Oregon Parks and Recreation Commission

January 25, 2012

Agenda Item: 12 Information

Topic: Reports

Agenda Item: 12a
Topic: Let's Go Camping Program Report
Prepared by: Kathy Schutt, Jill Nishball and Jimmy Childs

The attached Executive Summary of the 2011 Let's Go Camping Annual Report summarizes the past season, identifies highlights and lessons learned, and makes recommendations for the 2012 season. The last two pages summarize changes that are underway for next season, including the proposed locations for next season's events. Staff will conduct a comment workshop this winter with park managers who have had, will have, or would like to have a summer Let's Go Camping event in one of their parks.

In addition, program staff are seeking grants and other support to help fund next seasons' events, including working on a new partnership agreement with the State Parks Trust, The North Face Company, and REI. The North Face agreement discussions include supporting one of the Let's Go Camping events directly through staff participation and funding for equipment, as well as funding for marketing publications for the event and possibly providing two permanent interpretive signs in one or two selected state parks. 2012 would be the second year of The North Face "Explore Your Parks Program" in OPRD parks.

Staff are also exploring ways that the Let's Go Camping program can become more attractive to under-represented groups in Oregon, such as members of the Russian-American community, and potentially others working with Frank Garcia, the Diversity Advocate with DAS and the Governor's office.

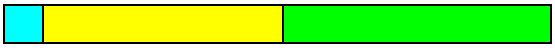
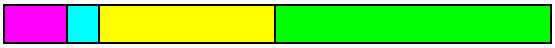
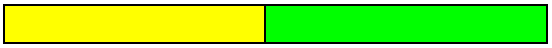
Let's Go Camping volunteer training is scheduled for late April, 2012.

Agenda Item: 12b
Topic: 2011 Centennial Horizon Projects
Prepared by: Chris Havel

Centennial Horizon Progress Update
Action on annual work plans Jan-Dec 2011

Each year, managers plan their work to support the principles and actions detailed in the Centennial Horizon vision. Key managers meet twice a year to review the status of the highest-priority projects, and the Director's Office reports a summary version of the year-to-date to the Commission every six months. This is the end-of-year report for 2011.

1. Overall progress by principle

Centennial Horizon Principle	Status gauge (Defer / Planning / Doing / Done)	# projects
1: Save Oregon's Special Places		10
2: Meaningful Experiences		13
3: Taking the Long View		15
4: Education and Outreach		11
5: Build with Purpose & Vision		8
6: Attract and Inspire Partners		9
7: Prioritize Based on the Vision		28
8: People Who Love their Work		2

2. Major projects in progress and completed

Principle 1: Save Oregon's Special Places
Fort Yamhill Archaeological Park Phase I Complete
Cottonwood Canyon State Park Comprehensive Plan Complete

Principle 2: Connect People to meaningful Outdoor Experiences
ADA Upgrades at Lake Owyhee Complete
Pave 3.5 miles of Rogue Greenway Trail. Complete

Principle 3: Taking the Long View
Update Statewide Historic Preservation Plan Complete

Principle 4: Engage People through Education and Outreach
Bates State Park interpretive panels Complete

Principle 5: Build the State Park System with Purpose and Vision
Add cabins at Fort Stevens and Cape Lookout. Complete
Expand camping at South Beach in accordance with plan Complete

Principle 6: Attract and Inspire Partners
Target key counties with Certified Local Govt training. 90% complete

Principle 7: Prioritize Based on the Vision
Start quarterly review of park maintenance task progress Complete
Cross-discipline resource planning for Bates Complete

Principle 8: Parks will be Tended by People Who Love their Work
Send 12 managers to Resource Management School Complete

3. Sample projects on deck for 2012
Principle 1: Save Oregon's Special Places
Finalize and adopt Park System Plan

Principle 2: Connect People to Meaningful Outdoor Experiences
Hold First Day Hikes at several parks on January 1, 2012

Principle 3: Taking the Long View
Restore water to Thompson's Mills pond to allow return to normal operations.

Principle 4: Engage People through Education and Outreach
Create and enact state fair strategic marketing plan.

Principle 5: Build the State Park System with Purpose and Vision
Convene and conclude the Parks Land Use Forum.

Principle 6: Attract and Inspire Partners
Develop ***Art in the Parks*** program.

Principle 7: Prioritize Based on the Vision
Develop and adopt program to reliably and accurately quantify park visitor use.

Principle 8: Parks will be Tended by People Who Love their Work
Adopt and implement agency training plan.

4. Assessment of overall health year to date

Overall, in its third full year after adoption, staff are making good progress on strategies and actions detailed in the Centennial Horizon vision. Seven of eight principles are in fine shape. Many of the "unfinished" projects are, in reality, designed as multi-year projects and showed significant progress in 2011. Only one principle (Principle 4) had consistent problems completing projects.

Principle 4 is primarily concerned with education and outreach, mainly to the mass public through marketing and in-park experiences. Of the four projects left unfinished at the end of the year, many were delayed due to organizational and leaderships changes, and are being revamped for 2012.

Principle	**Started**		**Finished**			**Health-o-meter**
	Should have	Actually did	Should have	Actually did	*(Multi-year)*	Good●⊙○Bad
1: Save Special Places	11	9	6	6	*(4)*	●
2: Meaningful Experiences	13	12	10	6	*(3)*	●
3: Taking the Long View	16	12	11	7	*(4)*	●
4: Education and Outreach	11	10	5	1	*(3)*	⊙
5: Build with Purpose	8	8	3	3	*(4)*	●
6: Attract & Inspire Partners	9	9	2	3	*(4)*	●
7: Prioritize	15	14	4	3	*(6)*	●
8: People Who Love the Work	2	2	2	1	*(0)*	●

Agenda Item: 12c
Topic: Cottonwood Canyon Update
Prepared by: MG Devereux and Darin Wilson

Work continues at Cottonwood Canyon State Park to be on track for opening to the public in September 2013. OPRD staff is currently focusing on several areas:

Land Use and Management Consolidation

Staff from the Integrated Park Services Division (formerly Planning Division) is working with representatives from the planning departments in Gilliam and Sherman Counties to complete the land use process. All application materials have been submitted, and the counties are reviewing the applications. Staff anticipates presenting to the Sherman County Planning Commission in February 2012. Gilliam County planning staff has indicated that the current county workload will not accommodate a quick review. Fortunately, a minor delay should not alter plans for the park opening.

In July 2011, the OPRD Commission directed staff to prepare a Recreation Public Purposes application for consolidation of BLM and OPRD property surrounding Cottonwood Canyon. The application was submitted to the regional BLM office at the end of December 2011. The application included a letter of transmittal from Governor Kitzhaber. The application will now go through BLM review including environmental analysis for which there is no certain completion schedule.

Oregon Solutions Project

In November 2011, Governor Kitzhaber designated the proposed welcome and education center at the park as an Oregon Solutions Project. This designation is in recognition of the strong community interest in development of education potential at Cottonwood Canyon State Park. The Oregon Solutions process will bring together stakeholders from business, education, and government to refine the education center concept and develop a plan to secure funding for construction. The project team will develop an overall project schedule as part of the initial meetings in January 2012. The State Parks Trust has indicated a preliminary interest in supporting this project and will be exploring that possibility.

Design Status

Technical Services Division (formerly Engineering and Design Division) staff is working to complete design and construction documents for the initial park opening facilities. The main park entrance from Hwy 206 is the first major area to be designed. Roadway designs completed by KPFF Consulting Engineers are now at the 90% phase and will be submitted to ODOT for final approval in January 2012. These plans are attached for Commission review and input. Staff will seek Commission approval to award the Access Improvements construction contract in April 2012.

KPFF was also hired to provide structural engineering to evaluate the existing Red Barn and to design required repairs and potentially full renovation of the Red Barn. The initial programmed use for the Red Barn to be stabilized and used only for limited occupancy by staff will only require minimal structural repairs and likely a new roof system. Full structural renovation and

other fire and life safety requirements to allow public occupancy of the building would drastically modify the look of the barn and would exceed current budget allocations.

Staff has also been working on a contract with PBS Engineering to perform design and construction administration services for the main park utility systems, including electrical, phone, water and wastewater systems, as well as the required site work for the initial development, including roadways, parking lots, sidewalks, paths, storm water treatment facilities, host sites, staff housing, building pads, limited irrigation, and landscaping. The design and construction management of the new buildings will be completed in-house with division staff. The updated site plan for initial development is attached.

Natural Resource Management Projects

OPRD and Western Rivers Conservancy continue collaborating on restoration work along the Hay Creek drainage. Western Rivers Conservancy received an effectiveness monitoring grant from OWEB that has allowed the engagement of Arlington High School to monitor the restoration that has already taken place. Over the course of two field trips in 2011, the school science group is monitoring survival and mortality rates of planted riparian vegetation, along with establishing monitoring plots in the fields adjacent to the creek to learn how well the weed control and reseeding of grasses and forbs have taken. The school group will return next year to continue to monitor these parameters as well as collect water temperature data from three deployed temperature probes in Hay Creek; undertake macroinvertebrate sampling; and install a staff gage for measuring stream flow. Oversight and quality control on data collection methods are provided by Western Rivers Conservancy, OPRD, Gilliam County, ODFW, and ODEQ.

Western Rivers Conservancy and OPRD are gearing up to plant and cage 2,700 trees and shrubs along Hay Creek in late February 2012.

The 40-acre field behind the existing barns at the old homestead underwent a controlled burn in early December 2011 conducted by Gilliam County staff. This method was the best tool to remove the existing bio-mass to prepare for one year of chemical fallow followed by native grass seeding scheduled for March 2013.

OPRD and Gilliam County have an IGA (duration 12/2011 – 12/2012) that will focus on weed suppression along 70 acres of restored fields adjacent to Hay Creek, the 40-acre field behind the barns at the old homestead, Esau Canyon, road prisms entering Hay Creek, and jeep roads on both sides of the John Day River.

In November 2011 OPRD field staff from Deschutes River SRA installed wire protection cages around Cottonwood trees planted along the John Day River adjacent to the 40-acre field at the old Murtha homestead.

Agenda Item: 12d
Topic: Integrated Water Resources
Prepared by: Jim Morgan

The 2009 Oregon Legislature passed HB 3369 directing the Water Resources Department (WRD) to develop a state-wide, integrated water resources strategy to help the state meet its future water needs in terms of water quantity, water quality, and ecosystem function. Based on the enabling legislation and input from public and private organizations, the Water Resources Commission (WRC) and WRD established a set of principles that defined development of the statewide strategy in the areas of vision, process, content, and implementation.

The statewide strategy will focus less on data acquisition and analysis than on integrating available information and technical resources to develop recommendations. The final product will be an action agenda outlining data, planning, policy, statute/rule, funding and outreach components that will be implemented over the next five years.

The development of the Strategy is managed by the Project Team, which consists of WRD, ODEQ, ODFW, and ODA. The Project Team conducted workshops and held open house events throughout the state over 2010 and 2011. These events aimed at gathering local input to inform the development of the strategy. Participants also had an opportunity to provide their input through a survey.

OPRD is participating as a member of the Agency Advisory Group which is composed of 15 state agencies that provides the technical information and policy considerations from respective departments.
In the Strategy, there are recommended actions that may directly affect OPRD programs:
Action 3.A: Complete base flow studies that characterize stream flows needed to sustain habitat, scenic waterways, water quality and recreational needs.
Action 8.A.: Use Water Trails Program at OPRD to increase access to water-related recreational opportunities and promote interest in water resources protection.
A summary of the draft recommendation of the Strategy is provided in Attachment A. OPRD will continue to participate in the Agency Advisory Group and monitor development of the recommended actions.

The initial two of five phases in developing the Strategy have been completed: (1) setting the stage and process and (2) identifying water resources needs. Currently in its third phase, the advisory groups and Project Team will prioritize recommended actions and draft a Strategy for public review. Phase 4 will occur in 2012 where the Project Team presents the Strategy to the WRC and other vested Boards and Commissions, followed by adoption by WRC. In Phase 5, the Project Team will present recommended actions and legislative and budget requests to the 77th Legislative Assembly in 2013 for implementation.

Agenda Item: 12e
Topic: Bandon Snowy Plover Management Plan
Prepared by: Jim Morgan

On December 16, 2011, Oregon Parks and Recreation Department (OPRD) submitted to U.S. Fish and Wildlife Service (USFWS) the Draft Western Snowy Plover Site Management Plan for Bandon State Natural Area (SNA). Development of the site management plan fulfills a requirement outlined in the Habitat Conservation Plan (HCP) for the Western Snowy Plover; complies with the Implementing Agreement signed by OPRD and USFWS; and is consistent with the Incidental Take Permit TE30687A-0.

The HCP requires OPRD to complete a site management plan, in cooperation with and approved by the USFWS, for each of the Snowy Plover Management Areas (SPMAs). Bandon SNA has the only currently occupied SPMA that is managed by OPRD and is the first site management plan required for completion. The Site Management Plan prepared for Bandon SNA outlines management activities that are consistent with OPRD's current approach.

Site management plans must also be developed for three of the four unoccupied SPMAs managed by OPRD: at Nehalem Spit, Necanicum Spit, and Columbia River South Jetty. These site management plans shall be developed by December 2012 and implemented the following nesting season. A site management plan for the fourth unoccupied SPMA, Netarts Spit, may be developed and implemented if other SPMAs remain unoccupied.

As outlined in the HCP, USFWS will complete review and approval of the draft Site Management Plan within six months of submitting the draft Plan.

Prior Action by Commission:

- March 2010, reviewed benefits, commitments and federal process
- 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: 12f
Rulemaking Status
Prepared by: Claudia Ciobanu/Vanessa DeMoe

Rulemaking Activity Log

OAR & Division	Subject Matter	Rulemaking Process Opened	Hearing Dates	Public Comment Expiration Date	Target Date for Commission Adoption
736-004	ATV rule changes as required by HB 2829.	9/21/2011	11/29/11 - 12/1/11	12/9/2011	1/25/2012
736-006	Local Government Grant Program	3/18/2011	1/17/12-1/19/2012	2/15/12	4/4/2012
736-016	Amend rules governing non-traditional park use and special use permits	11/18/2010	10/18/11 – 10/25/11		4/4/2012
736-15	Clarification of recreational immunity language relating to charges for services and facilities	3/18/2010	NA	5/31/2010	Adopted- Permanent rule filed 11/28/11
736-021	Ocean Shores Amend rules for enforcement, public safety and preservation and adopt rules for non-motorized vehicles and devices.	11/16/2011	1/26/2012-1/30/2012	2/6/2012	4/4/2012
736-045	Natural Areas (SB58) Adopting rules for the Oregon Natural Heritage Programs, a program transferred in 2011 from DSL.	9/21/2011	12/1/2011	02/23/2012	1/25/2012
736-017	Veterans and War Memorial Grant Program	Tentatively 1/25/2012	TBD	TBD	4/4/2012

LET'S GO CAMPING

Executive Summary
End of Season Report, 2011

prepared by:

Jill Nishball and Jimmy Childs
Let's Go Camping Co-Coordinators

What is "Let's Go Camping"?

Let's Go Camping (LGC) is a weekend event offering novice campers the opportunity to experience camping in Oregon's great outdoors. With free gear, hands-on lessons, nature hikes and a shared campfire with plenty of s'mores, LGC makes camping easy and inviting - a fun and social outing for the entire family. LGC is a wonderful way to promote camping in Oregon's State Parks and at the same time create new OPRD customers.

Background

The Let's Go Camping (LGC) program began in 1998 as a once-a-summer overnight at Milo McIver State Park. Offered by the Friends of Tryon Creek (FoTC), the program expanded to three overnights in 2007. Building upon its success, OPRD recognized the program's potential and in 2009, with the continued support of FoTC, took ownership of the program and expanded it to eight events, primarily held at parks in the Portland and Upper Willamette Valley areas. In summer 2010, LGC continued under the leadership of a full-time AmeriCorps intern, specifically hired to organize and carry out the expanded series of 12 statewide events.

Key Roles

For 2011, there are two central staff members administering and marketing the program and coordinating events. One is a Special Projects Coordinator located in the Portland Reservations Northwest office and one is the Volunteer Services Specialist in the Salem Headquarters office. This staff member or an experienced LGC volunteer served as the leader and point person for each event along with 3-4 trained volunteers.

Volunteers check out needed equipment (tents, sleeping bags and mattress pads) to campers, assist them in setting up camp and provide instruction on equipment care and use. Every volunteer is matched with each registered family to assist them from the onset – first with a pre-event check-in phone call, followed by a personalized meet and greet upon their arrival and finally helping them to get settled in and comfortable in their selected campsite. During the entire course of the weekend, these volunteers are available and ready to answer any concern or question - making this first-time camping experience fun, easy, and safe.

During a typical Let's Go Camping event, park interpretive staff may lead these programs and/or other park-specific recreational and educational activities designed to enrich the camping experience as well as to educate participants about the park and its resources. Park rangers may take on a leadership role or they may supplement the program in other ways. Currently it is a requirement for participating parks to engage staff in some way – from assisting with agenda planning to guided walks to presentations.

It is our goal that a uniformed ranger is available to officially welcome the campers to the park and share basic natural and/or cultural history and introduce them to unique features which makes their park a special place. This contact serves several important outreach goals (see below), connecting campers to park staff on the ground who have personal knowledge of parks operations.

LGC Programming

Each camping trip features 5 core presentations which are typically presented by leaders and volunteers. They are:

- Camping Basics
- Leave No Trace
- The 10 Essentials of Hiking
- Dutch Oven Cooking
- Fire Building and Safety

Two night-time interpretive programs have been developed and are occasionally presented. They are:

- Bat Chats
- Owl Prowls

Program Goals

While many specific Centennial Horizon goals are met with this program, for brevity's sake, we are not including them here. We are happy to provide them upon request.

Current Goals

- Spark an excitement for camping and the outdoors
- Introduce family camping to people with little or no prior camping experience
- Attract underrepresented populations to Oregon State Parks
- Provide exposure to the skills, knowledge and resources necessary for families to camp on their own
- Teach proper outdoor etiquette (both environmental and social)
- Emphasize outdoor safety

Current Objectives

- 100% set up their gear correctly
- 90% succeed in cooking meals independently
- 90% attend the Leave No Trace talk
- 90% attend the 10 Essentials talk
- 20% go camping on their own within a year

Future Goals

- Expand the program to other Oregon State Parks in both urban and rural communities
- Expand marketing, publicity and outreach efforts
- Partner with other agencies with related goals (e.g. ODFW, ODF, USFS, etc.)

Volunteers as Park Advocates

One of the most unique elements of LGC is the involvement of volunteers who believe in the program goals and get involved. The LGC volunteers we've had the privilege of working with have been absolutely dedicated to the purpose and agenda of each Let's Go Camping event. Generally speaking, they are avid outdoors-people who have a passion for sharing their outdoor skills and recreational interests with those new to camping. Many work in the environmental field and have a particular expertise, others are natural teachers and love sharing knowledge with kids, and most just have camped all their lives and are excited to introduce others to this activity, helping them to also become "happy campers".

Volunteers offer registrants the opportunity to learn from real people in the parks, who love the parks and want to spend more time in them. The opportunity to volunteer gives people an ownership of their state park system, connecting them with OPRD staff and operations in a bigger way and inspiring in them a true sense of pride. The fact that we tend to have returning volunteers from year to year is a testament to their belief and deep engagement in the program. The ability to tailor presentations to their own style, share personal stories of camping, backpacking, and wilderness with a hands-on approach allows them to build bridges to new park users through shared camping experiences. They in turn, share these positive experiences and memories within their own peer groups, making them real park advocates. This word going out through no effort other than their own involvement is exactly the kind of impact we seek to make in Oregon communities.

2011 LGC in Review

Events

For the summer of 201114 LGC events were scheduled, starting in mid-June and continuing through the 3rd weekend in August. Events occurred at the following parks: South Beach, Umpqua Lighthouse, Memaloose, Silver Falls, Stub Stewart, Cascadia, The Cove Palisades, Milo McIver and Champoeg. Four events were cancelled due to lack of registrants at LaPine, Farewell Bend, Valley of the Rogue and Wallowa Lake, all parks located a good distance from the main population centers of Oregon. Marketing efforts begun in early May, were too late to garner more local support and promotional opportunities. Moving up our marketing efforts and registration process to the beginning of the year should certainly yield better results.

The first 2 events both took place on the Oregon coast, early in the season during very wet weekends. They were the only coastal parks participating in 2011. Scheduling coastal events for a little later on (July – August) appears to be a wise move. Two additional LGC events experienced another unseasonably rainy weekend as well in early July - a sold-out event at Silver Falls and one at Stub Stewart. Amazingly all of the camping families stayed for the duration of both weekends despite often heavy downpours.

Registrations

Each LGC event was limited to 35 registrants except at The Cove Palisades, where the maximum was 25, due to restricted space and parking at group sites. Registrations for those who had attended prior LGC events were limited to 5 spots (14%) for each event and other previous attendees were placed on a waiting list. Our intention was to restrict signing up just to "get a good deal" in camping fees or get a space in popular parks that were already booked up on preferred weekend dates. This waiting list system worked very well when registrants' plans changed at least a few days before their scheduled event, allowing us the opportunity to re-direct them into events with fewer participants.

Participants

In terms of attendees, we saw many of the same trends in 2011 as in previous years. LGC events have always been popular among parents with young children – many who had not been camping since they became parents. Also single-parent families and grandparents camping with grandchildren were again regular participants. One advantage for families is not only spending quality time together in a beautiful place, but the chance for kids to play together in a safe, but controlled setting away from their homes and usual community. Not as often, but occasionally a senior couple signed up to try their hand at camping. Regardless of age or situation, all enjoyed hands-on lessons, personal connections with park rangers, the security and social opportunity of camping within a group setting and having experienced volunteers on hand to provide assistance if needed.

A total of 248 people registered for events in 2011. This was very close to registrant totals for 2010 (257). Of these registrants, 212 attended events with 36 cancellations. Cancellations for 2011 came to 14.5% compared to 28% in 2010. In 2011, there was no penalty imposed for late cancellations but we did notice that adverse weather predictions seemed to be at least partially responsible for some of them.

Volunteers continued to contact registrant families a week or so before the event to ensure they were coming and to answer any questions regarding packing food, supplies, and other equipment.

Sponsors/Partners

Building upon funding from the Stihl Company, in 2010, we purchased needed equipment to support two events each weekend, created promotional materials and purchased and applied a graphic "wrap" for the LGC trailer to expand the program's visibility on the road. We also continued our positive working relationship with REI Inc., a business that has provided equipment for prior LGC programs, and has been a true partner in our training and outreach efforts.

Volunteer Training

Successful LGC volunteers working in previous years were contacted for involvement this season, and from the recruitment ad on the OPRD website. Wwe spoke to nearly 60 potential volunteers. Twelve attended the volunteer orientation and training held on June 4, 2011 at Tryon Creek State Natural Area. All who attended were able to commit to assisting during at least one weekend, and many committed to multiple events – a valuable trend we hope to encourage into the future. Returning volunteers were given the option to attend or not. Together with our cadre of eight experienced repeat volunteers and three last-minute volunteers who signed up too late to attend training, a total of 23 dedicated volunteers were available to program leaders to carry out all aspects of the 2011 LGC program. Some volunteers signed up for events that, unfortunately, had to be cancelled due to a lack of registrations, and did not get a chance to put their passion into action.

Training Reservations Agents

RNW staff were trained to make all the LGC reservations requests using the existing reservation system. This worked well. Registrants were pleased to get a live person to answer questions and direct them to events that were not yet full.

2011 Highlights

Due to needs that arose in the 2011 season and in response to camper suggestions:

- ***Experienced volunteers in 2011 successfully assumed volunteer-led responsibilities at a Let's Go Camping event where project coordinators were not available.*** This alternative could be expanded to more events in 2012 to reduce OPRD expenses.

- ***Included in the Let's Go Camping trailer we carried and distributed various marketing materials to provide more visibility to other related OPRD programs,*** such as the summer Junior Ranger program, Outdoor Seekers, and the Oregon Children's Outdoor Bill of Rights. We sought opportunities to "cross-pollinate" and share info about these programs whenever possible.

- ***After each event, the Let's Go Camping Coordinators e-mailed "thank you for joining us" notes to participants with a picture or 2 of their family/group.*** These communications were well received.

- ***We experienced a real disadvantage in 2011 due to the fact that marketing did not begin until early May.*** This made it difficult to conduct proper outreach for a program beginning the next month. We worked diligently with Public Services staff to raise visibility for the program using our website, brochures, a public "Call for Volunteers" and assistance from our REI partners, but our late start meant that we couldn't take advantage of other tools we had used in previous years and some parks were challenged with scheduling logistics and meeting staffing needs.

- ***Let's Go Camping was represented at the Salem Riverfront Family Festival in early August.*** Forty-five families expressed interest in the 2012 season dates by signing a mailing list. We will follow up early next year by contacting each of these families directly with the 2012 LGC schedule and registration information. We should look for other such marketing opportunities.

- OPRD's Youth Ambassador Clint Bowers joined the August Silver Falls event to take photos of the event in action and to interview participants and volunteers. ***A 2-minute video was produced and is now featured on the America's State Parks website*** – and soon to be uploaded to the 2012 Let's Go Camping page of the OPRD website.

- **We had several long waiting lists for specific parks and were able to pull some of these families to fill last-minute cancellations.** We aim to fill each of the 2012 events to capacity.

Recommendations for 2012 and Beyond

- ***Market each 2012 summer event as a full weekend of camping for the family.*** Reserved sites must be booked for Friday night to allow for Saturday morning arrivals. Since this reflects *no extra cost to OPRD*, registrants will be provided the option of arriving on Friday after 4 pm for a 2-night stay should they choose. This satisfies those who cannot possibly make it to the park on Friday night after work, but not choose to travel to a park for only one night's stay.

- ***Begin all events for the 2012 season will officially begin Saturday morning with scheduled volunteer and ranger-led presentations beginning at 11 am.***

- ***Improve marketing.*** The Let's Go Camping website with 2012 schedule and an invitation to register should be ready and published Monday, January 3, 2012. All outreach and marketing activities should begin on that same date. Some current suggestions include the following strategies:

    - ***At this time, we have conducted outreach to over a dozen Oregon family/parenting websites who plan to include LGC 2012 program info and dates on their calendars.*** Several have agreed to include articles, photos and even a personalized review of one of the earlier events for their readers.

    - ***Plans for marketing include outreach to many more local, community outlets in order to reach potential participants who live near parks farthest from population centers.*** Making LGC brochures available to local clubs, churches and organizations and flyers posted at places where people frequent (shopping centers, gyms, pools, etc.) should be key to getting registrants signed up for these rural parks.

- ***Partner with the volunteer fishing program at ODF&W*** who have donated introductory fishing equipment kits and fish ID and instruction booklets to assist those who are new at fishing. We'd like to incorporate more of this activity within 2012 events at appropriate locations.

- ***Expand the volunteer training to an overnight session*** to mimic a sample one-night event with campers. This will allow us the opportunity to familiarize them with all the equipment in advance and present core programs in "real time". This will provide all volunteers a "sneak peak" at how a real camping weekend will go. Training will also introduce volunteers to basic elements in recreational fishing with guidance from ODF&W volunteers. An expanded schedule for the 2012 LGC season will rely on a larger pool of trained volunteers and some experienced volunteers to take the lead on some sessions.

- ***Institute a cancellation policy*** that would require forfeiture of $20 fee for cancellations with the exception of a medical emergency or family illness. Refunds will only be made available upon approval by the program manager.

- **Contact families on each event's waiting list to *institute a 3-day change policy*** allowing registered families to move to another event/date with no fee required. No changes will be allowed within the 3-day period prior to the Friday start date without prior approval.

- ***Allow new campers to register up to 2 days prior to the Friday start date for each event/date.*** Exceptions must be approved in advance by program coordinator(s).

- ***Continue to provide spots for returning LGC campers (14%) who have attended only 1 prior event.*** However for families who have attended 2 or more events with prior park manager approval, we will consider offering one additional event encouraging *involvement in a volunteer project* as part of the camping experience.

- ***Consider providing additional events open only to organizations/clubs who have contacted us well in advance.*** These events will only be considered if the group has enough participants to completely fill an event of their own. Examples of specialized groups might be active seniors, civic groups, foreign language-groups, etc.

- ***Seek opportunities to expand LGC partners/sponsors*** to provide sustainable funding sources for the LGC program through OPRD-approved relationships.

- ***Acquire enough equipment to supply 70 campers*** who all need tents, sleeping bags and mattress pads. Every other weekend on the proposed 2012 schedule there are 2 events at different parks. Each event could have 35 registrants.

- ***Acquire a storage area*** for all Let's Go Camping equipment or a 2nd trailer.

Oregon's Integrated Water Resources Strategy

DRAFT RECOMMENDED ACTIONS - AT A GLANCE - JUNE 23, 2011

Understand Water Resources Today

1. Understanding Oregon's Water Resources/Supplies

1a. "map" Oregon's water-related institutions
1b. fill in data gaps in specific issue areas

Understand Both Instream & Out-of-Stream Needs

2. Understanding Oregon's Out-of-Stream Needs

2a. update long-term water demand forecasts
2b. improve water-use measurement
2c. complete water right adjudications

3. Understanding Oregon's Instream Needs

3a. understand flows needed to support stream functions
3b. understand relationship between groundwater & ecosystem needs

Understand Coming Pressures that Affect Our Needs and Supplies

4. The Water-Energy Nexus

4a. analyze effects on water demand from energy development policies
4b. take advantage of water infrastructure to develop hydroelectric power
4c. increase energy efficiency & renewable power production @ water facilities
4d. promote strategies that conserve energy and water

5. Climate Change

5a. support continued climate change research efforts
5b. develop climate change scenarios/models
5c. assist with climate change adaptation strategies

6. The Water and Land-Use Nexus

6a. ensure local governments have access to data needed for decision-making
6b. develop land-use scenarios / models
6c. fully integrate water information into land-use planning (& vice versa)

7. Water-Related Infrastructure

7a. encourage regional (sub-basin) approaches to water/ww systems [10a]
7b. develop and upgrade water & wastewater infrastructure
7c. improve dam safety

Meet Oregon's Instream and Out-of-Stream Needs

8. Education and Outreach

8a. provide improved public access to information
8b. encourage the next generation of water experts

9. Funding the Development and Protection of Oregon's Water

9a. establish a water management fund for the state
9b. capitalize funds for local water projects
9c. coordinate state & federal funding programs

10. Place-Based Approaches

10a. encourage regional (sub-basin) approach to water/ww systems [7a]
10b. participate in transboundary agreements
10c. facilitate regional (sub-basin) water resource planning

11. Water Management

11a. increase water conservation & water efficiency
11b. increase built storage
11c. encourage additional water re-use
11d. assist in the development of ecosystem credits and markets

12. Ecosystem Health and Public Health Needs

12a. restore natural storage areas
12b. pursue additional instream protections
12c. improve pollution prevention
12d. improve habitat and habitat access for fish

KEY:
- Key, high priority, concept
- Ongoing need for applied research.
- Legislation or rule-making likely required

[ ] = Contains more information, such as identifying lead or coordinating agencies or cross-referencing to other actions.

BANDON STATE NATURAL AREA

Photo credit: USFWS

OREGON STATE PARKS — Nature History Discovery

Draft Western Snowy Plover Site Management Plan

December 2011

Draft Western Snowy Plover Site Management Plan
Bandon State Natural Area
December 2011

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
725 Summer St. NE, Ste C
Salem, OR 97301-0792
Info Center: 1-800-551-6949
egov.oregon.gov/OPRD/index.shtml

Title: Bandon State Natural Area: Draft Western Snowy Plover Site Management Plan.

Cover Image: Snowy plover image courtesy of USFWS. Bandon SNA fencing image, OPRD.

Executive Summary

The Pacific coastal population of the western snowy plover (*Charadrius alexandrinus 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 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, issued in December 2009, 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 Bandon State Natural Area (SNA), the only currently occupied SPMA managed by OPRD, must be completed within one year of ITP issuance. 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 Bandon SPMA is identified as the habitat restoration area (HRA) and the area extending north to the south end of the China Creek access point parking lot in Bandon SNA. Active management of the Bandon SPMA will begin March 15th, 2013. This plan outlines OPRD's activities to protect plover nesting areas; reduce recreational disturbance; 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 Bandon SPMA

- **Seasonal Recreation Restrictions** (March 15 – September 15)
  - Post access routes and the extent of beach use restrictions within the SPMA.
  - Prohibit vehicles (motorized and non-motorized) on the Ocean Shore (except for administrative use), or as otherwise restricted by existing Oregon Administrative Rule (OAR).
  - Prohibit dogs in the SPMA during nesting season.
  - Prohibit flying kites in the SPMA during nesting season.
  - Direct recreational activities to the wet sand. Fences, ropes, and/or signs will define the 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, breeding population monitoring, and wintering and breeding window surveys during the nesting season. 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 enforcement activities.
  - Review the program every five years.

Contents

Figures

Tables

Acronyms and Abbreviations

ACOE	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
SNA	State Natural Area
SPMA	Snowy Plover Management Area
SVL	Statutory Vegetation Line
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

Acknowledgments

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Section 1. Background

The Pacific coastal population of the western snowy plover (*Charadrius alexandrinus 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, issued in December 2009, 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 Bandon State Natural Area (SNA), the only currently occupied SPMA managed by OPRD, must be completed within one year of ITP issuance. Under the HCP, the Bandon SPMA is identified as the habitat restoration area (HRA) and the area extending north to the south end of the China Creek access point parking lot in Bandon SNA. Active management of the Bandon SPMA will begin March 15th, 2013. This plan outlines OPRD's activities to protect plover nesting areas; reduce recreational disturbance; and implement natural resource management activities, including habitat restoration.

1.1 Landownership and Management History

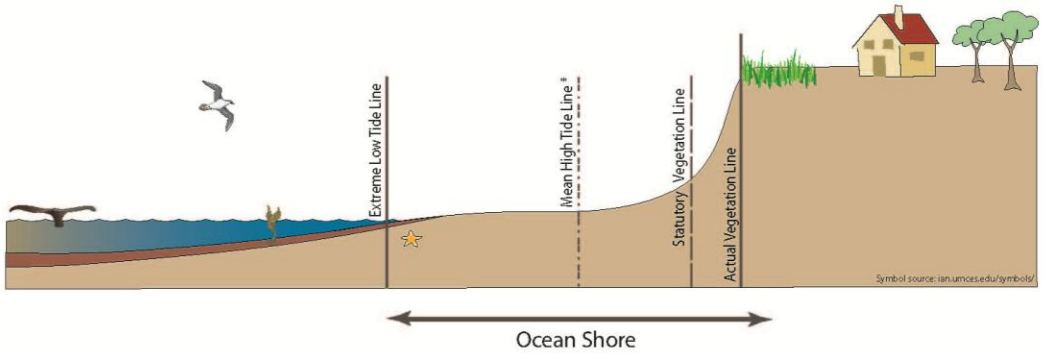
1.1.1. Landownership History

The approximately 879-acre property known as Bandon SNA is currently owned and managed by OPRD. The various parcels that make up the current park property were acquired by the state between 1954 and 1970 through a combination of purchases and acquisitions from private landowners (~240 acres) and a grant (~639 acres) from the Bureau of Land Management (BLM) in 1968. The grant from the BLM stipulates the property be used for park purposes only. The property was transferred from the Oregon Department of Transportation to OPRD in 1995 through a quitclaim deed. OPRD ownership of the parcels goes to mean high water, below which the land is owned by the state through the Department of State Lands (DSL). However, OPRD manages these lands as part of the Ocean Shore State Recreation Area to extreme low water (Figure 1).

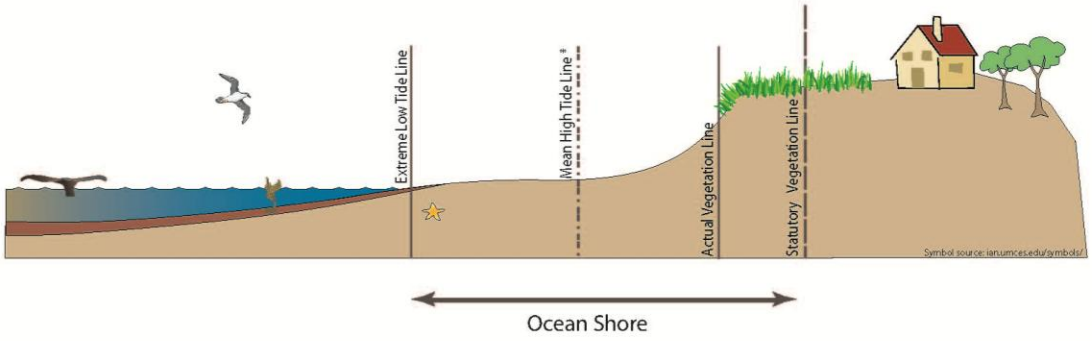
1.2.2. Management History

The upland property is currently zoned for recreational (REC) park uses. The REC designation accommodates recreational uses of areas with high recreational or open space value (OPRD, 1986). Prior to completion of the acquisitions that make up the current property) through today, it has been managed (as a State Natural Area) for low-intensity recreational use, namely beach access by OPRD.

The Ocean Shore State Recreation Area (Figure 1) includes the land lying between extreme low tide to either the statutory vegetation line or established line of upland vegetation, whichever is furthest inland (ORS 390.605). The Ocean Shore is managed by OPRD for public recreational use, along with scenic, historic, natural and cultural purposes.



Defined boundary of the Ocean Shore when the actual vegetation line is further landward than the statutory vegetation line.



Defined boundary of the Ocean Shore when the statutory vegetation line is further landward than the actual vegetation line.

*OPRD's permit jurisdiction on the Ocean Shore extends landward from the low tide line to the mean high tide line on Federal lands and from the low tide line to the statutory or actual vegetation line, whichever is most landward, on all other lands.

Figure 1. Boundary of the Ocean Shore both when the vegetation line (top) and statutory (bottom) vegetation line (SVL) is further landward.

1.2 Legal and Site Description

1.2.1. Legal Description

The Bandon SPMA falls within the boundaries of Bandon State Natural Area and the Ocean Shore State Recreation Area and is located within the East ½ of Sec 11, 14, 23 and 26 in T29S, 15W, W.M. (Figure 2).

Figures 2 and 3 show the boundary of the SPMA (and a portion of the RMA to the south) superimposed on aerial photography and a USGS topographic map, respectively.

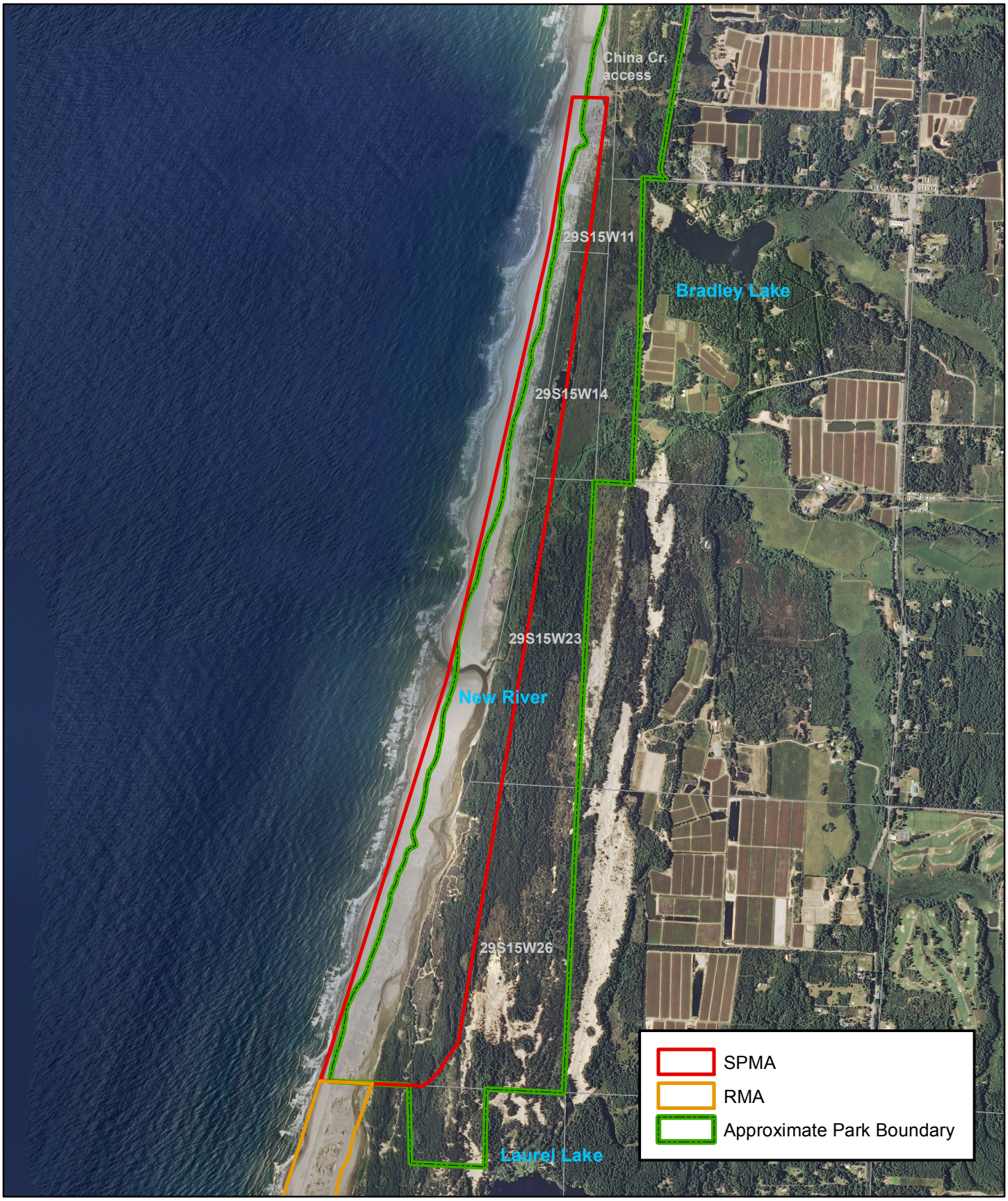
1.2.2. Site Description

The Bandon SPMA includes sandy ocean shore beaches, including the foredune and some inland vegetative dunal areas from the southern end of the China Creek beach access parking area to the southern boundary of the park property, approximately three miles south (Figures 2 and 3).

Historic conditions

The General Land Office (GLO) surveys conducted in the mid-1800's included the area now designated as the SPMA and made note of un-vegetated sand-dunes ("sandy barrens") with some scattered vegetation (ORNHIC, 2008). 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 these sandy barrens include seashore bluegrass (*Poa macrantha*), beach morning glory (*Convolvulus soldanella*), silvery phacelia (*Phacelia argentea*), 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). Beach sagewort (*Artemisia pycnocephala*), Wolf's evening primrose (*Oenothera wolfii*), pink sand verbena (*Abronia umbellata*), are currently rare species that were 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
2011 Aerial Imagery

0 0.5 1 Miles

LGH 12/12/2011

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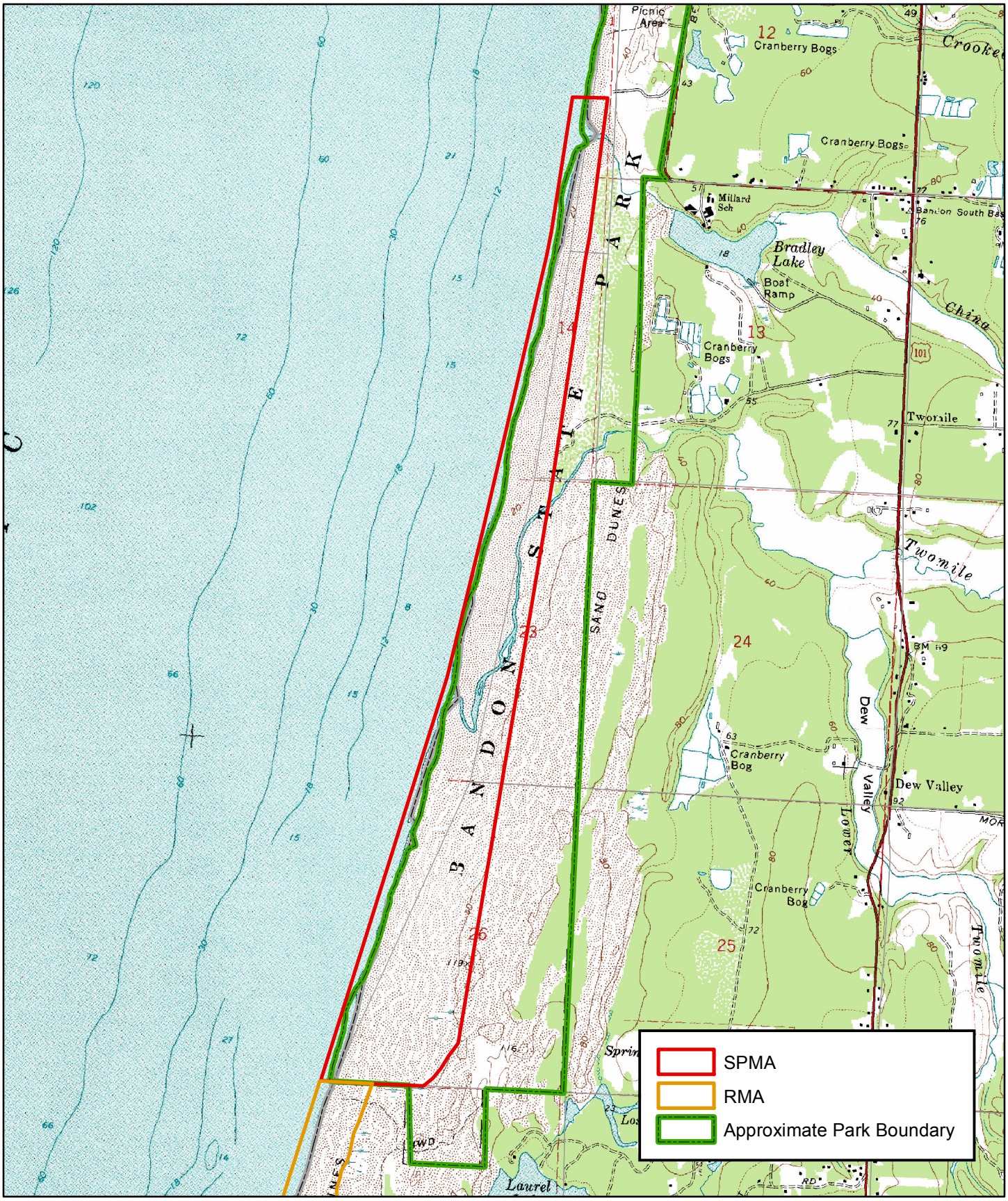
Figure 2. Boundary of Snowy Plover Management Areas (SPMA)within Bandon State Natural Area overlain on a 2011 aerial photograph. The northern portion of the Recreation Management Area (RMA) is shown on the southern end of the SPMA.



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Oregon Lambert Projection
Datum NAD 83
2011 Aerial Imagery

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Figure 3. Boundary of Snowy Plover Management Area (SPMA) within Bandon State Natural Area overlain on a USGS topographic map.

Current conditions

Introduced to the U.S. west coast in the late 1800's, European beachgrass has since fundamentally changed the nature of Oregon's coastal sand dunes (Cooper, 1958; Green, 1965; Franklin and Dyrness, 1973, Wilson, 1980). 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; ICF International, 2010a).

In the general area of the SPMA, there is currently increased shrubland compared to historic conditions due to beachgrass stabilization. Shrubland varies from primarily introduced gorse (*Ulex europaea*) to more native communities characterized by hooker willow (*Salix hookeriana*), black twinberry (*Lonicera involucrata*), coyote brush (*Baccharis pilularis*), salal (*Gaultheria shallon*), wax myrtle (*Myrica californica*) and evergreen huckleberry (*Vaccinium ovatum*). Where shrubs are absent, cover is generally dominated by European beachgrass. There are some small areas of deflation plane wetlands in low areas between dunes. Those wetland areas are characterized by slough sedge (*Carex obnupta*), Pacific silverweed (*Argentina egedii*) and likely a variety of sedges and rushes.

Snowy Plover HRA at Bandon 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

naturally, including within the Bandon SPMA (USFWS, 2007). The steep foredunes prevent overwash and scour that naturally maintained plover's preferred habitat (ICF International, 2010a). Beginning in 2002, OPRD has worked to restore approximately 50 acres of habitat for plovers near the mouth of Twomile Creek. This work has involved removing European beachgrass, gorse, and grading the upper beach to allow more storm wave overwash to occur. Recently, the outlet of New River moved north and joined with the Twomile Creek outlet. This has naturally created more overwash in the area and appears to have improved nesting at the site (Lauten et. al., 2010). OPRD plans to continue to maintain up to 50 acres of habitat for plovers within the SPMA.

Plovers nest and raise their fledglings along much of the Bandon SPMA. Nests and broods are often found along the foredune throughout the SPMA, including near China Creek, in the China Creek overwash area, within the HRA, and along the low-lying foredunes south of the maintained HRA (both north and south of the New River mouth). Broods tend to use the areas with the least amount of visitation (e.g., southern half of the beach) (Lauten et.al., 2010). The HRA is generally a flat sandy beach with little vegetation. Areas along the foredune that plovers tend to nest in are made up of a summer build-up of sand on the front side of the foredune. The China Creek overwash is a historic flow of China Creek. Areas south of the HRA are naturally overwashed by storms, creating open beach areas.

1.3 Regulations

An U.S. Army Corps of Engineers (ACOE) 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 Bandon SPMA. An ACOE Rivers and Harbors Act Section 10 permit is also required for actions that occur in, under, over or would impact navigable waters (including the 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).

OPRD issues permits for activities on the Ocean Shore, including the construction of shoreline protective structures, beach access, dune grading and various removal and fill activities, the routing of pipelines and

cables beneath the Ocean Shore, and natural product removal. OPRD also regulates vehicle use on beaches closed to driving, beach salvage activities, and other activities conducted on the Ocean Shore. OPRD has had an alteration permit for the habitat restoration work conducted at Bandon SNA.

Oregon's statewide planning goals (namely, 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. Coos County has a dune management plan and local ordinances which have been approved by the coastal program of Oregon's Department of Land Conservation and Development (DLCD).

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 2010, the number of resident plovers in Oregon was estimated at between 184-185 birds (Lauten et. al., 2010). During Washington's 2010 breeding window survey, only 38 adult plovers were found, the lowest in the past five years (Pearson et. al., 2010).

1.4.1. Population Status at Bandon SNA

In 1990, intensive monitoring of the distribution, abundance, and productivity of the snowy plover coastal population in Oregon began. 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 season and winter window surveys as well as productivity monitoring. Productivity monitoring is described in Section 1.4.2. Survey methods are described in Castelein et al. 2000a, 2000b, 2001, 2002, and Lauten et al. 2003.

Snowy plovers near the wrack line

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; Lauten et al. 2010). The Bandon SNA-New River area is one of eight overwintering sites along the Oregon coast (ICF International, 2010a). Numbers of snowy plovers (Figure 4) counted during winter window surveys at Bandon SNA-New River vary widely from year to year. Between 1991 and 2010, overwintering counts at Bandon range from a low of zero birds (1994, 2003 and 2004) to a high of 41 birds in 2008. This trend correlates with the overwintering counts for the Oregon coast (Figure 4), indicating a regional effect, such as significant change in climatic conditions, rather than something site-specific; however, the reasons for such variation have not been investigated.

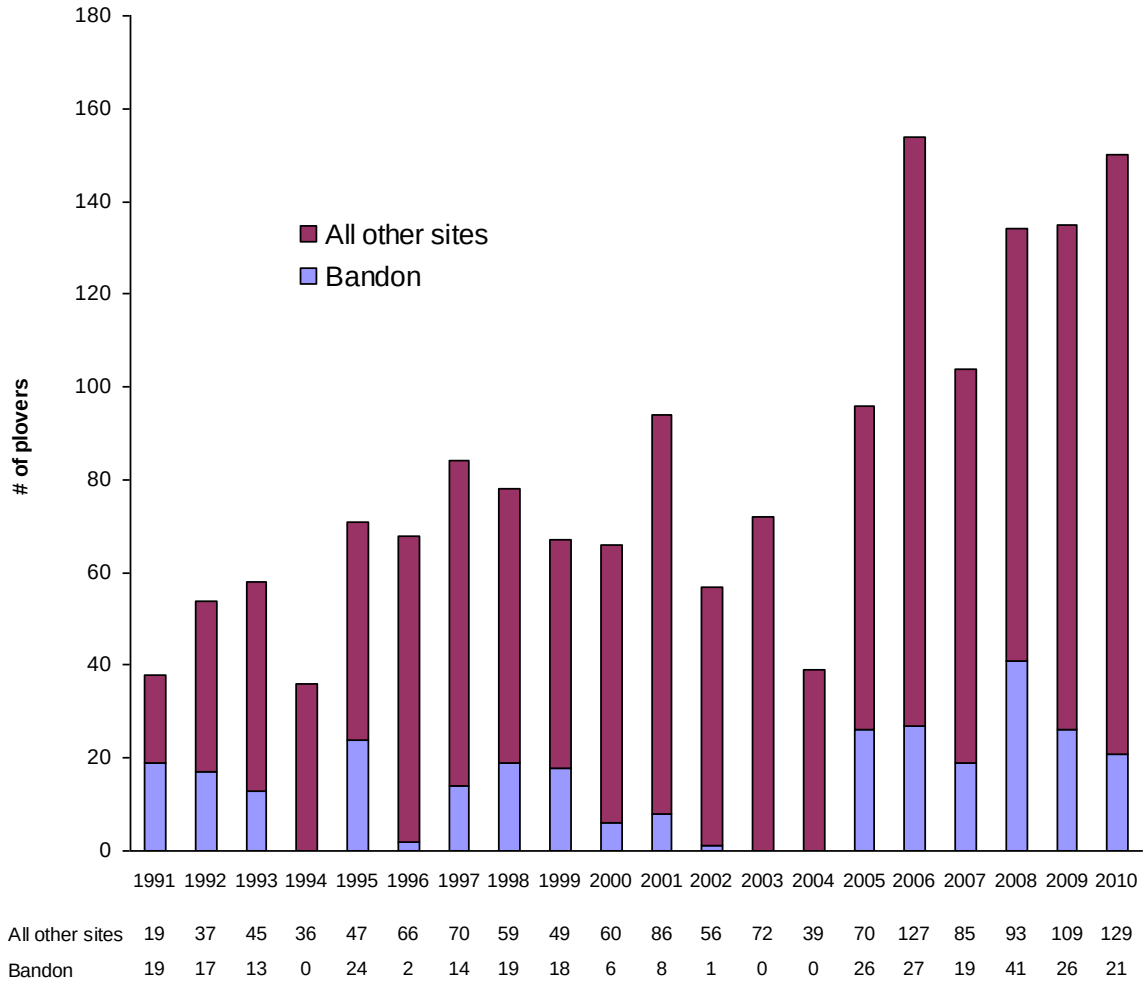

Figure 4. Snowy plover numbers counted during winter window surveys at Bandon SNA-New River (1991-2010) in relation to coast wide plover counts at all Oregon sites

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). The snowy plover breeding population in Oregon is currently estimated at around 175 birds (Lauten, 2010).

In addition to lower numbers of breeding pairs when compared 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). Currently, Bandon is one of only seven documented breeding sites in Oregon (USFWS, 2007; ICF International, 2010a).

Between 1991 and 2010, counts of snowy plovers during the breeding season fluctuated widely, both at Bandon and along the Oregon coast (Figure 5). Between 1991 and 2010, breeding season counts at Bandon ranged from a low of two birds in 1992, 1998, 1999, 2002, and 2003 to a high of 40 in 2010. As with overwintering counts, this trend correlates with the breeding counts for the Oregon coast (Figure 5). Since monitoring began in 1991, 2010 was the best year on record for statewide breeding window counts (158) and for Bandon SNA (40).

Snowy plover nest found near China Creek

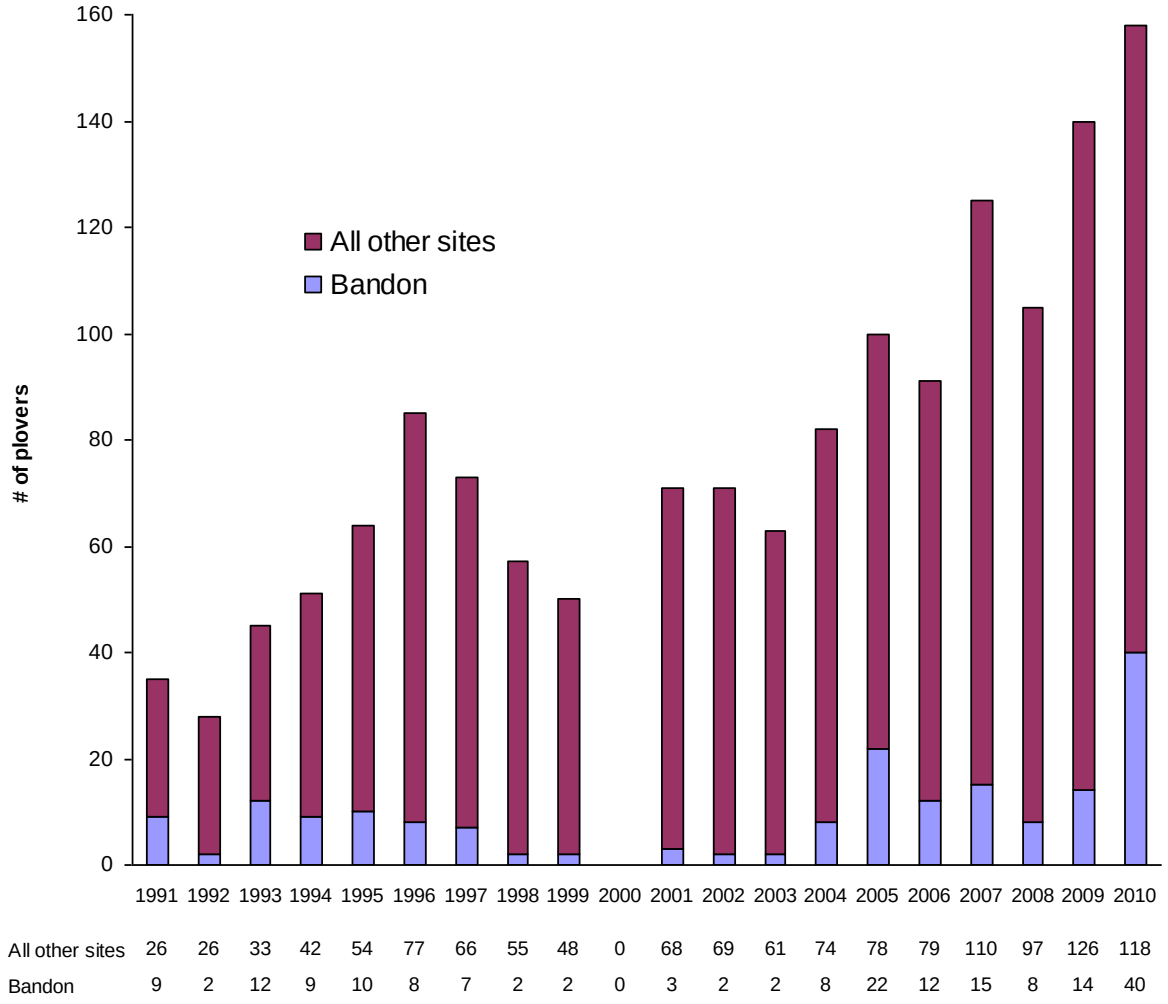

Figure 5. Snowy plover numbers counted during breeding window surveys at Bandon SNA-New River (1991-2010) in relation to coast wide plover counts at all other Oregon sites. Note: counts did not occur in 2000.

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 control methods. Survey methods are described in Lauten et al. 2003. Tracking nest success, brood success, and hatch-year returns can pinpoint areas limiting the recovery of the species, and guide management decisions.

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). While overall nest success at Bandon SNA has varied (Table 1), snowy plover nest success at this site averages about 34% from 1993-2010. In an effort to determine the role of large predator nest predation on nest success, a subset of nests were exclosed with mini-exclosures beginning in 2003. These exclosures allow passage of adult snowy plovers, but exclude larger predators such as coyote, corvids, and foxes. However, exclosure use can increase predation of adult plovers; therefore, use of exclosures must be carefully assessed for application. Between 2003 and 2010, the nest success of exclosed nests is much higher than non-exclosed nests ranging from 42% to 100% (Table 1), and the use of exclosures appears to improve nest success; however statistical analysis has not been conducted to validate the efficacy of exclosure use. When nest success of non-exclosed nests is within expected ranges (41-58%; Colwell et. al,. 2005, Page et. al., 1983, and Powell et. al., 2002), using exclosures will not necessarily increase overall productivity, as other factors such as fledgling survival play a role (Lauten et. al., 2010). Given that nest success of non-exclosed nests at Bandon SNA averages at 10% while exclosed nest success averages 69% (1993-2010, excluding 1994, 1996, 1998, and 2000 due to uneven data), continued use of exclosures seems warranted. Other factors that may limit nest success at Bandon SNA include weather, high tides, human disturbance, and small predators such as mice. Techniques and monitoring to address these issues will be refined through statistical analysis and determined in consultation with the Snowy Plover Working Group.

Table 1. Nest Success of Snowy Plovers at Bandon (1999-2010). Source Lauten et. al., 2003-2010 and Castelein et. al., 1999-2002.

Year	Total Nests	Failed Nests	Exclosed Nest Success	Non-exclosed Nest Success	Overall Nest Success
2010	26	15	85%	0%	42%
2009	31	26	67%	4%	16%[1]
2008	28	25	43%	0%	11%
2007	30	20	100%	31%	33%
2006	23	16	56%	17%	30%
2005	31	18	86%	6%	42%
2004	17	4	93%	0%	76%
2003	5	3	100%	0%	40%
2002	5	5	0%	0%	0%
2001	6	4	100%	0%	33%
2000	2	2	0%	N/A	0%
1999	2	1	100%	0%	50%

[1] Corrected, source table displays 13%

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, and other unknown potential effects are factors that can influence fledgling success; more information is needed on how these factors limit the population. Currently, management techniques to improve fledgling success consist of predator management. At Bandon SNA, hatch rates pre- and post- predator management activities have remained similar, but fledgling success rate

and reproductive success have increased (Table 2). Statistical analyses will be employed to determine if these increases and other changes are significant, and to evaluate the efficacy of predator control and other management actions.

Table 2. Reproductive success of snowy plovers at Bandon SNA (1992-2010). Source: Lauten et. al, 2010.

Year	Hatch Rate[1]	Fledgling Success Rate[2]	Reproductive Success[3]
2010	52%	19%	0.75
2009	17%	50%	0.75
2008	7%	40%	0.18
2007	33%	54%	1.63
2006	36%	42%	1.16
2005	46%	30%	0.92
2004	66%	45%	1.40
2003	46%	33%	0.50
2002	0%	0%	0.00
2001	46%	17%	0.33
2000	0%	0%	0.00
1999	75%	33%	0.50
1998	0%	0%	0.00
1997	0%	0%	0.00
1996	67%	17%	0.50
1995	18%	0%	0.00
1994	100%	33%	1.25
1993	48%	30%	0.60
1992	30%	14%	0.25
Pre-predator management ('92-01) Average +/- St. Dev.	38.4 +/- 35.0	14.4 +/- 14.1	0.34 +/- 0.40
Post-predator management ('02-'10) Average +/- St. Dev.	33.7 +/- 21.8	34.8 +/- 16.8	0.81 +/- 0.54

1 Hatch rate: number of hatched eggs/total number of eggs
2 Fledgling success: number of fledged young/total number of hatched eggs
3 Reproductive success: number of fledged young per male

1.4.3 Survivorship

A final component to recovery of western snowy plover is survivorship. While adult survival is important to population dynamics, the factors that affect adult survivorship are not addressed in the HCP or the Recovery Plan (USFWS, 2001). The Recovery Plan specifies adult survivorship of 76% and juvenile survivorship of 50%: the mean overwinter survival rate for the Oregon coast from 1994-2009 is 68% for adults and 50% for juveniles (Lauten et. al., 2010), indicating a need for research into the mechanics of adult survivorship. Currently, survivorship is not part of this site management plan. However, should more information on survivorship become available, adaptive management strategies to improve survivorship may be implemented in consultation with the Snowy Plover Working Group.

Snowy plover habitat and fencing at Bandon SNA

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 are estimated to occur to coastal regions 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 Bandon SPMA falls within the south coast region, and more specifically in beach segment five (Umpqua River to Blacklock Point) in the 2002 Ocean Shore Recreational Survey conducted by OPRD (Shelby and Tokarczyk, 2002). Some types of recreation are limited seasonally near and in plover habitat and nesting areas at Bandon. The most popular activities noted in segment 5 were walking (93.2%), scenic enjoyment (81.9%) and picnicking (56.7%) (Shelby and Tokarczyk, 2002).

Compared to other beaches in the state, particularly on the central and north coast, the Bandon beaches receive relatively few visitors on average (90/weekend day) and most of those that visit do not experience crowding (88%; Table 3). SPMAs 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 Face Rock near the Coquille River and Blacklock Point is 32,656 visits (Shelby and Tokarcyk, 2002). This estimate includes a larger section of beach than the target SPMA, so is likely greater than actual use for the specific area of interest (ICF International, 2010b).

The most common activities noted at the beach between Face Rock and New River, which encompasses the Bandon SPMA, are walking/other exercise (47%) followed by relaxing/scenic enjoyment (27%; Table 3). Other activities that are not as common but have the potential to impact plovers include dog walking (7%) and kite-flying (3%). Some wind and kite surfing does occur in the area, including the China Creek access point on the north end of the SPMA.

Table 3. Face Rock to New River Beach Use Levels and Recreational Activities (Source: Shelby and Tokarczyk, 2002)

Recreational Activity	**Percentage**
Walking/other exercise	47
Nearshore Activities	1
Camping	0
Kite-flying	3
Dog Exercising	7
Relaxing/Scenic Enjoyment	27
Average Number of People/Weekend Day	90
Average Number of People/Week Day	71
Percentage reporting some crowding	12

Other Activities: Beachcombing, horseback riding, fishing from beach, family activities, clamming

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.

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. Snowy plover management activities at Bandon SNA 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, such as the state listed pink sand verbena and silvery phacelia, 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).

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 overall year-round disturbance (ICF International, 2010a).

Recreational activities that occur at and have the potential to cause disturbance at Bandon:

- Disturbance by humans (hiking, walking, jogging) and/or pets getting too close to incubating and/or overwintering birds. Dogs are currently required to be on-leash within and adjacent to Bandon SNA. Off-leash dogs are the most frequently noted illegal activity related to plovers in the Bandon SPMA. Occasionally visitors have been seen walking near and behind closed roped areas.
- Surf fishing and beach camping can result in prolonged disturbance to nesting snowy plovers (ICF International, 2010a). Beach camping is not allowed on the Ocean Shore adjacent to Bandon SNA or within any roped areas. Infrequent illegal beach camping occurs, mainly near the mouth of New River.
- Recreational users, including picnickers and campers, may leave behind food or trash, which can attract predators (ICF International, 2010a). There is some picnicking near the China Creek beach access parking lot.
- Driftwood removal for fire building can 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 driftwood since it is generally sparse (except by the river) and is a long walk back to a parking lot. Occasional collection may occur by illegal campers or by day-users for small beach fires, likely relatively close to the China Creek access.

- Illegal use of motorized vehicles on closed beaches can harass both wintering and nesting plovers, crush nests, and destroy sensitive native dune vegetation (ICF International, 2010a). This activity occurs very infrequently at this site.
- Some kite-flying, kiteboarding/wind-surfing occurs. Plovers may perceive kites as avian predators and temporarily or permanently abandon nests.
- Equestrian use of the beaches can disturb plovers and potentially crush nests. Horses occasionally have been seen crossing into the roped area across from China Creek.

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, public safety, and law enforcement. At Bandon SNA, the more frequent activities are routine enforcement of beach regulations, primarily snowy plover restrictions, followed by animal strandings. Large animal strandings (e.g., sea lion, whales) occur approximately six times per year and smaller animal strandings (e.g., birds, seals) are more frequent; the carcasses are generally buried. Infrequently, stranded boats require removal, as was the case a few years ago. There have been two gorse fires upland of the SPMA in the past two years.

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 Bandon SPMA.

Build-up of driftwood/drift-logs within the SPMA may impact plover habitat. Currently, driftwood tends to build up near the mouth of New River during the winter through early June. Since most of the piles front the HRA, birds are able to nest upland of the driftwood. However, if the wood piles up substantially in front of higher foredune areas, nesting may be limited and the driftwood could

potentially aid in the formation of even steeper foredunes. Not all driftwood is detrimental; smaller amounts can provide plovers protection from the weather and predators (ICF International, 2010).

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 Bandon SNA, storm run-up on the beach will destroy nests and also has management implications for OPRD. Fencing installed early in the season (March-early June) may get torn down and need to be replaced.

2.3 Predation

Predation is the main cause of nest failure at Bandon, responsible for 59% of failed nests from 2003-2010 (Table 4). Predation by corvids (29%), unknown predators (21%), and nest loss to unknown causes (19%) are the highest sources of failure. Nest failure from mammal predation, such as red foxes and rodents (6%) contribute to nest failure as well as nest abandonment (10%).

Table 4. Causes of Snowy Plover Nest Failure at Bandon SPMA (2003-2010). Source: Lauten et. al., 2003-2010

Year	Total Nests	Failed Nests	Adult Plover Predation	Egg Predations				Other Failure					
				Corvid	*Unk.*	*Mammal*	*Rodent*	*Weather*	*Abandon*	*1 egg nest*	*Over-wash*	*Infertile*	*Unk. Cause*
2010	26	15		2	3		1		1				8
2009	31	26		2	12		2			3			7
2008	28	25		10	4			2	5	2	1		1
2007	30	20		4	1	2			4	5			4
2006	23	16	4	4	4	1				1			2
2005	31	17		12		1		1	2				1
2004	17	4		1	1	1						1	
2003	5	3		1	1								1
Total	**191**	**126**	**4**	**36**	**26**	**5**	**3**	**3**	**12**	**11**	**1**	**1**	**24**

Section 3. Conservation Measures

OPRD's management of the Bandon 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.

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 Maintenance

Goal: Provide and maintain a minimum of 50 acres of quality habitat available for nesting and wintering Western snowy plovers at Bandon SNA. To meet the habitat restoration parameters established by the HCP, OPRD is required to restore and maintain 50 acres of snowy plover habitat within Bandon SPMA. Currently, OPRD has met the HCP requirements in HRA's north and south of the mouth of New River. OPRD will continue to maintain 50 acres of snowy plover habitat (See Section 3.1.2).

3.1.1. Habitat Restoration

Habitat restoration at Bandon SNA involves restoring coastal dune habitat through the removal of invasive plant species as well as lowering the foredune to allow storm wave over-wash to occur, where applicable. Restoration has included bulldozing of European beachgrass, leveling of back dunes, and removal of the foredune to allow for winter storm inundation. This work is conducted in areas that will not impact existing structures or cultural resources.

Presently the Bandon SPMA contains approximately 50 acres of restored snowy plover habitat located 1.2 miles south of the China Creek parking lot. The first OPRD maintained HRA, restored in 2002, was located south of the present mouth of New River and is now maintained naturally by the north movement of the river. New River will likely continue to move north and assist in restoring habitat. There are 30 acres of restored land north of the present New River mouth and 20 acres south of the mouth. In addition to the 50 acres of habitat restoration work for the HRA, OPRD experimented with 5 cut-outs of 1-2 acres located intermittently between the HRA and China Creek.

These cut-outs are small areas suitable for nesting created by removing a portion of the foredune and leveling the area of sparse vegetation behind the foredune in an effort to encourage nesting off the beach while still allowing access to the beach for foraging. Snowy plover nesting in the cut-outs experience less disturbance from humans and weather due to the presence of the foredune; however, without analysis this is conjecture.

3.1.2. Habitat Maintenance

OPRD will maintain 50 acres of habitat for snowy plover nesting by performing the following activities when necessary:

- Mechanical vegetation removal. The primary method of restoration has been by bulldozer. The contractors perform all work after the nesting season between September 15 and March 15. To date, most work has been done in the winter months (December/January). OPRD will determine when restoration will be required by an on-site inspection of the HRA to determine growth of European beachgrass. Limited re-growth will be acceptable as plovers use some vegetation for cover, but extensive re-growth 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 European beachgrass.

- Discussions have occurred on the possible use of herbicide, but no action has been taken to date. Based on results of best available management practices, herbicides will 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.

- In the future it may be necessary to use an excavator to remove logs. The south end of the HRA has many logs and the bulldozers have been severely hampered in that area in the past. Condition of the habitat restoration will determine if log removal is necessary.

For the past two winter seasons, the area around the mouth of Twomile Creek and New River have been naturally restored via northern movement of the mouth and severe winter storms. Hopefully this natural process will continue to aid with habitat restoration efforts. No other methods have been used on the Bandon HRA to date. Partnerships may include USFWS, BLM-New River, and the Snowy Plover Working Group. A future partnership may occur with the Oregon National Guard to perform bulldozing and excavation work to remove logs. The U.S. Forest Service has used the National Guard in their restoration projects and had successful results with lower cost.

3.2 Predator Management

Goal: Improve nesting success of Western snowy plover by reducing predator populations.

To enhance snowy plover nesting success, OPRD, in cooperation with partner agencies (e.g., BLM, USFS, USFWS and ODFW) contracts with APHIS-WS to conduct predator management. Corvids (i.e., ravens and crows) pose the largest threat to snowy plovers at Bandon. A variety of non-lethal and lethal methods are employed to control corvids and other predators. 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 vision*), weasel (*Mustela* spp.), rodents, common raven, American crow, gulls, and raptors.

An annually updated Western Snowy Plover Integrated Predator Damage Management Program Action Plan (Predator Control Action Plan) produced by the Interagency Predator Management Subcommittee of the Snowy Plover Working Team details proposed activities (Snowy Plover Working Team, 2011). An annual report is produced by APHIS-WS summarizing the activities conducted that year (Burrell, 2010).

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 Control Action Plan to manage for predators at Bandon SNA and will contract with APHIS-WS for predator control work. A variety of tools and definitions in the Predator Control 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 exclosures; 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.

Plover nest exclosures can be effective for most predators except weasels, mice, and rats. However, in some cases the use of exclosures may have contributed to increased mortality of adult plovers. Cautious use of exclosures is encouraged. 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.

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 Control 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, 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 encircling a nest exclosure, 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 evaluate effectiveness of meeting HCP goals.

2. Snowy Plover Breeding Population Monitoring

   Goal: Determine the nesting success of the breeding population of snowy plovers in the occupied SPMA at Bandon.

3. Snowy Plover Detect/Non-Detect Monitoring

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

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. Winter and Breeding Survey

OPRD will continue to provide staff to assist its partners with conducting wintering and breeding window surveys at currently occupied sites and will provide staff to conduct surveys at new SPMAs as they become occupied. The objective of collecting this data is to support reaching the population goal of 250 breeding adults as outlined in the Recovery Plan for the Washington and Oregon region.

3.3.2 Breeding Season

OPRD will provide annual funding to monitor breeding populations at Bandon SPMA via ORBIC and in cooperation with the Snowy Plover Working Group. This information will help provide the data necessary to support the 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 a minimum of once a month. OPRD will work with partners to refine sampling protocols as necessary. 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. Presence/Absence Monitoring

OPRD staff will continue to participate in detect/non-detect monitoring activities along the Ocean Shore to determine whether nesting populations of snowy plovers are present. This monitoring will help determine if plovers are dispersing to unoccupied SPMAs in order to adaptively manage all OPRD managed sites. Detect/non-detect monitoring will occur at the beginning of the nesting season (March) and will continue until July 15 as described in the USFWS monitoring protocol. Detect/non-detect monitoring will be conducted at least twice monthly during nesting season. The results of the detect/non-detect monitoring surveys will be summarized in the annual compliance report submitted to USFWS.

OPRD will continue to provide staff to assist with conducting wintering and breeding window surveys at Bandon SPMA. These surveys will be conducted as indicated in the Monitoring Guidelines for the Western Snowy Plover, Pacific Coast Populations (Appendix J in the Final Recovery Plan (USFWS, 2007)) and the results will be compiled annually and submitted to USFWS.

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 SPMAs while continuing to provide public beach access on the Oregon coast.

OPRD's management of the Bandon 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 disturbance to snowy plover by recreational users while providing public beach access.

OPRD will implement recreational use restrictions in SPMAs and RMAs for specific activities that pose greater potential threats to snowy plover and their habitat. OPRD will modify Oregon State Rules for Ocean Shore management to provide the legal mechanisms for enforcing restrictions. The following seasonal recreational restrictions will be in effect in the SPMAs between March 15th – September 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)
- Dogs prohibited on wet and dry sand
- Flying kites prohibited on wet and dry sand
- All other recreational activities directed to the wet sand (fences, ropes, and/or signs will define the dry sand breeding areas to be avoided)
- Restrictions may be lifted early if no nesting by July 15

4.1.1. Access and Symbolic Fencing

There are three major areas leading to the beach that may impact the plover nesting areas: China Creek, Bradley Lake Christian Camp access, and the former Four-Mile County Park, now under private ownership. Of these, China Creek is the only official beach access route maintained by OPRD. Bradley Lake Christian Camp and Four-Mile are under private ownership, but unofficial access to snowy plover areas occurs at these sites. Bradley Lake is the primary neighbor that OPRD works with on plover issues. Bandon SNA is relatively isolated from residential areas and does not have extensive recreational traffic from adjacent property owners.

China Creek is part of Bandon SNA and is owned and managed by OPRD. China Creek is managed as a day-use beach access with visitors using the parking lot to take walks on the beach with pets, go beachcombing, for kiteboard staging, hiking, and camping. Temporary and permanent regulatory and interpretive signage has been installed at China Creek with plans to expand signage where needed. Signs have directed visitors away from the plover sites and directed them north away from nesting areas. The volunteer hosts and park staff have also been instructed to direct people with dogs to go north as there are fewer restrictions. Most people comply. OPRD has put up symbolic fencing and signage to direct people away from nesting areas adjacent to China Creek beach access. Placing directional signs at the roped area pointing people to go around the nest sites may reduce the number of incidents.

Bradley Lake Christian Camp access is a trail located ¼ miles south of China Creek. This trail was constructed across state park property by the Christian camp without a permit or written authorization from OPRD. The trail is used primarily by camp patrons and there have been issues in the past. OPRD staff has resolved many of the issues by coordinating with the camp directors and the impacts have been greatly reduced. During the 2005 nesting season, the access was temporarily closed (for two weeks) due to a nest located within 100' of the trail exit. OPRD put up symbolic fencing directing traffic out of the trail and onto the wet sand and has not needed to close the trail since that time. It will require continued coordination with the camp directors to alleviate issues with the trail at this location. In 2009, OPRD and Bradley Lake Christian Camp constructed an alternative trail that directs camp visitors to the China Creek parking area and beach access. This alternative trail reduces the potential of human disturbance of nesting birds. Most large camp activities such as large picnics and beach related activities from the Christian camp have been directed to Devil's' Kitchen and camp management know they are required to have a permit for

large gatherings on the beach. In 2011, Christian camp management and OPRD came to an agreement to permanently close the trail year-round. Continued coordination with the Christian camp will be performed by the Bullards Beach park manager, ocean shore natural resource specialist, and the beach ranger.

Four-Mile Creek is a former Coos County Park that is on the east bank of New River. Four-Mile County Park was purchased by Michael Kaiser of Bandon Dunes Golf Resort and is no longer in county ownership. At the present time, access to the beach at Bandon SNA is limited by lack of upland development, heavy gorse, the depth of New River, and the isolated nature of the area. OPRD has had issues with people crossing the river and accessing the beach by cutting across snowy plover nesting sites. Occasionally, ATV's are an issue crossing from the county land and using the beaches illegally. Since Twomile Creek and New River have blended to make one mouth (and one long river) the issues have been reduced for the past two years. There is limited access across the river when the mouth closes up and the river is backed up. On-site meetings with BLM enforcement, Oregon State Police, OPRD, and Bandon Dunes have occurred to reduce the illegal ATV traffic that occurs on upland areas east of New River/Two-Mile Creek. Volunteers, enforcement and directional signs will aid in directing people away from plover areas.

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.

4.2.1. Interpretive Signs

OPRD provides signage at access points to inform the public of the presence of nesting snowy plovers and the importance of snowy plover protection measures. Two snowy plover interpretive panels have been installed in the parking lot of the China Creek beach access point informing the public of the status of the snowy plover.

Snowy plover interpretive signage

In cooperation with BLM and USFWS, OPRD has also assisted in the design and installation of several interpretive signs from the south jetty of the Coquille River to the mouth of New River. These signs are designed to inform Oregon Coast Trail hikers of the snowy plover recovery efforts and to guide them to camping and other recreational activities that will not impact plover nesting sites. The sign is in map format to help beach users avoid nesting sites.

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 Bandon SNA.

Signage at the China Creek beach access informing the public on what part of the beach the restrictions occur in has been proposed but not implemented. Signs at the parking lot pointing to areas where dogs may be allowed off-leash has also been proposed.

4.2.2. Boundary Signs

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 Bandon SPMA. Symbolic fencing and regulatory signs will be installed on March 15 and removed September 15. Winter storm activity at Bandon SNA will dictate where the initial fencing/signing will occur. Fencing of the HRA and the areas where storm surges will not damage fencing will occur on March 15. As the snowy plover nesting season progresses and winter storm activity subsides, OPRD will expand the fencing/signage as needed. OPRD will fence and sign from the north boundary of the SPMA located at the China Creek parking lot to the south boundary of the HRA located at the mouth of New River. Early in the plover season, New River is hazardous to cross and no signing will be completed on the south side of the New River mouth until it is deemed safe. At that point, signs will be installed to inform beach visitors of the snowy plover restrictions.

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. Since snowy plovers do not read OPRD signage, fencing may be realigned to encompass plovers that have nests on the beach face.

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.

OPRD will design regulatory signs to be placed on the beach and the parking lot at China Creek to inform the public on the restrictions required to recover the snowy plover.

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.

OPRD will continue to recruit and train volunteers to serve as docents for public outreach and education at the China Creek access to the Bandon SPMA. Volunteers recruited by Bullards Beach State Park provide valuable on-site education to the public at the China Creek beach access. Volunteers talk to beach visitors and provide brochures informing them of the plover and the restrictions that apply when walking the beach. Brochures are also distributed to the Bradley Lake Christian Camp and visitor centers in the area. OPRD representatives visit the Bradley Lake Christian Camp on a periodic basis and discuss plover issues with the camp directors and the impacts to the nesting sites from the camp beach access point.

Bullards Beach State Park has also conducted summer interpretive programs at the campground to educate the public on the plight of the snowy plover. An interpretive park ranger at Bullards Beach is responsible for all interpretive activities at the park and will continue to provide evening and Junior Ranger programs directed toward the snowy plover recovery effort.

The beach ranger and the ocean shore natural resource specialist will also provide on-site outreach and education to the public at China Creek.

4.4 Enforcement

Goal: Ensure that the public is aware of and adheres to OPRD rules and regulations governing Oregon's beaches, 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 from Coos Bay to the California border and will provide enforcement patrols at Bandon SNA during the critical snowy plover nesting period from March 15 to September 15. Bullards Beach State Park staff will assist in enforcement and coordinating with local law enforcement and Oregon State Police to facilitate enforcement activities.

4.4.1. Responsibilities for Enforcement

Patrols will be made by OPRD's beach ranger, Bullards Beach State Park staff, OPRD's ocean shore natural resource specialist, and Oregon State Police. Local law enforcement (Bandon Police Department, Coos County Sheriff) will be contacted as needed to serve as back-up for OPRD enforcement contacts that may require assistance.

4.4.2. Enforcement Timing

Patrols will be concentrated during high traffic times including holiday periods during the nesting season: Spring Break, Memorial Day, Independence Day, and Labor Day. Early in the season (April-June) an extra patrol emphasis should be made as a way to re-educate beach visitors and to ensure that the local population is informed that restrictions are now in effect. As the season progresses (July- September) more people are out during both the day and evening. Most serious violations have occurred in the evening during this late season period. Safety of OPRD/OSP personnel may dictate when/if patrols will be instituted in the evenings. A uniformed presence early in the evening may discourage potential party-goers. 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. Independence Day patrols

have been emphasized and teaming up with USFWS enforcement personnel has occurred since 2009. Illegal fireworks have been reduced due to increased patrols and citations issued.

4.4.3. Special Requirements

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.

Section 5. Adaptive Management

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

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 Bandon SPMA will be reviewed every five years from the completion date of this plan (December, 2011). 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).

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). 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 will evaluate the use of exclosures and their effectiveness in preventing predation and nest disturbance. Nest exclosure success at Bandon SPMA will 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 5).

Table 5. Implementation Schedule: Bandon State Natural Area – Western Snowy Plover Management Plan

Management Practice	Goal	Management Objective	Action	Timeline	Responsibility
Habitat Restoration and Maintenance (see section 3.1)	Provide and maintain a minimum of 50 acres of quality habitat for nesting and wintering Western snowy plovers	Provide plovers at least 4 areas to nest off the beach front, behind protective foredunes	Breach foredune and level interdunal area in a minimum of 4 cut-outs of up to 2 acres each	Winter 2011-12 (and ongoing, as necessary)	OPRD staff, contractors.
		Maintain previously restored 50 acres of habitat in functional condition	1. Spray herbicide based on best management practices and results of experimental spraying 2. Remove heavy infestations of European beachgrass through bulldozing or other mechanical means as necessary 3. Remove logs	Application will be predicated on industry herbicide application standards, OPRD internal written policy, results of experimental testing and with USFWS input.	OPRD staff
				As needed as determined by OPRD in consultation with USFWS. Maximum time allowed between maintenance will be 3 years unless natural processes have made mechanical restoration unnecessary	OPRD staff

Management Practice	Goal	Management Objective	Action	Timeline	Responsibility
Predator Management (section 3.2)	Improve nesting success of Western snowy plover	Conduct lethal and non-lethal predator control to reduce predation on the breeding population	Continue contract for predator control with APHIS-WS in coordination with the Snowy Plover Working Group	Ongoing. Predator control timing will be determined through the Snowy Plover Working Group (as outlined in the annually updated Action Plan).	OPRD staff, APHIS-WS.
Monitoring (section 3.3)	Monitor status of plovers at Bandon SPMA to evaluate effectiveness of meeting HCP goals	1. Wintering and breeding window surveys: Obtain data to support reaching the population goal (250 breeding adults) of the Recovery Plan for the WA and OR region.	Continue to provide staff time to assist partners	Annually	OPRD staff
		2. Breeding population monitoring: Collect data to support the goal of 1 fledgling per male (per Recovery Plan).	Provide annual funding to contract for breeding surveys. Work with partners to refine sampling protocol.	Annually, during the breeding season.	OPRD staff, contractors (ORBIC)

Management Practice	Goal	Management Objective	Action	Timeline	Responsibility
Monitoring cont.		3. Detect/non-detect monitoring: Confirm occupancy and determine if plovers are dispersing to unoccupied SPMAs 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
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 and dry sand 3. All other recreational activities directed to the wet sand (fences, ropes, and/or signs will define the dry sand breeding areas to be avoided)	Vehicles are currently restricted at Bandon SNA. Year-round vehicle prohibitions will be implemented as recommended by the 2004 Ocean Shore Management Plan through the Ocean Shore rule-making process (est. completion date of March 2013). All other recreational restrictions will become effective March 15, 2013. Annual restrictions may be lifted early if no nesting occurs by July 15th.	OPRD staff

Management Practice	Goal	Management Objective	Action	Timeline	Responsibility
Recreation Restrictions cont.		2.Symbolic fencing/ regulatory signage to notify and educate the public on restricted nesting areas	Symbolic rope fencing with signage will be installed from China Creek to The mouth of New River.	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 south of the mouth of New River as natural processes permit	Annually from March 15 to September 15	OPRD staff
			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 Bandon SNA	As funding permits	OPRD staff in coordination with Snowy Plover Working Group

Management Practice	Goal	Management Objective	Action	Timeline	Responsibility
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.	Recruit and train volunteer docents for public outreach and education efforts at the China Creek access. Distribute brochures to neighbors (e.g., Christian Camp) and visitor's centers. Provide interpretive programs at Bullards Beach 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 Bandon 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 (March 15-September 15) and high traffic time periods (e.g., holidays).	OPRD staff, OSP, local law enforcement

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