funds.

Valleys Region Stewardship Funded Projects 2011-2013 Biennium

Riparian Forest Restoration, maintenance phase *Dabney State Recreation Area*

Partners: The Nature Conservancy, OWEB, East Multnomah SWCD, Portland General Electric

OPRD expenses 11-13: \$22,900

Outside dollars leveraged: \$49,500

95 acres of coniferous forest along the Sandy River have been restored through weed removal, several phases of planting, and now plant maintenance.

Floodplain Restoration, multiple phases *Luckiamute State Natural Area*

Partners: Luckiamute Watershed Council, OWEB, Meyer Memorial Trust

OPRD expenses 11-13: \$24,500

Outside dollars leveraged: \$261K

This multi-phase effort seeks to establish riparian and floodplain forest at key areas throughout the State Natural Area. Work during the 11-13 biennium included broadcast and spot spraying and planting 241,000 native trees and shrubs. Park staff have implemented some of the project tasks.



Lost Creek Restoration Projects *Elijah Bristow State Park*

Partners: Middle Fork Willamette Watershed Council, OWEB

OPRD expenses 11-13: \$11,500

Outside dollars leveraged: \$0

The multi-phase project includes planting and invasive species control to re-establish wide riparian buffers along Lost Creek. Park staff have implemented much of the project.

In-Stream Restoration, design phase
Benson State Recreation Area

Partners: Lower Columbia Estuary Partnership, ODFW, OWEB, East Multnomah SWCD, US Forest Service.

OPRD expenses 11-13: \$12,500

Outside dollars leveraged: \$49,300

The project will make improvements to fish passage, hydrologic and geomorphic processes, thermal regimes, riparian and floodplain connectivity, in-stream habitat diversity, and decrease storm water impacts from a 1.5-acre parking lot.



Floodplain Forest Restoration
Half Moon Bend Landing

Partners: OSU, Benton SWCD, local farmers, Meyer Memorial Trust

OPRD expenses 11-13: \$9,200

Outside dollars leveraged: \$82,024

Phase 1 of the project will restore 18 acres of floodplain forest; Phase 2 will restore the remaining 9 acres. These areas represent the only non-forested areas of the property.



Riparian Planting, maintenance phase
Kiger Island Landing

OPRD expenses 11-13: \$17,200

Outside dollars leveraged: \$0

A 9-acre former agricultural field has been planted with native trees and shrubs to re-establish riparian vegetation along the main-stem Willamette River. The site is now undergoing maintenance to ensure plant survival goals are met. Park staff have implemented many of the project tasks.

Dog Creek Bank Restoration
Milo McIver State Park

Partners: AmeriCorps, ODFW

OPRD expenses 11-13: \$7100

Outside dollars leveraged: \$0

The project aims to address compaction and unevenness, trampling of native vegetation, erosion, and social trails along Dog Creek. Improvements were made that protect and restore the native plants and habitat in the area and also provide an enhanced visitor experience. Natural structures (rootwads, vegetated soil mounds, rocks, weathered logs), new native plantings and signage were used to rehabilitate the site. Park staff and volunteers designed and implemented the work.

Rock Creek In-Stream Restoration Project Design
Historic Columbia River Highway State Trail

Partners: Wasco Soil and Water Conservation District, City of Mosier, ODOT
OPRD expenses 11-13: \$10,000
Outside dollars leveraged: \$67,120

Restoration activities will improve water quality and riparian and in-stream habitats in the three miles of Rock Creek that are accessible to anadromous fish.

Stream Barrier and Fish Presence Study
Stub Stewart State Park

Partners: Tualatin River Watershed Council
OPRD expenses 11-13: \$5,000
Outside dollars leveraged: \$0

This study included examining the problem culverts within the park and the Banks-Vernonia Trail, determining which fish species use streams in this area, and prioritizing culverts for replacement or removal based on fish passage and erosion criteria.



Floodplain and Oak Savanna Restoration Projects
Wapato Access/Hadley's Landing

Partners: Lower Columbia Estuary Partnership, OWEB, BPA, West Multnomah SWCD

OPRD expenses 11-13: \$8,500

Outside dollars leveraged: \$208K

The proposed project seeks to re-connect the historic floodplain lake with the Multnomah Channel, restore oak savanna in upland areas, enhance native riparian and wetland plant communities, and control invasive species. Park staff implemented some of the oak restoration work.



Mirror Lake Floodplain Planting
Rooster Rock State Park

Partners: Ash Creek Forest Management, OWEB, ODFW

OPRD expenses 11-13: \$27,632

Outside dollars leveraged: \$221,678

The project seeks to restore floodplain forest habitat by removing noxious weeds through integrated pest management on 94.6 acres, installing native plants on 50.9 acres at densities that inhibit noxious weed re-establishment, and continuing weed control until plantings are well established and reproductive.



Nettle Creek Stream Passage
Tryon Creek State Natural Area

Partners: Tryon Creek Watershed Council, Metro
OPRD expenses 11-13: \$20,000
Outside dollars leveraged: \$67,000

The project seeks to replace a culvert beneath Stone Bridge that currently blocks fish passage and is actively eroding the stream channel.



Prairie Restoration, ongoing
Champoeg State Heritage Area

Partners: Metro, Institute for Applied Ecology, Confederated Tribes of the Grand Ronde
OPRD expenses 11-13: \$30,901
Outside dollars leveraged: \$0

Extensive work has been done to try and re-establish this 40-acre area to its previous condition through the blocking of drainage and irrigation ditches. The area was subsequently transformed from a rye grass field to a more native field planted with 5 species of grasses, now being maintained by weed control and haying. In the future the area will be introduced to fire and native wildflowers. Park staff have implemented some of the restoration activities.

Oak Woodland Restoration, final phase
Cougar Mountain Access

OPRD expenses 11-13: \$3,000
Outside dollars leveraged: \$0

This project involved the removal of Douglas fir by felling and girdling in all areas of the park to release Oregon white oak from competition, and invasive species removal. Park staff designed, and implemented the restoration project.



Oak Woodland Restoration, final phase
Dexter State Recreation Area

OPRD expenses 11-13: \$8600
Outside dollars leveraged: \$0

The project included oak release (removal of competing Douglas fir), invasive species removal, planting, and disc golf course changes to reduce soil compaction and erosion. Park staff designed and implemented the project.

Prairie Restoration
Luckiamute State Natural Area

OPRD expenses 11-13: \$14,375
Outside dollars leveraged: \$0

The goal of the project is establishment of a 29 acre native grass prairie. The site was treated multiple times over the last biennium to prepare it for planting, and native grass was drilled. The site is now undergoing weed control to prepare for future introduction of wildflowers. Park staff have implemented some of the restoration tasks.

La Butte Invasive Species Control
Champoeg State Heritage Area

Partners: Portland State University
OPRD expenses 11-13: \$18,425
Outside dollars leveraged: \$0

A recent study of La Butte on the east end of the park revealed the presence of diverse assemblages of wildflowers and at least one rare plant species, as well as a remnant patch of old growth forest. The top threat to these native plant communities is English ivy. Work included cutting ivy from trees, and ground ivy treatment will occur in future biennia.



Invasive Species Control for EDRR Species
Milo McIver State Park

Partners: ODA, AmeriCorps
OPRD expenses 11-13: \$8,000

Outside dollars leveraged: \$5,800

This project seeks to control and help prevent the spread of several invasive species in priority forested areas at Milo McIver State Park, particularly false brome. Park staff have implemented some of the weed removal tasks.

Bike and Boot Rinse Station
Stub Stewart State Park

OPRD expenses 11-13: \$7,500

Outside dollars leveraged: \$0

A new bike and boot rinse station and interpretive signage was installed to be used by visitors to wash mud and weed seeds from their bikes and boots prior to and after using trails at the park. Stub Stewart is one of two parks developing mountain bike trails, and is also used extensively by hikers and disc golfers. The purpose of the station is to reduce the chances of introduction of new invasive species, and to make visitors more aware of the problem and how invasives spread. Park staff designed and built the rinse station.



Control of Priority Invasive Species
Columbia River Gorge MU

Partners: East Multnomah SWCD, Gorge Cooperative Weed Management, ODOT, The Nature Conservancy, Port of Portland, and various youth crews

OPRD expenses 11-13: \$12,540

Outside dollars leveraged: \$2,000

Invasive species are one of the greatest threats to the diverse habitats and rare plants of the Columbia River Gorge. This project continues an ongoing invasive species control program in the Gorge, building upon past invasive control activities in some areas, and begin new efforts in other areas. Park staff have implemented much of the work themselves.

North and Central Coast Stewardship Funded Projects 2011-2013 Biennium

Trestle Bay Phragmites Control ***Fort Stevens State Park***

Partners: Clatsop Soil and Water Conservation District, Portland State University, Oregon Department of Forestry
OPRD expenses 11-13: \$2,249 (Park Stewardship Funds)
Outside dollars leveraged: \$0

Two populations of invasive common reed, *Phragmites australis*, within Trestle Bay at Fort Stevens State Park, had expanded within recent years and had the potential to become a major problem in the future if left untreated.

Through a partnership with the Clatsop SWCD, the populations were first treated with herbicide in October of 2010. Part of a successful treatment plan for this species is to remove the plant's biomass, and fire has been shown to be the most effective method for biomass removal. In July of 2011, OPRD partnered with ODF to conduct a prescribed burn of the Phragmites populations. A follow up spot spray was then conducted in the fall of 2011, with very little regrowth found. A return visit in the fall of 2012 found only two small resprouts, which were subsequently treated.



Beaver Creek Estuary- Hydrologic Monitoring ***Brian Booth State Park***

OPRD expenses 11-13: \$34,587 (Salmon Plate funds)
Partners: U.S. Geologic Service
Outside dollars leveraged: \$26,800 USGS

Beginning in 2010, OPRD has partnered with the USGS to study the hydrology of the Beaver Creek estuary and this project continued into the 2011-2013 biennium. The objectives of the study are to collect baseline hydrologic data that will enhance understanding of the hydrology of the marsh. Instruments were placed at two sites within the marsh that record continuous measurements of water level, temperature, and specific conductance. Additional measurements, including stream flow, are taken at other sites periodically throughout the year. Data collection has helped determine the dominant source of water throughout the year and understand the effect of tidal and storm influences. Information gained about the hydrology provides integral information for planning successful watershed restoration projects.



Storm surge at the mouth of Beaver Creek at Ona Beach, November 2010. Data from the USGS/OPRD study has shown that salinity from storm surges extends farther upstream than originally thought.

Lost Creek Restoration ***Cougar Valley State Park***

OPRD expenses 11-13: \$2,244 (Salmon Plate funds)

Partners: Lower Nehalem Watershed Council, Oregon Department of Fish and Wildlife

Outside dollars leveraged: \$35,107 (2009 OWEB grant)

Lost Creek is a tributary of the Nehalem River that provides over 3 miles of high quality spawning and rearing habitat for anadromous fish, with the lower 0.65 miles of the stream is located within OPRD property. Fish species present include Chinook and coho salmon, coastal sea run cutthroat trout, and winter steelhead. A 2009 OWEB grant funded large wood placements to improve habitat complexity on OPRD property in



partnership with the Lower Nehalem Watershed Council. As match for the OWEB grant, OPRD committed to the restoration of the riparian area along Lost Creek. In 2011, 3000 trees and 1500 shrubs were planted within the Lost Creek riparian area. 6' tall wire welded cages were constructed around all western red cedar trees to protect the trees from elk browse. Maintenance on the plantings continued throughout the 11-13 biennium and trees lost to mortality were replaced in early 2013.

Nehalem Shoreline Restoration ***Cougar Valley State Park***

OPRD expenses 11-13: \$3,496 (Salmon Plate funds)

Outside dollars leveraged: \$0

Cougar Valley State Park encompasses over 1 mile of Nehalem River shoreline. When the property was originally acquired, the riparian habitat along the Nehalem was

plagued with an infestation of Japanese knotweed. Due to the persistent nature of this species, several years of treatment are required for successful control. Beginning in the fall of 2010, the knotweed was treated for 3 consecutive years. The worst infestation was near the mouth of Lost Creek, where knotweed had nearly 90% cover prior to treatment. In the winter of 2013, this area was replanted with 450 trees and shrubs with the hopes of recapturing the site. All shrubs and trees received protection in the form of tree tubes, with the western red cedar protected with 6' welded wire cages. The site will continue to be monitored for knotweed regrowth each year.



Nehalem River shoreline infested with Japanese knotweed prior to restoration activity, July 2010



Nehalem River shoreline after 3 years of knotweed control and subsequent riparian planting, February 2013

Beaver Creek Upland Restoration

Beaver Creek State Natural Area at Brian Booth State Park

OPRD expenses 11-13: \$10,436 (Salmon Plate funds)

Partners: Mid-Coast Watershed Council, AmeriCorps, Toledo School District, Oregon Coast Aquarium

Outside dollars leveraged: \$0

Areas of the recently acquired Beaver Creek State Natural Area were previously utilized for livestock grazing. As a result, several large degraded pasture areas remain that are composed primarily of non-native pasture grasses and blackberry. This first phase of a restoration effort focused on restoring historically present forests to approximately 4.5 acres of meadow areas where continued mowing and maintenance of the pastures is impractical. In fall of 2011, blackberries were mechanically removed from the site. In winter of 2012, approximately 1500 trees were planted over two pasture areas, including Sitka spruce, western hemlock, western red cedar, red alder, and cascara. Species vulnerable to predation were protected with 4' welded wire cages. This project partnered with AmeriCorps to complete planting and some site maintenance.

Feldenheimer Baseline Planning

Elmer Feldenheimer

OPRD expenses 11-13: \$6,998 (Feldenheimer Trust)

Outside dollars leveraged: \$0

Prior to conservation ownership, the 1466 acre Feldenheimer property was utilized for industrial logging. For the past 50 years, the trees have reestablished and much of the property is even aged western hemlock and Sitka spruce forest. Due to the transfer in management styles from industrial logging to conservation, tree density is now very high throughout much of the forest. The high tree density has caused the understory to be very depauperate, and many trees have such limited live crowns that they are unstable and at a high risk from blow down. A management plan is being developed for the property to assess current forest health, outline possible restoration actions to improve stand conditions, and get the forest on a trajectory toward ecologically healthy and mature forest. Planning efforts in the 11-13 biennium utilized funds from the property's trust fund to complete the forest inventory component of the baseline assessments. OPRD Stewardship staff are working internally to release a draft plan in late 2013.



A typical Feldenheimer forest stand. High tree densities prevent the establishment of a forest

Jackson Creek Restoration

Cape Lookout State Park

OPRD expenses 11-13: \$55,250 (Salmon Plate funds)

Partners: U.S. Fish and Wildlife Service, Oregon Department of Fish and Wildlife, Tillamook Estuaries Partnership, Oregon Watershed Enhancement Board

Outside dollars leveraged: \$125,000 OWEB grant, \$101,000 USFWS

Jackson Creek is an ocean tributary that was diverted into a constructed channel and into Netarts Bay in the 1950's with the hopes of improving the salmon fishery. This action had unfortunate consequences for both the aquatic habitat and the park. In the summer, juvenile salmon became stranded in the constructed channel due to its instability and fluctuating hydrology. In the winter, the channel floods portions of the park's campground. Building on a hydrology study that was conducted in the 09-11 biennium using salmon plate funds, a series of restoration actions were chosen. In 11-13, salmon plate funds were utilized as match to obtain several grants needed to accomplish restoration and project design occurred in 2012. As part of this project, full

flow will be restored to Jackson Creek by eliminating the constructed diversion and the original Jackson Creek will be reconnected to its floodplain. A road ford will be removed that is a fish barrier and replaced with a timber bridge.

Sunset Beach Restoration
Sunset Beach State Recreation Area

OPRD expenses 11-13: \$13,826
Partners: National Park Service
Outside dollars leveraged: \$0

Approximately 29 acres of Sunset Beach were harvested in 2008 in response to the severe winter storms of 2007 which caused a large amount of blow down. As a result of disturbance related to the timber salvage, the site became readily infested with Scotch broom (*Cystisus scoparius*) and an ongoing effort to control the broom and restore forest health began. In 2010, control of the Scotch broom began with both manual and herbicide treatments, and 4500 tree seedlings were planted. In the 2011-13 biennium, a full restoration plan was implemented. Two more herbicide treatments and two more manual control treatments occurred and the site was planted with 2500 shrub species to augment species diversity and structural complexity of the forest, as well as compete with the Scotch broom.

South Coast and Rogue Valley Stewardship Funded Projects 2011-2013 Biennium

Gorse Removal in Wildland/Urban Interface Area *Harris Beach State Park*

OPRD expenses 11-13: OPRD
Stewardship Project
\$10K

Outside dollars leveraged: matching
grant from State Weed
Board \$6K, Wildland
Urban Interface funds
from BLM and Curry
County \$5K

*The purpose of this project is to
remove invasive gorse from steep
slopes in fire prone areas on OPRD
lands.*



Starting in 2011 we worked with private landowners to control gorse on OPRD land adjacent to a subdivision. Seed of the native blue wild rye is ready to be planted in the fall to help compete with the aggressive gorse seed bank.

Sullivan's Gulch Phase I *Cape Blanco State Park*

OPRD expenses 11-13: Salmon Plate Funds \$25K

Outside dollars leveraged: OWEB grant \$126K (\$400K in application to OWEB to be submitted in October 2013)

The purpose of this project is to restore wildlife habitat and floodplain function to the Sullivan Gulch bottomlands at Cape Blanco State Park.

Working with a Stakeholders group, OPRD has developed a plan to remove an incised ditch channel that impedes fish movement. The design firm, Graham Matthews and Associates (GMA), has developed a solution that includes:

- Constructing a new Sullivan Gulch stream and tributary channel
- Constructing four Backwater pond for juvenile fish and migratory bird stopover sites
- Install large wood placements for fish and bird habitat enhancement
- Plant native vegetation and remove invasive species

The final design is scheduled to be complete by late August/early September. We have secured an additional grant from the North American Wetlands Conservation Act

(NAWCA) for \$60K and \$20K from USFWS towards implementation of the design. We will submit a second OWEB proposal in October for approximately \$400K to complete the implementation work.

Bank Restoration Phase I
Touvelle State Park

OPRD expenses 11-13: Salmon Plate Funds \$5K
Outside dollars leveraged: \$0

The purpose of this project is twofold; to create an inviting, safe entrance to the Rogue River and to halt erosion of the river bank.

Contractors built stairs to Rogue River fishing and swimming areas to invite visitors to specific area that were safe and multi-use. Over 50 native shrubs and small trees were planted along the river to discourage visitor access to areas that were both unsafe and where river banks were eroding. These plantings will stabilize banks. Another part of the trail along the river showed severe erosion and we hired River Design Group, to develop construction ready design drawings to stabilize this bank.

Gorse Removal/Dune Restoration
Bullards Beach State Park

OPRD expenses 11-13: \$9,500
Outside dollars leveraged: \$0

The purpose of this project is to remove gorse monoculture and restore dune habitat in order to understand best management practices on OPRD lands.



Starting in 2009 we began to control gorse on this parcel at Bullards Beach. In 2010 we planted native dune grass to help outcompete gorse seedlings. Staff has learned refined gorse control techniques from this project.

Fuels Reduction and Port Orford Cedar Restoration ***Shore Acres State Park***

OPRD expenses 11-13: \$9,500
Outside dollars leveraged: \$0

The purpose of this project is to remove dead Port Orford cedar trees, thin the existing forest and plant disease resistant Port Orford cedar trees as replacements.

Planting the cedars will be a great interpretative opportunity as they will be reestablished on the most visited areas of the park, the Marine Terraces. The opportunity to continue establishing the trees at other south coast parks is being considered.

Mountain Region Stewardship Funded Projects **2011-2013 Biennium**

Riparian Rehabilitation Project, Phase II Re-vegetation ***Bates State Park***

OPRD expenses 11-13: \$25,536
Partners: North Fork John Day Watershed Council & Warm Springs Tribe
Outside dollars leveraged: \$0

This project partnered with the North Fork John Day Watershed Council & Warm Springs Tribe to implement a floodplain and riparian vegetation rehabilitation project. Phase I of the project included the excavation of 26,000 cubic yards of fill material out of the floodplain. Phase II, the re-vegetation component, included native grass seeding of seven acres, planting of 4,600 native trees and shrubs, construction and install of an eight foot wildlife exclusion fence enclosing 5 acres, and irrigation supplies. Salmon Plate Funds = \$25,536. Staff contribution = 200+ hours (on-going maintenance).



Aquatic Analysis ***Bates State Park***

OPRD expenses 11-13: \$40,180 Salmon Plate
Outside dollars leveraged: \$0

This project retained a river restoration consulting firm, Interfluve Inc., to provide concept level planning and design on 10 different alternatives to manage aquatic resources at Bates State Park, including a public workshop. The result of this work

included concept design drawings, cost estimates, advantages/disadvantages, and maintenance and permit requirements. Salmon Plate Funds = \$40,180.
Staff contribution = 100 hours.

Williamson River Restoration
Collier State Park

OPRD expenses 11-13: \$25,000 Salmon Plate
Partners: Klamath Basin Rangeland Trust, ODFW, and USFS
Outside dollars leveraged: \$110,000

This project partnered with the Klamath Basin Rangeland Trust, ODFW, and USFS Fremont-Winema to implement large wood placement and spawning gravel additions to many locations on the Williamson River, spanning over five miles of river across OPRD & USFS land. Due to lack of river access, large wood was flown in and placed by Chinook helicopters, and spawning gravel was hauled onto a barge and deposited in strategic locations. Salmon Plate Funds = \$25,000. Staff contribution = 40 hours. Partner contribution = \$110,000 (Klamath Basin Rangeland Trust via OWEB, Trout Unlimited, NFWF – Bring Back the Natives & USFS).



Invasive Species Management and Restoration Plantings
Cottonwood Canyon State Park

OPRD expenses 11-13: \$20,000 Salmon Plate
Partners: Western Rivers Conservancy, OWEB, ODFW, Gilliam County OYCC
Outside dollars leveraged: \$150,000

OPRD contracted with Gilliam County Weed Control to target high priority species in designated areas to control noxious weeds. Target areas within the park included roads & right-of-ways along the John Day River & Hay Creek, and bottomland fields targeted for enhancement. Project also included planting and protection of 3,000 native tree and shrubs along Hay Creek, and an effectiveness monitoring program at Hay Creek looking at



vegetation establishment, macro-invertebrates, stream flow, and stream temperature. Salmon Plate Funds = \$20,000. Staff contribution = 200+ hours (on-going maintenance).

Partner contribution = \$150,000 (Western Rivers Conservancy via OWEB & ODFW, Gilliam County OYCC).

Western Juniper Thinning

Tumalo State Park

OPRD expenses 11-13: \$11,475 Land Rental

Partners: Deschutes Soil & Water Conservation District, OWEB, ODF, DOC
Outside dollars leveraged: \$24,000

Park staff targeted 64 acres within Tumalo State Park for Juniper thinning. Thinning took place in “open space” areas of upland and riparian habitats, with an emphasis on habitat enhancement and fuels reduction. Contractor was retained for the cutting. Staff led Department of Correction work crews for clean-up and firewood processing. Land Rental Funds = \$11,475. Staff contribution = 400 hours.

Partner contribution = \$24,000 (Deschutes Soil & Water Conservation District via OWEB, ODF, DOC).



Native Plant Re-vegetation along John Day River

Clyde Holliday State Park

OPRD expenses 11-13: \$14,500 Salmon Plate

Partners: Department of Correction
Outside dollars leveraged: \$0

In an effort to meet recent TMDL temperature standards for the John Day River, park staff implemented a tree planting and protection project within 3 acres of floodplain. Project included planting, protecting, and irrigating 1,500 trees; work completed by OPRD staff and Department of Correction work crews. Salmon Plate Funds = \$14,500. Staff contribution = 100+ hours (on-going maintenance).

Wallowa Canyonlands Project

Wallowa Management Unit

OPRD expenses 11-13: \$12,000 Land Rental Funds

Partners: The Wallowa Canyonlands Partnership

Outside dollars leveraged: \$0

This project contracts Wallowa Resources to strategize and target high priority noxious weeds within Wallowa County OPRD properties and along Wallowa County Scenic Waterway Corridors (Wallowa & Grande Ronde Rivers). The Wallowa Canyonlands Partnership is a Wallowa Resources led multi-partner effort to address high priority weeds in Wallowa County, OPRD contributes a relative small amount to a much larger effort. Land Rental Funds = \$12,000. Staff contribution = 40 hours. Partner contributions = Unknown.

Grassland Restoration/Enhancement

Succor Creek State Natural Area

OPRD expenses 11-13: \$4,000 Land Rental Funds

Partners: ODFW, Malheur County Soil & Water Conservation District

Outside dollars leveraged: \$0

This project worked to enhance 12 acres of previously farmed area adjacent to Succor Creek. Project entailed weed control (by OPRD staff & Malheur County) and cover crop seeding. This work is in preparation for future native grass seeding to occur in fall 2013 or spring 2014. Land Rental Funds = \$4,000. Staff contribution = 100 hours + (on-going maintenance). Partner contribution = in-kind services from ODFW (farming equipment & practice) and Malheur County Soil & Water Conservation District loan on their seed drill.

Agenda Item: 12d

Topic: Annual Performance Progress Report (APPR) for Fiscal Year 2012-2013

Prepared by: Tom Hughes

PARKS and RECREATION DEPARTMENT

Annual Performance Progress Report (APPR) for Fiscal Year (2012-2013)

Original Submission Date: 2013

Finalize Date: 9/1/2013

2012-2013 KPM #	2012-2013 Approved Key Performance Measures (KPMs)
1	PARK VISITATION - Visitors per acre of Oregon Parks and Recreation Department property.
2	HERITAGE PROGRAM BENEFITS - Number of properties, sites, or districts that benefit from an OPRD-managed heritage program.
3	Grant Programs - Percent of Oregon communities that benefit from an OPRD-managed grant program.
4	PROPERTY ACQUISITION - Recreation lands index: Park lands and waters acquired by OPRD as a percentage of total goal. (Linked to Oregon Benchmark #91)
5	FACILITIES BACKLOG - Percent reduction in facilities backlog since 1999.
6	CUSTOMER SATISFACTION – Percent of customers rating their satisfaction with the agency’s customer service as “good” or “excellent”: overall customer service, timeliness, accuracy, helpfulness, expertise and availability of information.
7	EXPOSITION EVENTS - Percentage increase in annual Exposition Center gross revenue.
8	COMMISSION BEST PRACTICES - Percent of total best practices met by the State Parks and Recreation Commission.

PARKS and RECREATION DEPARTMENT

I. EXECUTIVE SUMMARY

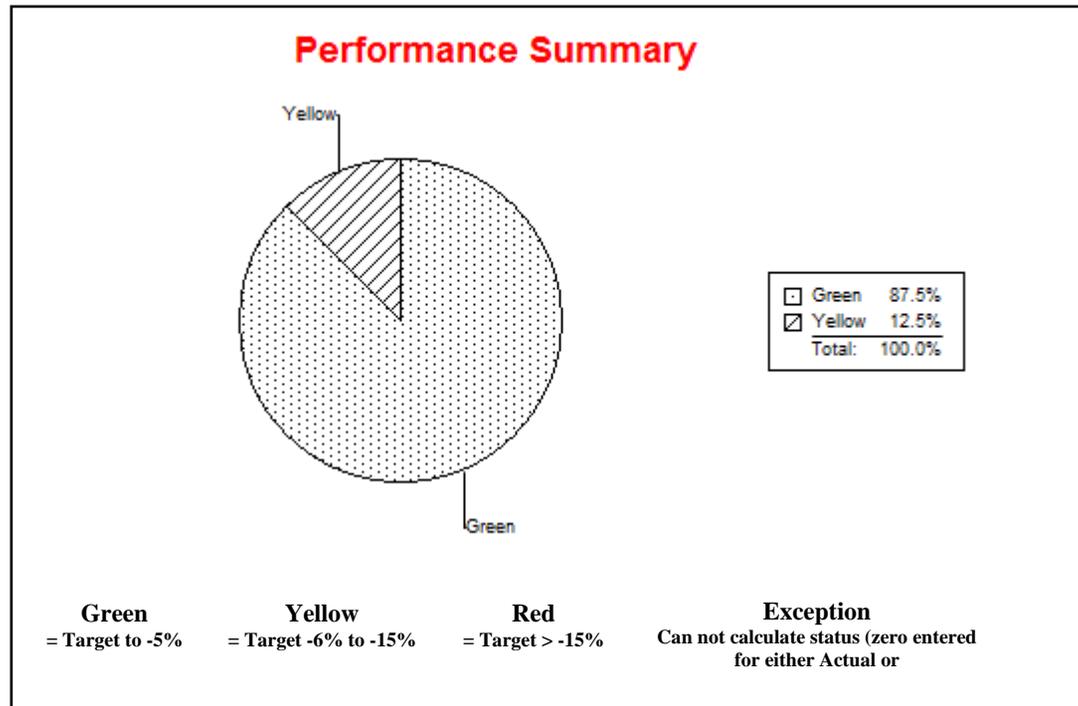
Agency Mission: To provide and protect outstanding natural, scenic, cultural, historic and recreational sites for the enjoyment and education of present and future generations.

Contact: Tom Hughes

Contact Phone: 503-986-0780

Alternate: Tanya Crane

Alternate Phone: 503-986-0694



1. SCOPE OF REPORT

The majority of measures presented in this report relate specifically to the Department's role in outdoor recreation, natural resource, and heritage conservation in the state. Measure #6 assesses Customer Satisfaction. The Oregon State Fair and Exposition Center (OSFEC) became part of the department beginning January 1, 2006. Measure #7 relates to the Exposition Center. Measure #8, Commission Best Practices, was first assessed in Fall 2007 and results reported in the FY 2008 report.

2. THE OREGON CONTEXT

The Oregon Parks and Recreation Department is a leading provider of outdoor recreation, natural resource and heritage conservation in the state. These services are provided directly by the Department as well as through cooperative efforts with city, county and other local providers through grant programs and development of the Statewide Comprehensive Outdoor Recreation Plan (SCORP). The SCORP is the planning tool by which all Oregon recreation providers (state, federal, local, and private) catalogue and rank their recreation needs and affirm their respective roles. SCORP constitutes Oregon's basic five-year plan for outdoor recreation. The department has a direct link to Oregon Benchmark #91 which sets a goal of 35 acres of state owned parks per 1,000 Oregonians.

3. PERFORMANCE SUMMARY

All of the eight performance measures covered in this report are on or above target, or trending towards targeted levels.

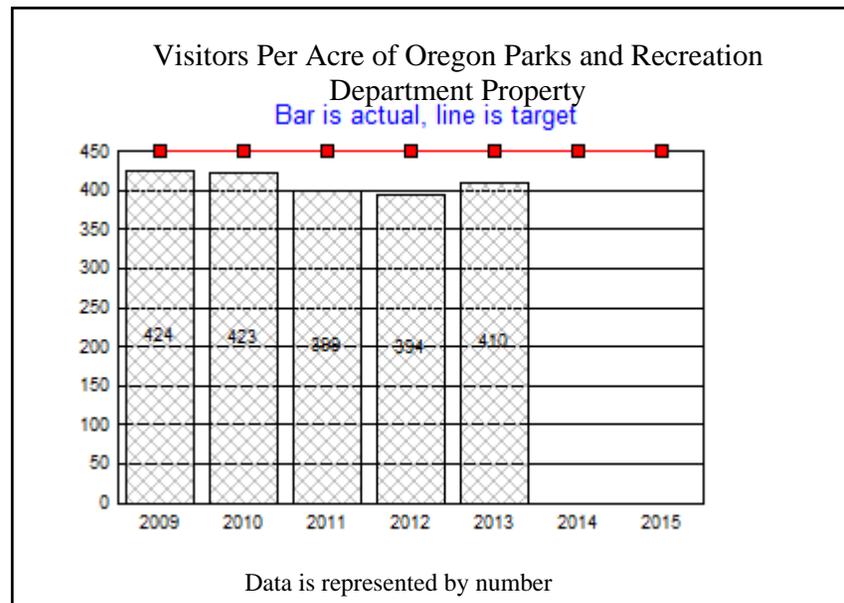
4. CHALLENGES

Demographic Trends: A rapidly increasing population, rapidly increasing diversity (both cultural and age) within the population, an increasing obesity rate associated with lack of healthful activity and changes in recreational interests will need to be addressed to ensure continued access to recreational opportunities for all Oregonians in the future. **Competing demands for recreation and conservation:** Increasing demands for outdoor recreation must be balanced in view of the need to acquire and conserve delicate ecosystems and habitats. **Heritage Programs:** The Department will need to strengthen existing programs and evaluate the addition of new programs to protect the state's historic properties. **Higher energy prices:** Higher costs of electricity, natural gas, propane, and fuel will demand an ever greater share of agency resources. Increased fuel prices could impact both park and Fair/Expo visitation, resulting in lower revenues.

5. RESOURCES AND EFFICIENCY

The Department's 2011-13 Legislatively Approved Budget is \$202,652,112.

KPM #1	PARK VISITATION - Visitors per acre of Oregon Parks and Recreation Department property.	2009
Goal	To maintain a high degree of utilization of Department properties, while monitoring an optimal balance between recreation opportunities and natural resource protection.	
Oregon Context	Centennial Horizon, Principles 1 and 2. Also, Healthy Sustainable Surroundings - Oregon Benchmarks 89 and 91.	
Data Source	Day use and overnight visitation is tracked in the department's Financial Management System. This data, and the park acreage as reported annually to the National Association of State Park Directors, are used to calculate visitors per acre. All data is based on a Fiscal Year.	
Owner	John Potter, Assistant Director of Operations, 503-986-0729.	



1. OUR STRATEGY

Continue providing well-maintained Department properties and high quality visitor services, while assessing opportunities for acquiring more acreage.

2. ABOUT THE TARGETS

Performance on this measure should be considered in conjunction with trends in total visitation. Good performance would equate with visitation remaining high or increasing, but the ratio remaining constant or decreasing. A lower ratio represents a better visitor experience, overall. A low or declining ratio could indicate decreased attendance or increased land protection. A high or increasing ratio is indicative of either increased attendance or no change in acres of land protected or both. In the latter, the visitor experience would likely be in decline. The target is based on historical data and is considered a ceiling. A value in excess of the target would indicate that the visitor experience and natural resource protection are sub-optimal.

3. HOW WE ARE DOING

FY 2013 results are 410 visitors per acre which is a 4% increase from 394 visitors per acre in FY 2012. The main contributing factors to this increase are improved weather and park development resulting in increased usage. The Department has continued to increase park acreage in order to best serve an increasing population while maintaining a quality visitor experience. The total visitation in FY 2013 was 44.5 million, a 0.7% increase from FY 2012.

4. HOW WE COMPARE

According to the results of the most recent (FY 2012) National Association of State Park Directors survey, Oregon had the second highest number of visitors per acre in the country. The national median was 80 visitors per acre.

5. FACTORS AFFECTING RESULTS

Factors affecting the numerator (visitor attendance) include weather, economic conditions, perceived attractiveness of the recreational offering, and park closures (e.g., due to construction, etc.). Factors affecting the denominator (acreage) include availability of land for acquisition (e.g., willing sellers) and availability of funds for purchase.

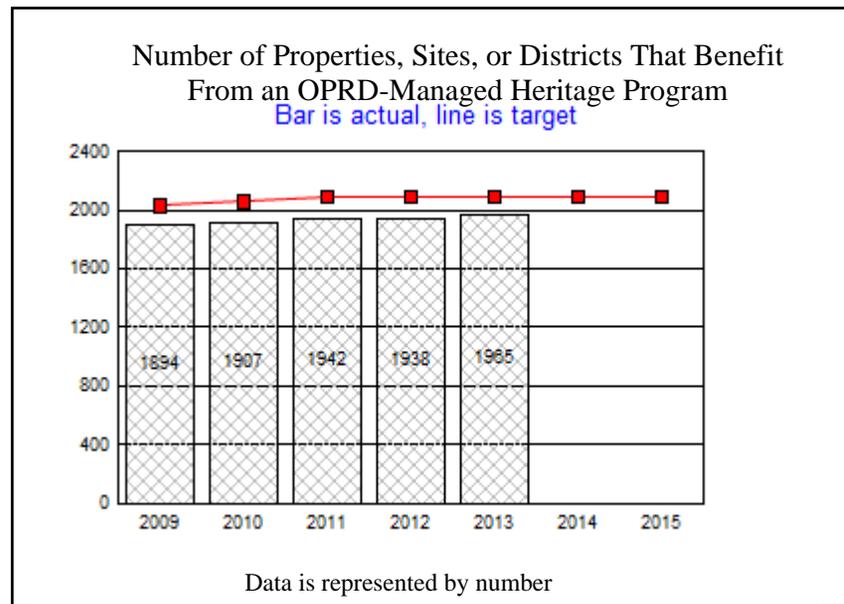
6. WHAT NEEDS TO BE DONE

The Department will continue to maintain high visitation to a moderately increasing land base with adequate attention to natural resource protection.

7. ABOUT THE DATA

The data are measured and reported by Fiscal Year. The information assists the Department in making decisions about future expansion of the system as park areas reach capacity, and keeping the balance between recreation opportunities and natural resource protection.

KPM #2	HERITAGE PROGRAM BENEFITS - Number of properties, sites, or districts that benefit from an OPRD-managed heritage program.	2009
Goal	To encourage broad participation in Heritage programs, including all geographical areas of the state and an appropriate mix of residential, commercial, public, and non-profit owned buildings and sites.	
Oregon Context	Centennial Horizon, Principle 1. No link to a specific Oregon Benchmark.	
Data Source	Heritage Programs Division data, as verified by the National Register of Historic Places Office in Washington, D.C.	
Owner	Roger Roper, Assistant Director for Heritage Programs, 503-986-0677.	



1. OUR STRATEGY

To encourage broad participation in Heritage programs, including all geographical areas of the state and an appropriate mix of residential, commercial, public,

and non-profit owned buildings and sites.

2. ABOUT THE TARGETS

Our targets seek to expand the overall number of historic properties that benefit from OPRD heritage programs and to use annual results as an indicator of progress from year to year.

3. HOW WE ARE DOING

These numbers typically reflect the health of the economy. Designations are up for the first time in a couple of years, and more rehabilitation projects are underway again. We are nearing our pre-downturn projections and doing very well in comparison to neighboring states.

4. HOW WE COMPARE

Data from neighboring states are as follows (total # of historic properties / # of properties designated last year): OR: 1,965/ 26 CA: 2,584 / 43 WA: 1,483 / 22 ID: 1,027 / 4 NV: 372 / 3.

5. FACTORS AFFECTING RESULTS

The overall number and new designations are both up from last year, even while accounting for continued data clean-up of legacy de-listings. Property owners appear to be taking advantage of a stronger economy to designate their buildings and embark on deferred rehabilitation work.

6. WHAT NEEDS TO BE DONE

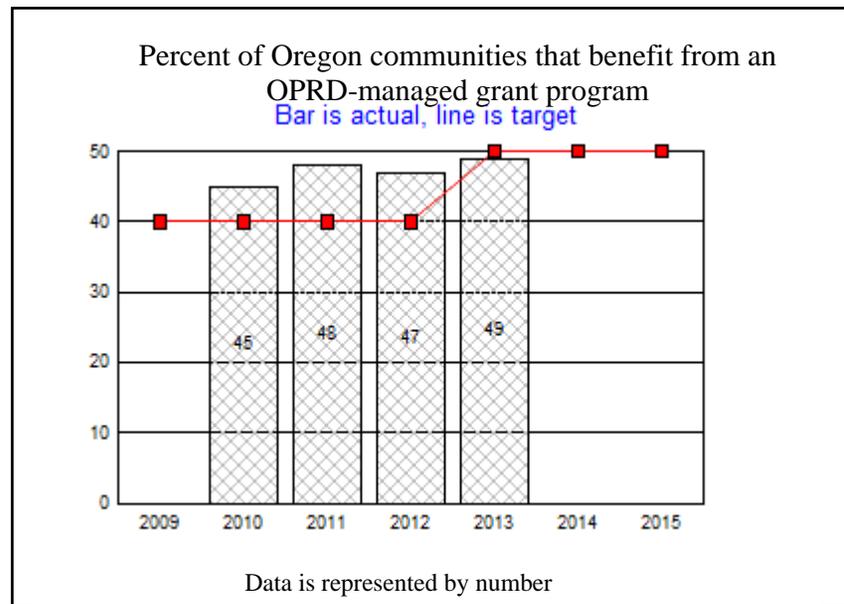
The Department is continuing to focus on expanding and strengthening the local government partners whose activities account for much of the work reflected by this performance measure.

7. ABOUT THE DATA

The data are considered a bell-wether indicator of both the overall health of Oregon's historic preservation efforts and of the most recent year's level of activity in new historic preservation work. There are many other "project counts" that enumerate specific aspects of the state's historic preservation work, but

the targets are the best overall indicator.

KPM #3	Grant Programs - Percent of Oregon communities that benefit from an OPRD-managed grant program.	2009
Goal	Benefit Oregon communities through the Department's various grant programs while achieving wide geographic distribution of grant	
Oregon Context	Centennial Horizon, Principles 1, 3, 4, 6, 7, and 8. Healthy Sustainable Surroundings - Benchmarks 89 and 91.	
Data Source	The denominator is the number of counties (36) and incorporated cities (242) in Oregon (total of 278). The numerator is an unduplicated count of those "communities" that received funding through an OPRD-managed grant program over a 2-year period.	
Owner	Roger Roper, Assistant Director, Heritage and Community Programs, 503-986-0677.	



1. OUR STRATEGY

Increase the number of Oregon communities served through Department -managed grant programs while ensuring meaningful results.

2. ABOUT THE TARGETS

Targets were calculated using grant program data. A target level of 50% of communities during a 2-year period was chosen.

3. HOW WE ARE DOING

FY 2013 results include an unduplicated count of the number of communities that were awarded Department grants for FY 2012 and FY 2013. Results show that 49% of Oregon communities (137 of 278) have benefited from an OPRD-managed grant program over this time period. These results show that we nearly met our 50% target level.

4. HOW WE COMPARE

The Department is unaware of relevant public standards related to this performance measure.

5. FACTORS AFFECTING RESULTS

Availability of grant funding, grant program requirements for local match and other local commitments, maximum allowable grant award amounts, number of grant applicants and geographic distribution of grant applicants are the factors that affect results.

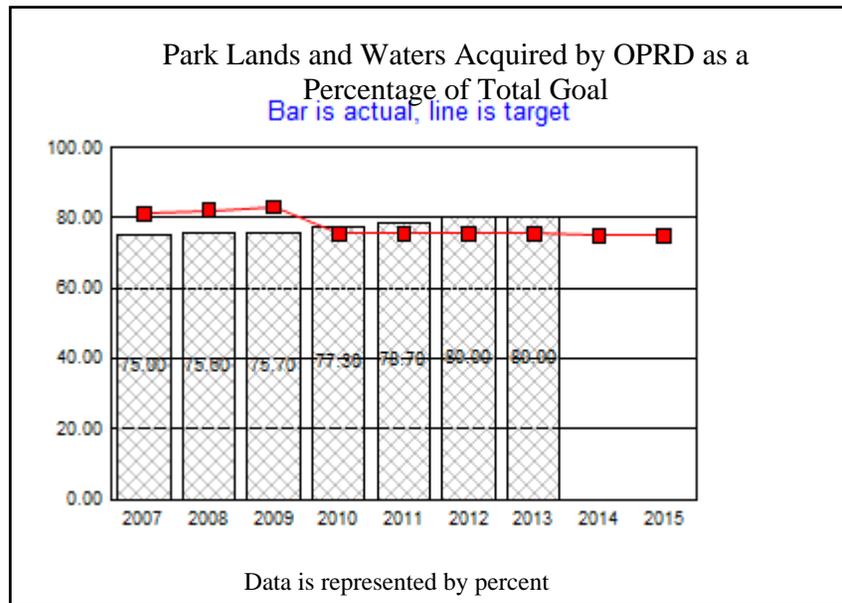
6. WHAT NEEDS TO BE DONE

Continue to educate local community administrators about the opportunities available to their communities and solicit grant applications from them for Department grants. Continue to refine and simplify the grant process.

7. ABOUT THE DATA

Grant projects typically take more than one fiscal year to complete, especially under grant programs that have only one round of grant awards per biennium. Therefore the "benefit" to grantee communities is not just a single year. Counting two fiscal years of grants - the most recently completed year and the previous year - provides a more accurate measurement of the extent to which the Department's grant programs reach communities throughout the state. It also provides more consistent data from year to year by moderating the "peaks" of grant awards in the first year of a biennium and the "valleys" of second-year awards.

KPM #4	PROPERTY ACQUISITION - Recreation lands index: Park lands and waters acquired by OPRD as a percentage of total goal. (Linked to Oregon Benchmark #91)	2006
Goal	Acquire properties that build upon the diversity and strength of our current system.	
Oregon Context	Oregon Benchmark #91; State Park Acreage: Acres of state-owned parks per 1,000 Oregonians. Centennial Horizon, Principles 1-3.	
Data Source	Agency data from real estate transactions and capacity needs identified in agency Investment Strategy Report.	
Owner	John Potter, Assistant Director of Operations, 503-986-0729.	



1. OUR STRATEGY

Pursue acquisitions that build upon the diversity and strength of the agency's current system. Such acquisitions should provide progress toward relieving overcrowded recreation lands and accommodate new kinds of recreation opportunities demanded by citizens.

2. ABOUT THE TARGETS

Targets for this measure indicate the desire of moving towards a total goal of approximately 35 acres per 1,000 population.

3. HOW WE ARE DOING

FY 2013 results indicate that the agency was at 80% of the total goal, and above the target of 75.6%.

4. HOW WE COMPARE

According to a FY 2012 survey conducted by the National Association of State Parks Directors (NASPD), Oregon ranked 29th in the nation in state park acreage per 1,000 population. Oregon had 28 acres per 1,000 population, while the national median was 29 acres per 1,000 population.

5. FACTORS AFFECTING RESULTS

Oregon's population has been increasing at a higher rate than many states, thus impacting the denominator in calculating results. Acquisition is affected by the availability of land meeting agency criteria, the availability of adequate funds for purchase, and real estate prices.

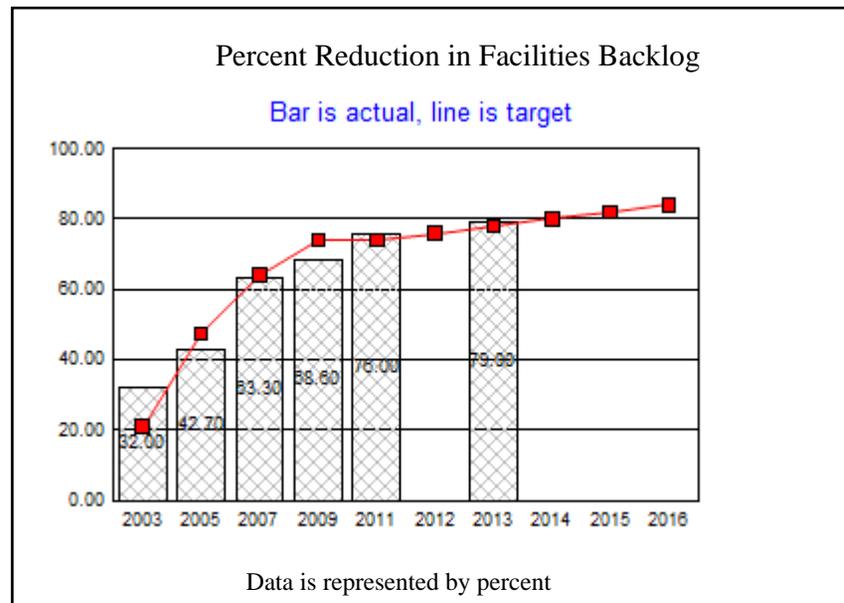
6. WHAT NEEDS TO BE DONE

Continue seeking acquisition opportunities that meet agency criteria and availability of funds.

7. ABOUT THE DATA

The data are measured and reported by Fiscal Year. The information assists the Department in making decisions about future expansion of the system as park areas reach capacity, and keeping the balance between recreation opportunities and natural resource protection.

KPM #5	FACILITIES BACKLOG - Percent reduction in facilities backlog since 1999.	1999
Goal	Reduce backlog of needed maintenance projects and transition the facility investment program to a preventive maintenance program.	
Oregon Context	Centennial Horizon, Principles 1, 2, 3, and 6. No link to a specific Oregon Benchmark.	
Data Source	"HUB," the Department's asset management system.	
Owner	John Potter, Assistant Director of Operation, 503-986-0729	



1. OUR STRATEGY

Through reduction of backlogged facility repairs, the Department can ensure a high-quality experience for visitors at the state parks. The Department strategy is to reduce the backlog by \$5-7 million each biennium based on total FIP funding available, while continuing to address current deferred maintenance issues

that arise each biennium.

2. ABOUT THE TARGETS

Reduction targets are set biennially. The Department has been on target for backlog reduction. The FY 2013 actual figure of 79% was 1% above the target of 78%. Facilities backlog is reprioritized on an ongoing basis and takes into account new deferred maintenance projects.

3. HOW WE ARE DOING

FY 2013 data shows that progress continues to be made in reducing the maintenance backlog. Efforts are continuing to re-assess additional backlog and deferred maintenance that has accrued since 1999.

4. HOW WE COMPARE

The Department is unaware of relevant public standards related to this performance measure.

5. FACTORS AFFECTING RESULTS

The Park Construction Priorities are funded each biennium from the Parks and Natural Resources Fund. Investments are made in two areas: 1) major maintenance to reduce backlogged repairs and deferred maintenance, including improvements in efficiency and sustainability; and 2) enhancements to meet future needs. The backlog reduction could be impacted by decisions to increase or decrease the focus of resources on the enhancement projects.

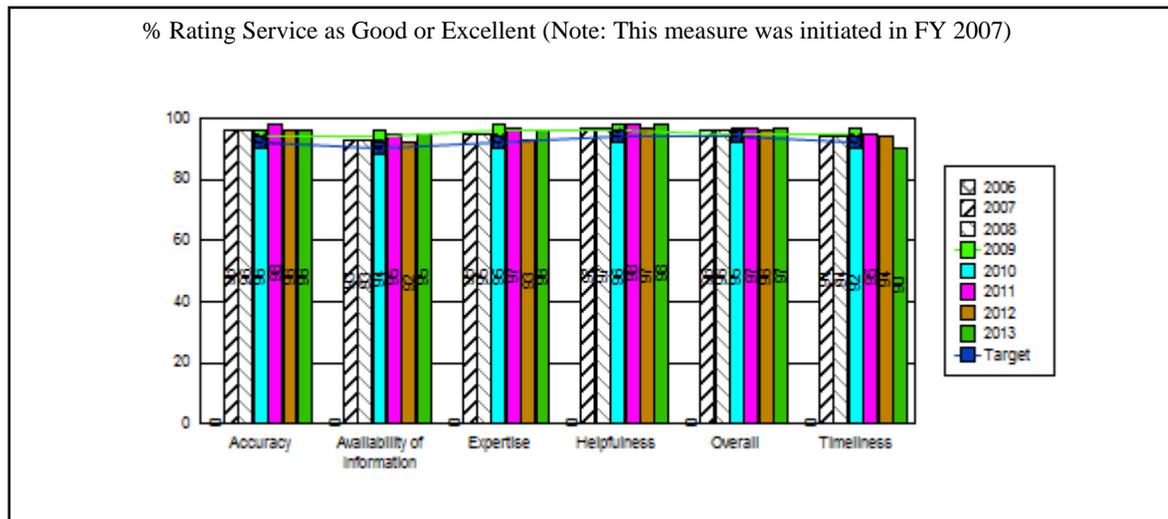
6. WHAT NEEDS TO BE DONE

Continue commitment to systematically identify, prioritize, and schedule facility investment projects that most effectively reduce the backlog of maintenance and repairs. Oregon Parks and Recreation Department will be shifting to an Asset Condition Index system to monitor and track Park Construction Priority progress in future bienniums.

7. ABOUT THE DATA

While data is tracked continuously, it is reported biennially, with the next reporting of data to be done at the end of FY 2015.

KPM #6	CUSTOMER SATISFACTION – Percent of customers rating their satisfaction with the agency’s customer service as “good” or “excellent”: overall customer service, timeliness, accuracy, helpfulness, expertise and availability of information.	2007
Goal	Maintain the Department's high level of quality customer service.	
Oregon Context	Centennial Horizon, Principle 4.	
Data Source	Telephone survey of primary park customers.	
Owner	Chris Havel, Associate Director, Communications and Research Division, 503-986-0722.	



1. OUR STRATEGY

A telephone survey of primary park customers was initiated in June, 2006. The automated survey runs continuously.

2. ABOUT THE TARGETS

This measure is required of all agencies by the Department of Administrative Services. Of the 43+ million customers served by the Oregon Parks and Recreation Department, the vast majority contact staff in connection with campground and day-use park services. Accordingly, customer satisfaction measures focus primarily on park customers, though results from other customer satisfaction surveys gathered in other units are also used when available. Satisfaction levels should be increased to, or maintained at, an acceptably high level.

3. HOW WE ARE DOING

The department consistently meets or exceeds targets for this measure. As with any survey, there is a margin of error estimated at approximately 2%. Results that are within 2% of the target could reasonably be viewed as on target.

4. HOW WE COMPARE

If data becomes available, the Department will compare our results with those of like customer service measurements from other states or entities.

5. FACTORS AFFECTING RESULTS

Satisfaction dips when parks are crowded, even if the quality of service remains high.

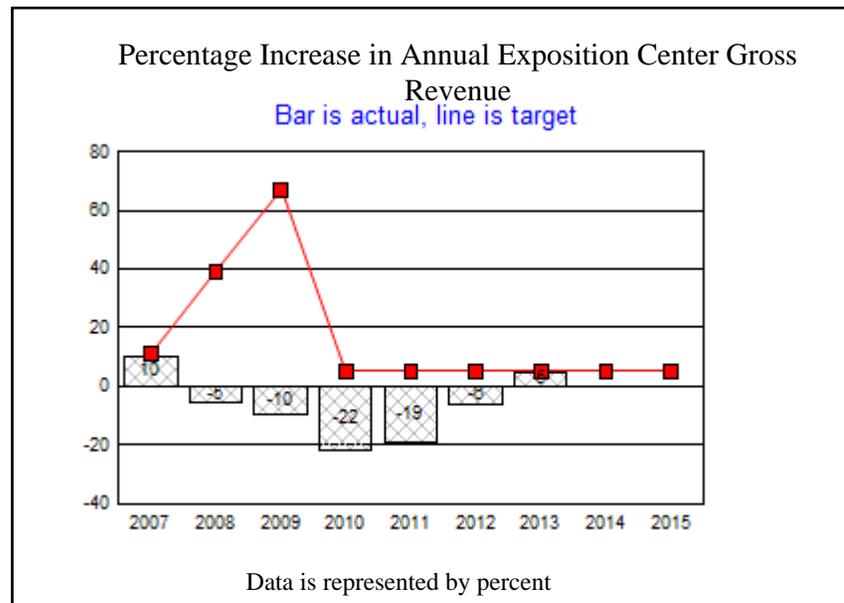
6. WHAT NEEDS TO BE DONE

The Department will continue to strive to provide excellent customer service.

7. ABOUT THE DATA

For the preceding 12 months, customer satisfaction data was collected through a random phone survey of the department's state park reservation customers.

KPM #7	EXPOSITION EVENTS - Percentage increase in annual Exposition Center gross revenue.	2007
Goal	Increase utilization of Oregon Exposition Center facilities.	
Oregon Context	Centennial Horizon, Principle 6. No link to a specific Oregon Benchmark.	
Data Source	Agency accounting records	
Owner	Tasha Petersen, Assistant Director, Administration, 503-986-0654.	



1. OUR STRATEGY

Rental contracts that generate low revenues and/or regularly generate losses will be renegotiated or dropped. Conversely, high-value clients and facility uses will be recruited.

2. ABOUT THE TARGETS

The targets represent the year-to-year increase in gross revenue generated rather than a cumulative increase over time.

3. HOW WE ARE DOING

FY 2013 gross revenue, \$810,649, was 4.8% higher than that of FY 2012 (\$773,352). Continue to be impacted by aging facilities and increasing operating costs.

4. HOW WE COMPARE

The Department is unaware of relevant public performance standards for this measure. Many fair and expo centers around the state, and across the country are experiencing similar struggles within the industry and are seeking ways to re-invent themselves to create new lines of revenue. No two exposition centers are alike to benchmark.

5. FACTORS AFFECTING RESULTS

Some factors that can impact year-to-year results are local and regional economic conditions (e.g., employment; fuel prices), weather, and ability to book events of popular interest.

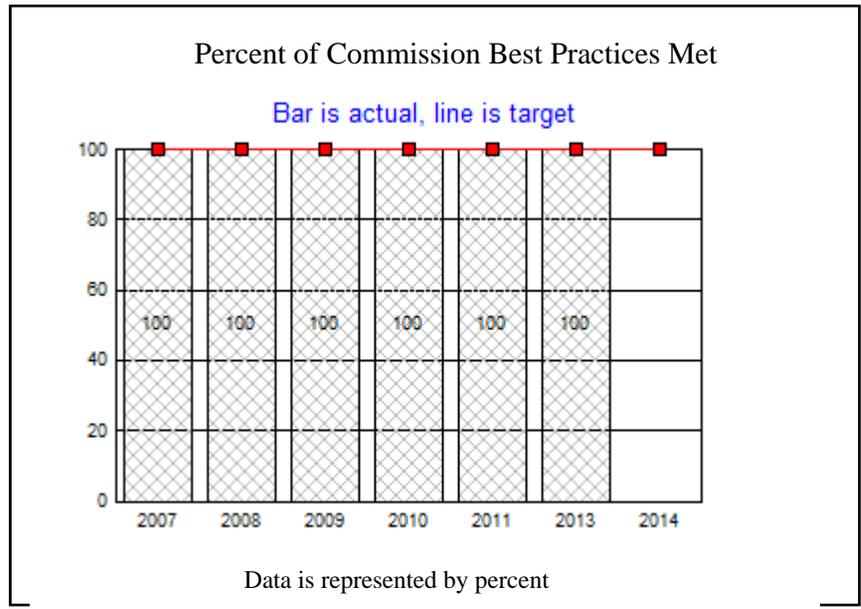
6. WHAT NEEDS TO BE DONE

Senate Bill 7 was recently passed allowing a public corporation to be constructed to run the expo more like a business in anticipation of increasing revenue opportunities and offsetting or reducing expenditures to create a viable year round business plan in partnership with OPRD, DAS, the new Fair Council, and local community leadership.

7. ABOUT THE DATA

The data are reported by Oregon FY.

KPM #8	COMMISSION BEST PRACTICES - Percent of total best practices met by the State Parks and Recreation Commission.	2007
Goal	Evaluate the adherence of the Commission to best practices met by the State Parks and Recreation Commission.	
Oregon Context	Centennial Horizon, Principles 5 and 7. Also required by budget note in DAS 2005-07 LAB.	
Data Source	Self- and neutral third party evaluation.	
Owner	Tim Wood, Director, 503-986-0718	



1. OUR STRATEGY

Annual self-evaluation by members of the Oregon State Parks and Recreation Commission.

2. ABOUT THE TARGETS

This measure is required of all agencies by the Department of Administrative Services. A list of 15 mandated best practices include business processes, oversight duties, budgeting and financial planning, and training.

3. HOW WE ARE DOING

The first data was available in November, 2007. The most recent data applies to FY 2013. Please Note: The calendar for approving Best Practices was moved to accommodate the Director's performance evaluation; therefore, no data was available for FY 2012.

4. HOW WE COMPARE

If comparable data becomes available, the Department will compare our results with like customer service measurements from other commissions and councils.

5. FACTORS AFFECTING RESULTS

Many measures are subjective, and require experienced Commissioners to develop reasoned answers. Newly-appointed Commissioners can affect the results.

6. WHAT NEEDS TO BE DONE

Since this is a self-evaluation by the Commission, and results are at 100%, nothing specific needs to be done by the Department at this time.

7. ABOUT THE DATA

Commissioners independently evaluate group performance, then collectively discuss their findings to produce a consensus report. The process for self-evaluation and discussion will be improved over time.

PARKS and RECREATION DEPARTMENT	III. USING PERFORMANCE DATA
Agency Mission: To provide and protect outstanding natural, scenic, cultural, historic and recreational sites for the enjoyment and education of present and future generations.	

Contact: Tom Hughes	Contact Phone: 503-986-0780
Alternate: Tanya Crane	Alternate Phone: 503-986-0694

The following questions indicate how performance measures and data are used for management and accountability purposes.

1. INCLUSIVITY	<ul style="list-style-type: none"> * Staff : Discussions with management-level and other staff to formulate and track performance measure data. * Elected Officials: Formal and informal discussions with the Governor and members of the Legislature. * Stakeholders: Annual performance measures report to the Commission. * Citizens: Monitoring and responding to input from the public relating to agency performance measures. Citizen input at Commission meetings. The Annual Performance Measures Report is posted on the agency website.
2 MANAGING FOR RESULTS	After Commission and legislative approval, the performance measures are shared at staff meetings, discussed with managers, and divided into more precise and job-specific measures. Ultimately, they form the basis for decisions that affect day-to-day operations. Also, performance measures guide individual staff performance expectations.
3 STAFF TRAINING	None
4 COMMUNICATING RESULTS	<ul style="list-style-type: none"> * Staff : Staff meetings and newsletters. * Elected Officials: Formal and informal discussions with the Governor and members of the Legislature. * Stakeholders: Performance measures are reported to the Commission annually. * Citizens: OPRD maintains its performance measures and Annual Performance Measures Report on the agency website for citizen review. Results are also communicated through Lottery commercials, signs, public/civic organizations, state and local fairs, and staff and volunteers who have contact with over 40 million park visitors each year.