2019 Annual Compliance Report of the Habitat Conservation Plan for the Western Snowy Plover

January 2020

ACKNOWLEDGMENTS

OPRD Director

Lisa Sumption, Director

MG Devereux, Deputy Director

OPRD Natural Resource Staff

Vanessa Blackstone, Wildlife Biologist

Laurel Hillmann, Ocean Shores Specialist

Trevor Taylor, Park Stewardship Section Manager

Contacts

Laurel Hillmann, Ocean Shores Specialist 503-986-0700

Vanessa Blackstone, Wildlife Biologist 503-383-5012

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ABBREVIATIONS AND ACRONYMS

APHIS	Animal and Plant Health Inspection Service, U.S. Department of Agriculture
BLM	Bureau of Land Management, U.S. Department of Interior
ESA	Endangered Species Act
HCP	Habitat Conservation Plan
ITP	Incidental Take Permit
Ocean Shore	Ocean Shore State Recreation Area
ODFW	Oregon Department of Fish and Game
OPRD	Oregon Parks and Recreation Department
ORBIC	Oregon Biodiversity Information Center
ORS	Oregon Revised Statute
OSP	Oregon State Police
RMA	Recreation Management Area
SMP	Site Management Plan
SNA	State Natural Area
SPMA	Snowy Plover Management Area
USACE	Army Corps of Engineers
USFS	United States Forest Service, U.S. Department of Agriculture
USFWS	United States Fish and Wildlife Service`

RECOMMENDATIONS FOR 2020

Based on findings and observations from 2019 as summarized in this report, OPRD recommends the following actions for 2020. An implementation schedule is summarized in Table 1.

Habitat Restoration

- Restoration of 25-30 acres of habitat at Bandon SMPA from China Creek to the mouth of New River.
- Develop a habitat restoration partnership with USFS at South Sand Lake Spit (Sitka Sedge SNA).

Monitoring

- Monitor nests at Clatsop, Nehalem, and Sitka Sedge weekly.
- Focus on wildlife cameras and regular nest monitoring at Sitka Sedge to capture causes of nest failure.
- Survey Sitka Sedge for northern harrier use at a variety of time periods.
- Update OPRD's recovery permit with new volunteers from our partnership with USFS and Audubon Society of Portland.
- Continue partnership with Audubon Society of Portland to recruit and train volunteers for monitoring on the north coast, similar to programs in California and the Gulf Coast.
- Revise communication protocols among Plover Patrol volunteers to streamline nest monitoring efforts and clarify nest data among volunteers working at the same site.

Site Management Planning

- Continue to work with USFWS and USACE to figure out best mechanism that allows OPRD to employ recreation restrictions and habitat restoration under their current lease agreement or an updated agreement at Fort Stevens State Park (Clatsop Spit)-ongoing.
- Continue to work with USFWS, ODFW, and USACE to coordinate habitat restoration efforts with South Jetty repairs at Fort Stevens State Park (Clatsop Spit)-ongoing.
- Finalize the draft site management plan for Sitka Sedge State Natural Area (South Sand Lake Spit).
- Draft a site management plan for Cape Lookout State Park (Netarts Spit).

Predator Management

- Develop methods for installing wildlife cameras at north coast sites that deters camera theft.
- Develop partnership with USFS and Oregon Zoo to install, monitor, and clean purple martin and tree swallow boxes at Sitka Sedge State Park.

Enforcement

- Continue to work on improving data collection and entry so that information is more easily shared and accessed; this will allow faster response to emerging issues. OPRD has piloted a data entry system on tablets distributed to beach rangers and will continue to evaluate this as an adaptive management tool in 2020.
- Continue to conduct outreach to Oregon Coast Trail (OCT) backpacking and other user groups and use social media to improve information regarding recreation restrictions prior to arriving at the beach. Conduct similar outreach with fat-bike rental operators, and equestrian groups.
- Meet with USFW to discuss paragliders launching north of Sitka Sedge, including possible signage and outreach options.

Outreach

- Finalize docent and improve host programs at Nehalem and Sitka Sedge.
- Produce and install interpretive panels for north coast site(s)

Table 1. Implementation Schedule Summary

Action	Comments	Timing
Plover Patrol Coordination	Coordination with Audubon Society of Portland to deploy and manage citizen science for monitoring plovers on the north coast	2020 – January – September
North Coast Site Management Plans	Work with USFWS about the status of review for Clatsop Spit plan (submitted in 2017), finalize Sitka plan, and continue site management planning for Netarts.	2020
Predator Management	Develop methods for installing wildlife cameras at north coast sites and. partnership with USFS and Oregon Zoo to install, monitor, and clean purple martin and tree swallow boxes at Sitka Sedge State Park.	2020
Communications Strategy	OCT outreach, general beach brochures, interpretive programs, etc.	2020
Plover Patrol Training	Provide Recovery Permit training to monitor breeding plover populations	2020 – March –April
Recreation restrictions at Clatsop, Nehalem, South Sand Lake, and Bandon SPMAs.	Active management areas will be marked with recreation restrictions.	2020 – March 15
Detect/non-detect surveys for 2020	Conduct surveys at Netarts Spit twice monthly. Coordinate May surveys with USFWS breeding surveys.	2020– March –July
Habitat restoration at Sitka Sedge and Bandon	Restore additional nesting habitat at Sitka Sedge and Bandon	2020
Interpretive Programs	Conduct interpretive programs focusing on western snowy plover and their habitat at Bullards Beach, Honeyman, Nehalem Bay, Sunset Bay, Fort Stevens, Cape Lookout, and Harris Beach State Parks.	Ongoing

BACKGROUND

Oregon Parks and Recreation Department (OPRD) is responsible for management of the Ocean Shore State Recreation Area (Ocean Shore) which encompasses all the sandy portions of the ocean shoreline along the Oregon coast that extend between the mouth of the Columbia River South Jetty and the California/Oregon border. The Ocean Shore includes the land lying between extreme low tide to either the statutory vegetation line or established line of upland vegetation, whichever is furthest inland (Figure 2; ORS 390.605). Management of recreation, natural resources, and general operations may negatively affect snowy plover and their habitat and result in take of the species as defined under the Endangered Species Act (ESA,16 U.S.C.5131-1344, 87 Stat. 884). In December, 2010, the U.S. Fish and Wildlife Service (USFWS) issued an Incidental Take Permit (ITP) TE30687A- pursuant to Section 10(a)(1)(B) of the ESA to OPRD for western snowy plover (*Charadrius nivosus nivosus*). Activities covered by the ITP include recreation, beach, and natural resource management on the Ocean Shore. The ITP is conditional upon implementation of the Habitat Conservation Plan for the Western Snowy Plover (HCP, ICF International 2010). The HCP provides measures to minimize incidental take of western snowy plover (ICF International 2010).

OPRD is required to submit an annual report to USFWS documenting management actions over the previous year; snowy plover population data, snowy plover take occurrences, recreational use enforcement issues, and anticipated management efforts for the following year.

HCP GUIDING PRINCIPLES

The OPRD guiding principles (HCP 5.2) provide that OPRD will:

- Assist with and contribute to conservation and protection of the Pacific coast population of the snowy plover in Oregon;
- Manage for conservation and recovery of snowy plover and their habitat in a manner that balances this effort with human use of the Ocean Shore;
- Identify areas along the Ocean Shore where public use will be managed to reduce the likelihood of impacts to snowy plovers;
- Protect and restore habitat in critical locations at OPRD SPMAs;
- Work with the other resource agencies to manage for predators to minimize impacts on snowy plover breeding success and improve the survival of the snowy plover in occupied SPMAs and RMAs;
- Work to increase public support and understanding of snowy plover and habitat needs, in cooperation with partners;
- Work with other resource management agencies on habitat restoration, predator management, snowy plover population monitoring, snowy plover research, and public outreach, where appropriate to achieve cost efficiencies;
- Develop strategies that complement the habitat needs of other Ocean Shore wildlife (e.g., shorebirds, marine mammals, seabirds) in addition to snowy plover;
- Use future research as one of the criteria for guiding adaptive management principles to help in management of the snowy plover; and
- Seek assurances from USFWS about future human use of Oregon's beaches by completing an Habitat Recovery Plan (HCP) and submitting an Incidental Take Permit (ITP) application.
- Following issuance of the ITP, OPRD will comply with the permit conditions, including implementation of the HCP.

MANAGEMENT APPROACH (HCP 5.2.3)

OPRD's HCP conservation strategy focuses on implementing snowy plover management activities at up to five OPRD-owned or leased SPMAs, implementing recreational use restrictions at these SPMAs and up to 11 RMAs, and implementing beach management activities on the Ocean Shore.

COVERED ACTIVITIES

Covered activities are those that may occur on the covered lands for which OPRD has management responsibility that have the potential to result in incidental take of snowy plovers, and are listed below. Additional information is in Section 3.3 of the HCP (ICF International 2010).

PUBLIC USE/RECREATION MANAGEMENT

- Camping
- Dog Exercising
- Pedestrian Traffic
- Picnicking
- Near Shore Activities/Surf Sports
- Driving
- Horseback Riding
- Beach Fires
- Beachcombing
- Driftwood Collection and Removal
- Kite Flying
- Other Dry Sand Activities

BEACH MANAGEMENT

- Marine Mammal Strandings and Removal
- Public Safety
- External Law Enforcement
- Internal Law Enforcement
- Boat Strandings and Other Salvage Operations

NATURAL RESOURCE MANAGEMENT

- OPRD Snowy Plover Management Actions
- Habitat Restoration

COVERED LANDS

Covered Lands means the lands upon which the ITP authorizes incidental take of western snowy plover and the lands to which the HCP's conservation and mitigation measures apply. These lands are described in Section 2.5 of the HCP (ICF International 2010) and include the sandy portions of the Ocean Shore along the Oregon coast that extend between the mouth of the Columbia River South Jetty and the California/Oregon border. The Ocean Shore includes the land lying between extreme low tide to either the statutory vegetation line or established line of upland vegetation, whichever is furthest inland (Figure 1, ORS 390.605). The Ocean Shore is managed by OPRD for public recreational use, along with scenic, historic, natural and cultural purposes. Lands under federal ownership are excluded.

CONSERVATION MEASURE AREAS

Conservation measures will be implemented on designated Snowy Plover Management Areas (SPMAs) and Recreation Management Areas (RMAs). The five SPMAs listed in the HCP are within lands that are owned or leased by OPRD as part of a State Park unit and are either occupied by plovers or targeted for future plover management. These areas include Clatsop Spit, also called Columbia River South Jetty (Fort Stevens State Park); South Sand Lake Spit (Sitka Sedge State Natural Area); Nehalem Spit (Nehalem Bay State Park); Netarts Spit (Cape Lookout State Park), and Bandon (Bandon State Natural Area). The 9 RMAs are portions of the Ocean Shore adjacent to plover sites that are owned by entities other than OPRD, primarily the Federal government. Additional information can be found in Section 5.2.2 of the HCP (ICF International 2010).

CURRENT RECREATION RESTRICTIONS

Full enforcement of the HCP began March 15, 2013. Unoccupied restrictions at Clatsop Spit, Necanicum Spit, and Nehalem Spit began March 15, 2014. On April 8, 2015 nesting was confirmed at Nehalem and the site is now managed as occupied. On April 7, 2016 western snowy plover nesting was confirmed at South Sand Lake RMA (Sitka Sedge State Natural Area) and the site is now occupied. In 2018 South Sand Lake RMA was formally approved for exchange with Necanicum Spit and is now being managed as an SPMA. Necanicum Spit is no longer an SPMA. On May 24 2018, western snowy plover nesting was confirmed at Clatsop Spit SPMA and it is now being managed as occupied. On June 6, 2018 western snowy plover nesting was confirmed at Bayocean Spit RMA and it is now being managed as an RMA by USACE (United States Army Corps of Engineers). Figure 1 shows the current management status of the sites listed in the HCP.

OCCUPIED SPMAS AND RMAS

From March 15 – September 15

- All recreational activities are prohibited on the dry sand;
- Vehicles prohibited on the dry and wet sand (except in limited circumstances and under permit from ORPD, and for administrative use);
- Non-motorized vehicle use prohibited on the dry and wet sand;
- Dogs prohibited;
- Kites prohibited, including model airplanes.

UNOCCUPIED SPMAS AND RMAS

From March 15 – July 15+

- Dogs must be on-leash;
- Vehicles prohibited on the dry and wet sand (except in limited circumstances and under permit from OPRD, and for administrative use);

REMAINDER OF OCEAN SHORE

- If a snowy plover nest is discovered outside of an SPMA or RMA, the nest will be roped off in a 50-meter radius and recreational use will be prohibited within the roped area. Roping may be removed once the nest hatches.
- Dogs are required to be on-leash or under control at all beaches not designated as plover management areas.

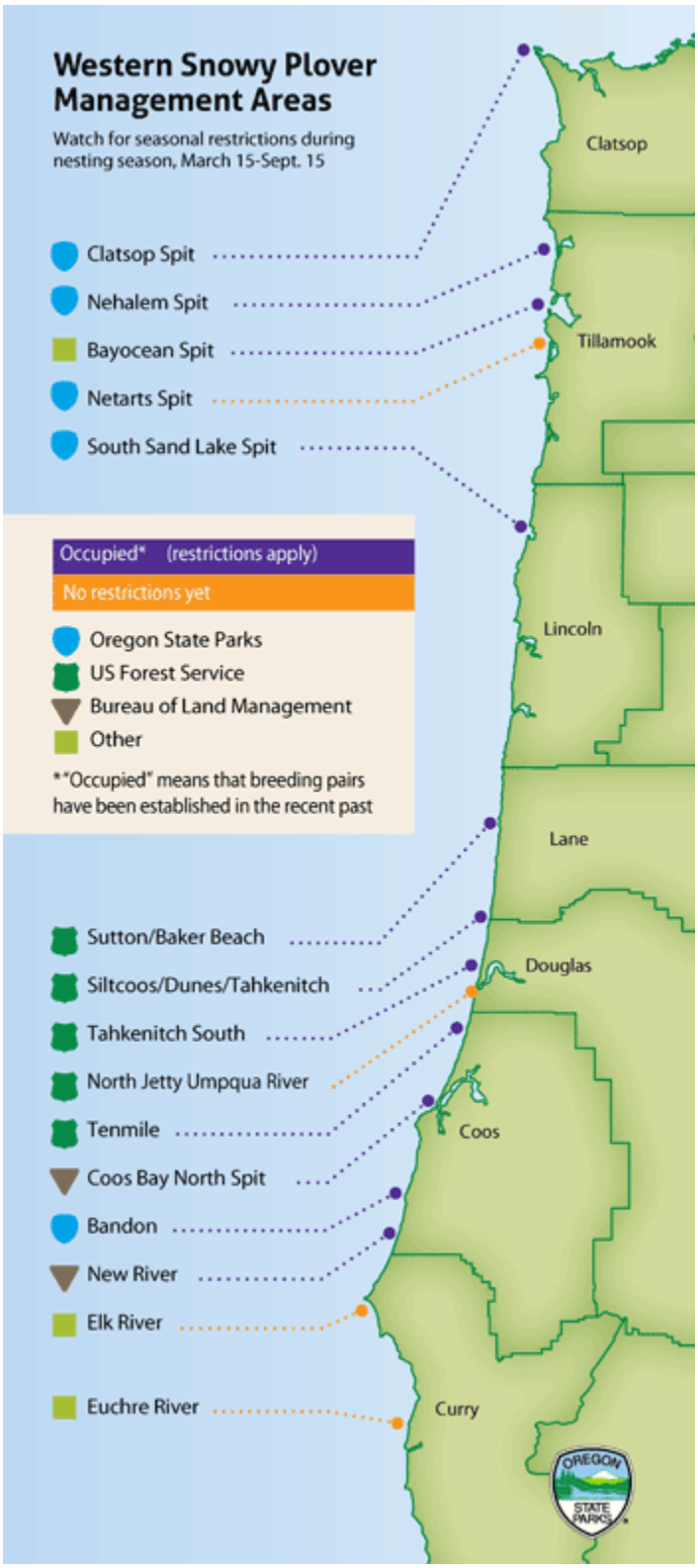
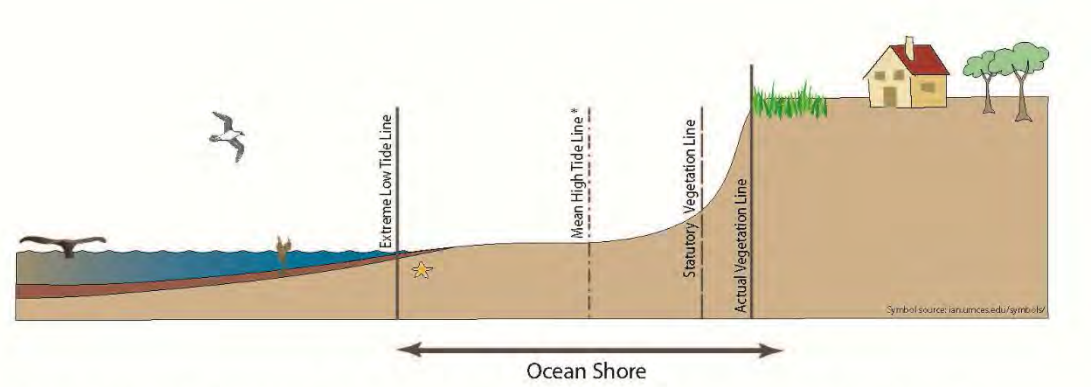
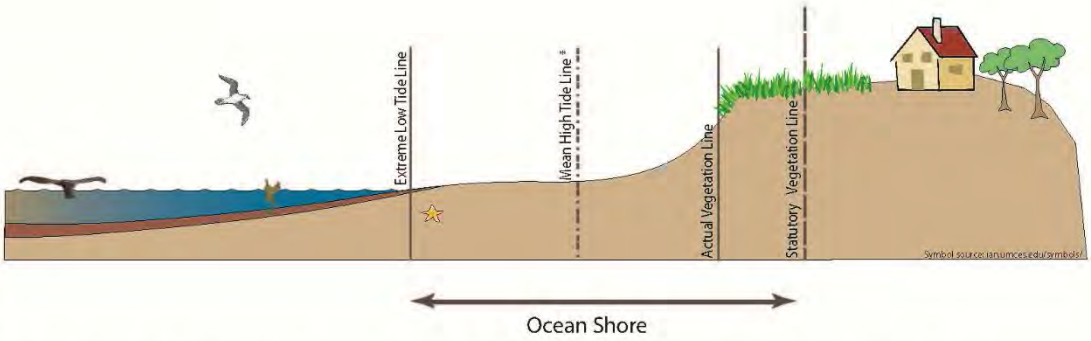


Figure 1. Plover Designated Management Areas



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

HCP COMPLIANCE ACTIONS

POPULATION MONITORING

The USFWS Western Snowy Plover Recovery Plan (2007) established population goals for the overall population range wide as well as goals for seven separate recovery units within the range of western snowy plovers. The Oregon population combined with Washington is part of Recovery Unit 1, and the HCP conservation measures are intended to help fulfill Recovery Unit 1 goals. The range-wide criteria for de-listing the population is an average of 3,000 breeding adults per year for 10 years, which has not been met. The goal for Recovery Unit 1 is to support 250 breeding plovers (USFWS 2007); intense management efforts in Recovery Unit 1 resulted in an overall increasing population trend and the recovery unit population goal has been met.

POPULATION MONITORING

1. Management Task: *OPRD will provide funding in cooperation with several State and Federal agencies for the Oregon Biodiversity Information Center (ORBIC) to conduct breeding population monitoring at occupied sites. If the interagency cooperation fail, OPRD will ensure continued monitoring at OPRD-owned or leased SPMA's (HCP 5-10, 5-11, 5-13, 5-24).*

In 2019, multiple survey efforts were used to track the coastal western snowy plover breeding population, including ORBIC, OPRD staff, a continuing partnership with the Audubon Society of Portland, and public volunteers (see below). Pooling these data sources, the breeding population in Oregon was estimated at a minimum of 600 resident birds, and 413 breeding adults (68%) were documented nesting (Lauten et al. 2019, OPRD unpublished data). This is lower than the mean percentage (78%, Lauten et al. 2019) and should be watched for trends. Plovers are changing locations, and may be nesting in areas outside of monitored locations.

OPRD maintained the interagency agreement with the Oregon Biodiversity Information Center (ORBIC) for monitoring western snowy plovers on the central and south coast, resulting in a contract of $25,000 for one year of population monitoring at Bandon SPMA. Snowy plover monitoring was conducted through ORBIC as a joint task between Bureau of Land Management (BLM), U. S. Forest Service (USFS), USFWS, and OPRD. Distribution and abundance monitoring efforts included breeding season and winter window surveys as well as productivity monitoring. Productivity monitoring included locating nests and tracking the outcomes, banding young, and tracking fledgling survival. Survey methods are described in Castelein et al. 2000a, 2000b, 2001, 2002, and Lauten et al. 2003. This monitoring helps determine estimates of nest abundance, nest fate, fledging success, use of habitat restoration areas, adult populations through marked individuals, and efficacy of predator management methods. The joint monitoring report (Lauten et al. 2019) is available online.

Clatsop Spit, Nehalem Spit, Sitka Sedge, and Netarts Spit were monitored by North Coast Plover Patrol, a continuing partnership between OPRD and the Audubon Society of Portland, funded by the Taureen-Filgas Foundation. OPRD wildlife biologist Vanessa Blackstone, Audubon Society of Portland Coastal Field Coordinator and Biologist Amelia O'Connor, and public volunteers surveyed and monitored western snowy plover activities under OPRD Recovery Permit TE-39372B (Table 2). Nest monitoring was conducted by Vanessa Blackstone, Jeff Allen, Amelia O'Connor, Trish Johnson, Halle Renn, Andy Barker, Merce Dostale, and Michael Tarachow; other volunteers checked nests from a distance to verify adult incubation in order to provide more frequent check-ins at each site.

In addition, adult western snowy plovers outside of designated plover management areas were observed and reported by members of the public and state park staff. Cathy Tronquet was very active at South Beach State Park, even though this site is not a designated SPMA.

Table 2. North Coast Surveys and Nest Monitoring

Location	Survey Date	Observers	Survey Time	Western Snowy Plovers	Plover Nests
Clatsop	3/17/2019	Dane Osis	2.25	0	
Clatsop	4/12/2019	Dane Osis	1.5	7	
Clatsop	4/23/2019	Vanessa Blackstone, Michael Tarachow, Merce Dostale	3	6	yes
Clatsop	4/28/2019	Michael Tarachow & Merce Dostale	3	0	
Clatsop	5/2/2019	Michael Tarachow & Merce Dostale	3.25	2	
Clatsop	5/9/2019	Michael Tarachow & Merce Dostale	1.5	0	
Clatsop	5/15/2019	Michael Tarachow & Merce Dostale	2	1	
Clatsop	5/30/2019	Michael Tarachow & Merce Dostale	2.5	2	
Clatsop	6/4/2019	Michael, Merce, Amelia O'Connor	2.5	0	
Clatsop	6/12/2019	Michael Tarachow & Merce Dostale	2.5	2	
Clatsop	6/17/2019	Michael Tarachow & Merce Dostale	2.5	1	
Clatsop	6/24/2019	Michael Tarachow & Merce Dostale	2.25	5	yes
Clatsop	7/1/2019	Michael Tarachow & Merce Dostale	3	5	yes
Clatsop	7/3/2019	Vanessa Blackstone	NR	4	yes
Clatsop	7/8/2019	Michael Tarachow & Merce Dostale	2.25	7	
Clatsop	7/15/2019	Michael Tarachow & Merce Dostale	2.3	7	
Clatsop	7/22/2019	Michael Tarachow & Merce Dostale	2.3	7	
Clatsop	7/30/2019	Michael Tarachow & Merce Dostale	4	0	
Clatsop	8/5/2019	Michael Tarachow & Merce Dostale	3.5	7	
Clatsop	8/12/2019	Michael Tarachow & Merce Dostale	3.5	5	
Clatsop	8/19/2019	Michael Tarachow & Merce Dostale	3.25	2	
Clatsop	8/28/2019	Michael Tarachow & Merce Dostale	2.25	2	
Clatsop	9/3/2019	Michael Tarachow & Merce Dostale	2.5	2	
Clatsop	9/11/2019	Michael Tarachow & Merce Dostale	3	14	
Clatsop	9/16/2019	Michael Tarachow & Merce Dostale	1.5	0	
Driftwood	7/17/2019	Laurel Hillmann	1	1	yes
Nehalem	3/15/2019	Judith Jones	1	0	
Nehalem	3/21/2019	Vanessa Blackstone	3.2	2	
Nehalem	3/24/2019	Andy Barker, Trish Johnson	3	7	
Nehalem	4/12/2019	Vanessa Blackstone	2	0	
Nehalem	4/18/2019	Amelia O'Connor, Judith Jones, Susan Tone	3.5	2	
Nehalem	4/29/2019	Judith Jones	NR	0	
Nehalem	5/2/2019	Jill, Sheila, Trish, Andy, Vanessa	3.25	0	
Nehalem	5/7/2019	Judith Jones, Susan Weston	5	2	
Nehalem	5/10/2019	Judith Jones	4	0	

Location	Survey Date	Observers	Survey Time	Western Snowy Plovers	Plover Nests
Nehalem	5/15/2019	Judith Jones	2.5	0	
Nehalem	5/22/2019	Vanessa Blackstone	4	0	yes
Nehalem	5/24/2019	Judith Jones	2	0	
Nehalem	5/31/2019	Judith Jones	2	0	
Nehalem	6/5/2019	Andy Barker, Trish Johnson	2.5	1	yes
Nehalem	6/12/2019	Vanessa, Susan Tone, Susan Weston, Mollie Peters, Alice	3	7	yes
Nehalem	6/24/2019	Jeffrey Allen, Mollie Peters, Alice Sufka	3.75	4	yes
Nehalem	6/28/2019	Trish Johnson	2.15	2	
Nehalem	7/2/2019	Vanessa Blackstone	0.5	0	yes
Nehalem	7/3/2019	Susan Weston, Susan Tone, Andy Barker, Mollie Peters	3.75	2	
Nehalem	7/3/2019	Susan Weston, Susan Tone, Mollie Peters, Andy Barker	2.25	2	
Nehalem	7/14/2019	Alice Sufka	3.5	3	yes
Nehalem	7/23/2019	Susan Weston, Mollie Peters	5.5	5	
Nehalem	7/28/2019	Alice Sufka, Susan Tone	2	2	
Nehalem	8/1/2019	Andy Barker, Trish Johnson	2.46	0	
Nehalem	8/11/2019	Alice Sufka	3	8	
Nehalem	8/16/2019	Susan Tone, Susan Weston	2.5	10	
Nehalem	8/25/2019	Alice Sufka	3.2	10	
Nehalem	9/7/2019	Not reported	3.3	11	
Nehalem	9/12/2019	Mollie Peters, Susan Weston	3.5	8	
Nehalem	9/14/2019	Alice Sufka	3	7	
Netarts	3/24/2019	Celeste Lebo	2	0	
Netarts	3/29/2019	Greg and Shelley Lueth	3	0	
Netarts	4/4/2019	Celeste Lebo	2.5	0	
Netarts	4/12/2019	Greg and Shelley Lueth	4	0	
Netarts	4/20/2019	Celeste Lebo	2	0	
Netarts	5/16/2019	Celeste Lebo	2	0	
Netarts	5/24/2019	Celeste Lebo	2.5	0	
Netarts	6/7/2019	Celeste Lebo	2	0	
Netarts	6/13/2019	Greg and Shelley Lueth	3.5	0	
Netarts	6/23/2019	Celeste Lebo	2.4	0	
Netarts	7/3/2019	Celeste Lebo	2.4	0	
other	5/24/2019	Celeste Lebo - Nestucca Spit	2.5	0	
other	7/31/2019	Doug Sestrich	NR	2	yes
N Sand Lake	5/13/2019	Halle Renn	1	0	
N Sand Lake	8/21/2019	Halle Renn	0.5	0	

Location	Survey Date	Observers	Survey Time	Western Snowy Plovers	Plover Nests
Sitka	3/29/2019	Lynda Steiner	3.5	10	
Sitka	4/12/2019	Amelia O'Connor, Lynda Steiner	3	9	
Sitka	4/21/2019	Jeff Allen	3.1	7	yes
Sitka	4/22/2019	Halle Renn, Camden Bruner	3.5	0	
Sitka	4/28/2019	Amelia O'Connor, Jenn and Marty, Catherine and Emma, Susan Tone, Alice	2.5	6	
Sitka	4/29/2019	Halle Renn	2.1	0	
Sitka	5/3/2019	Lynda Steiner and Halle Renne	3	11	yes
Sitka	5/6/2019	Halle Renn	1.5	0	
Sitka	5/10/2019	Halle Renn	3.5	8	yes
Sitka	5/17/2019	Halle Renne	1.5	9	yes
Sitka	5/19/2019	Amelia O'Connor, Alex, Hilary	3	12	yes
Sitka	5/27/2019	Halle Renn, Lynda Steiner	3	9	yes
Sitka	5/28/2019	Bruce Casler Jasmine buries Halle Renne Renn	1.3	0	
Sitka	6/6/2019	Jeff Allen, Charline McDonald	2.5	12	yes
Sitka	6/15/2019	Lynda Steiner	NR	0	yes
Sitka	6/22/2019	Cathy Tronquet and Amelia O'Connor	3	8	yes
Sitka	6/29/2019	Lynda Steiner	NR	0	NR
Sitka	7/2/2019	Halle Renn, Jasmine Buries, Bruce Casler	1	0	
Sitka	7/2/2019	Halle Renne Renn	1.5	8	yes
Sitka	7/20/2019	Halle Renn	1	4	
Sitka	7/23/2019	Vanessa Blackstone	3	5	
Sitka	7/24/2019	Brenda Ramirez, Halle Renn	3.5	12	yes
Sitka	8/18/2019	Halle Renn	2.75	0	yes
Sitka	8/30/2019	Amelia O'Connor	2.4	23	yes
Sitka	9/11/2019	Lynda Steiner Steiner	2	10	yes
South Beach	4/23/2019	Cathy Tronquet	NR	0	yes
South Beach	4/23/2019	Cathy Tronquet	NR	6	yes
South Beach	4/23/2019	Cathy Tronquet	NR	0	yes
South Beach	5/11/2019	Cathy Tronquet	NR	4	yes
South Beach	5/11/2019	Cathy Tronquet	NR	0	yes
South Beach	5/12/2019	Cathy Tronquet	NR	1	yes
South Beach	6/2/2019	Cathy Tronquet and Joe	3	3	yes
South Beach	6/11/2019	Cathy Tronquet	NR	0	yes
South Beach	6/11/2019	Cathy Tronquet	NR	0	yes
South Beach	6/19/2019	Cathy Tronquet	NR	1	yes
South Beach	6/20/2019	Cathy Tronquet	NR	7	yes

Location	Survey Date	Observers	Survey Time	Western Snowy Plovers	Plover Nests
South Beach	6/28/2019	Cathy Tronquet	NR	4	yes
South Beach	6/28/2019	Cathy Tronquet	NR	7	yes
South Beach	7/3/2019	Cathy Tronquet	NR	0	yes
South Beach	7/4/2019	Cathy Tronquet	NR	3	yes
South Beach	7/4/2019	Cathy Tronquet	NR	4	yes
South Beach	7/31/2019	Cathy Tronquet	NR	3	yes

WINDOW SURVEYS AND BREEDING BIRDS

2. Management Task: *OPRD will provide staff to assist with conducting wintering survey windows at occupied sites and at new SPMAs as they become occupied (HCP 5-13, 5-23).*

The USFWS coordinates the winter and breeding window surveys and manages the protocol based on guidelines in the Recovery Plan (USFWS 2007), with assistance from qualified volunteers from other agencies, including ORPD. Winter and breeding window surveys are intended only to provide a range-wide index of the plover population over time; these surveys provide a minimum estimate of plovers at current, historic, and potential breeding sites, not a complete count (Elliot-Smith and Haig 2007).

Since 1991, both winter and breeding window survey results show an increase in detections of snowy plovers (Figure 3). The 2019 breeding window survey results estimated 356 breeding adults, an increase from 2018 but not the peak of 375 in 2016 (Lauten et al. 2019).

From population monitoring, we can also estimate the minimum number of breeding adults across the coast by pooling data from ORBIC reports and volunteer efforts on the north coast. Overall there was also an increase in the observed number of nesting plover (423 up from 382, Figure 4), and at each of the occupied SPMA's (Figure 5).

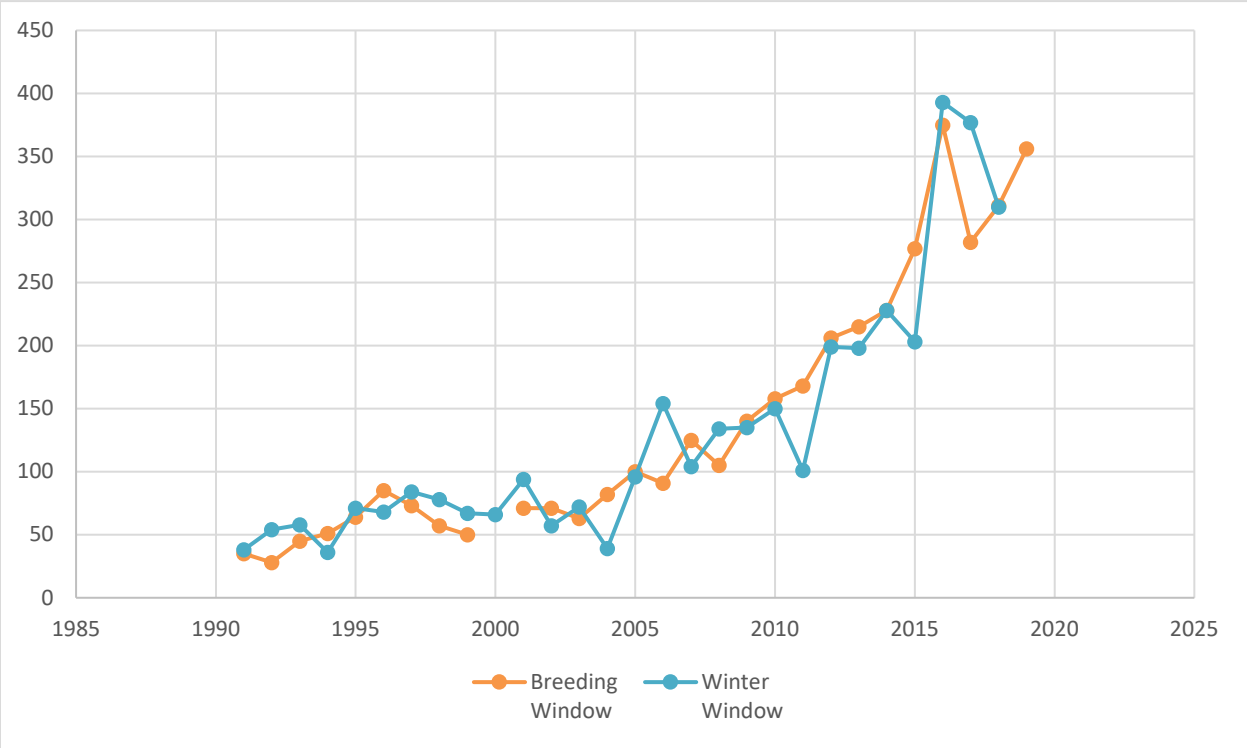


Figure 3. Western snowy plover breeding window survey results (1993-2019)

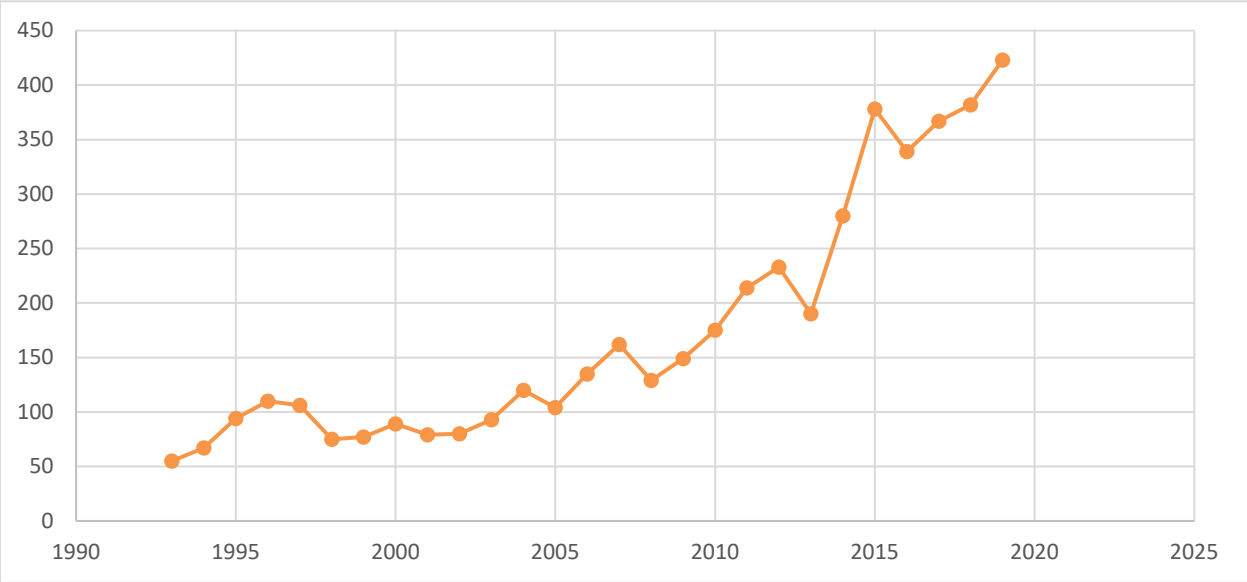


Figure 4. Oregon coast western snowy plover breeding population estimates (1993-2019)

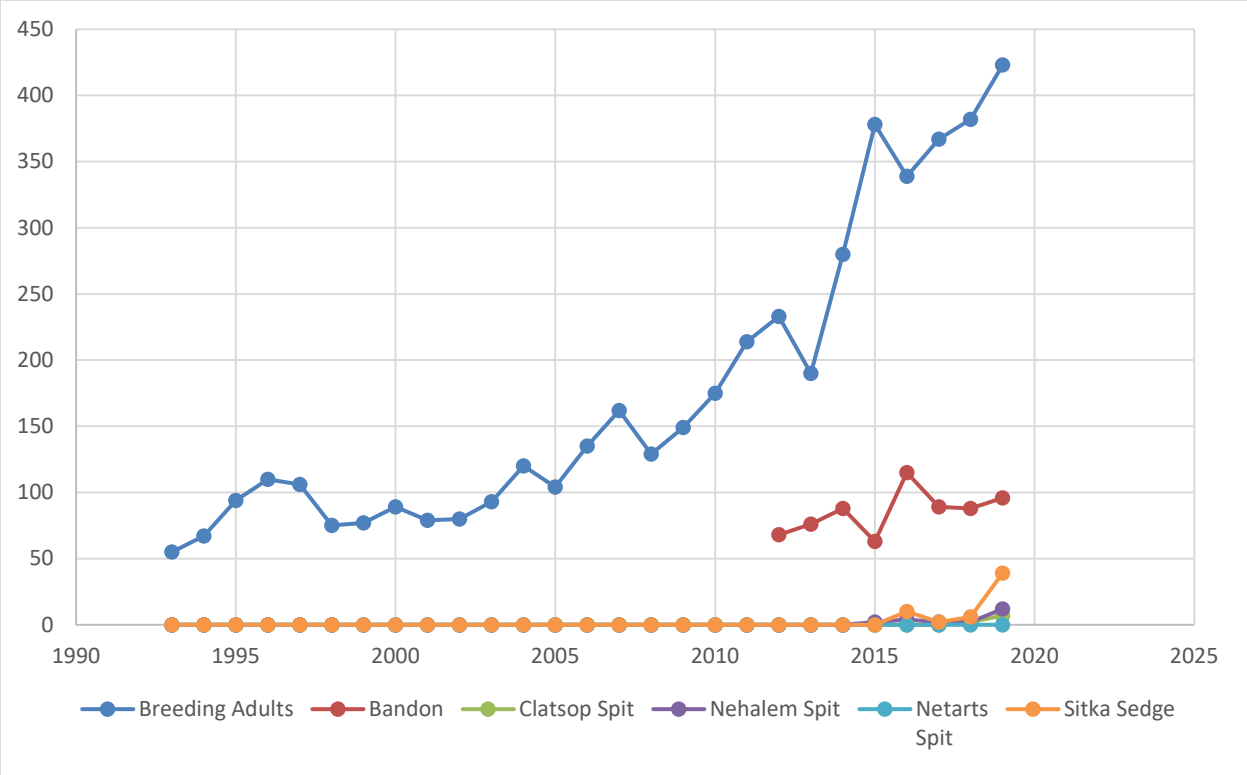


Figure 5. Breeding birds at OPRD-managed sites

Nest Success, Productivity and Fledgling Success

Nest success is defined as the number of successful nests divided by total number of nests (apparent nest success; *from* Lauten et al. 2003). Pooling known nests across the entire coast, 582 were found and 234 hatched (Lauten et al., 2019; OPRD unpublished data) yielding an overall nest success of 40% across the Oregon coast.

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). 1.0 fledgling/male is the target goal in the Recovery Plan (USFWS 2007). Pooling data across the Oregon coast, 2019 had a minimum of 287 fledglings, fledging success at 54%, and 0.84 fledglings per resident male (Lauten et al., 2019). While this number is below the target, data collection on the north and south coasts differ in methodology (census versus sampling). When considering the south coast alone, fledglings per male in the sampled population was 1.41 while north coast sites was at 0.52. This is not surprising, as the south coast population is expanding north, and the north coast rates are more akin to historic south coast rates than current rates.

In locations where the plover population is dense, tracking males across different sites is challenging and can skew the ability of fledglings/male to accurately portray reproductive success when the number of males cannot be accurately estimated (see Lauten et al. 2017). Lauten et al. (2017) and Colwell et al. (2018) propose utilizing a breeding coefficient calculated from the number of fledglings produced per eggs laid, and state that this value incorporates breeding effort via the number of eggs laid (e.g. a site that has 9 eggs laid took less effort than a site with 355 eggs laid). Since this value had not been used before 2017, it does not yet help with trends over time. Lauten et al. (2017, 2018, 2019) propose that a breeding coefficient over 0.20 is relatively successful while under 0.15 are generally not productive for the amount of effort expended. Many of the sites had numbers that indicate successful breeding (Table 4).

CLATSOP

This year marks the second documented western snowy plover nest at Clastop Spit since 1984. The number of birds on site nearly doubled from 2 to 7. The site is very large and difficult to cover. The sample size is too low for statistics to have much meaning; even so, 1 out of 2 nests hatched, there were 3 broods (two from undiscovered nests), and a minimum of 4 fledglings. Nest loss was from unknown causes. Placing wildlife cameras on nests would be advantageous to determine reasons for nest failure; however, in 2020 USACE will be conducting a nest jetty repair project that will impact plover nesting and monitoring efforts. The return of breeding plovers to the site is a fabulous step to reuniting the Oregon and Washington plover populations.

An exciting footnote is that our plover patrol monitors, Michael and Merce, confirmed at least two streaked horned larks were present at Clatsop spit throughout the summer (April 24 through August 28).

NEHALEM

Nehalem Spit underwent a habitat restoration effort just prior to the nesting season, which had a direct effect on the birds' use of the area in 2019. A minimum of 12 breeding adults were on site throughout the breeding period, compared to 2 in 2018. Plover patrol volunteers located 3 nests, of which 1 hatched. Two broods (one from an undiscovered nest) yielded at least 5 fledglings, the highest number of fledglings across all the north coast sites.

SITKA SEDGE

Sitka Sedge had the greatest increase in breeding birds (39, up from 6), but the lowest productivity. Of the 12 nests located by Plover Patrol volunteers, none were confirmed hatching. Even so, 4 broods were discovered, but only 2 fledglings were confirmed. The high failure rate of nests is concerning, and the cause of nest failure is unknown. Birders were discovered in the SPMA looking for nests. The number of volunteers at the site also made communication on which nest was active difficult, and OPRD is revamping data collection and communication protocols for 2020.

BANDON

Plover activity at Bandon SMPA increased over 2018, with more adults on site in spite of degrading habitat quality. Productivity tanked in 2019, 24% compared to 44% in 2018. The higher numbers of resident birds combined with likely harrier depredations resulted in more nest attempts. This was the second year where nest success was lower than the previous year; it is simple to attribute that to predators, but it is possible that predation is occurring because thfde birds' habitat has degraded and they must nest on the narrow front dune. The HRA's have all been overtaken with beachgrass at a density that is too high for nesting, but does support broods. For a summary of nest distribution in SPMAs, see Table 3.

Interestingly, fledgling success was higher than the average (56%) compared to the average rate of 54% (Lauten et al., 2019), with similar total number of fledglings as 2018. Bandon fledged at least 40 fledglings, with 0.98 fledglings/male, below the target of 1.0 fledgling/male listed in the Recovery Plan (USFWS 2007). The breeding coefficient was 0.12, well below the 0.20 considered successful. Birds fledged chicks, but it took a lot of effort to do so.

Table 3. Nest distribution in SPMAs

SPMA	Habitat Area	Acreage[1] (2019)	2019 Nests	Habitat Notes	2019 Treatments
Bandon	China Creek Overwash		2	Receives overwash	None
Bandon	Bandon Beach	23	27	Long and narrow	None
Bandon	Bandon Beach HRA	18	5	Overtaken with beachgrass	None

Bandon	Bandon New River	138	62	Receives some overwash	None
Clatsop	Jetty	45	3		None
Sitka Sedge	Overwash	42	12	Receives overwash	None
Nehalem	Beachfront	64	0		None
Nehalem	HRA	24	2	Restored in February 2019	None
Total					

[1] Generated from aerial imagery

Table 4. Productivity of snowy plovers at Occupied SPMAs (1995-2019)

Year	Bandon		Sitka		Nehalem		Clatsop	
	Fledgling Success Rate[1]	Breeding Coefficient[2]	Fledgling Success Rate	Breeding Coefficient	Fledgling Success Rate	Breeding Coefficient	Fledgling Success Rate	Breeding Coefficient
2019	56%	0.12	NC[3]	NC	NC	NC	NC	NC
2018	53%	0.19	58%	0.58	0	0	0	NA
2017	33%	0.16	100%	1.0	100%	0.07	NA	NA
2016	20%	0.05	0	0	0	0	NA	NA
2015	49%	0.14	NA[4]	NA	0	0	NA	NA
2014	49%	0.16	NA	NA	NA	NA	NA	NA
2013	39%	0.10	NA	NA	NA	NA	NA	NA
2012	40%	0.08	NA	NA	NA	NA	NA	NA
2011	49%	0.23	NA	NA	NA	NA	NA	NA
2010	17%	0.07	NA	NA	NA	NA	NA	NA
2009	35%	0.07	NA	NA	NA	NA	NA	NA
2008	38%	0.04	NA	NA	NA	NA	NA	NA

[1] Fledgling success: number of fledged chicks/total number of hatched eggs
[2] Breeding coefficient: Fledglings produced/total number of laid eggs
[3] NC: Not calculated
[4] NA: Not applicable, site was not occupied by breeding plovers
Source: Lauten et al., 2019.

Nests Outside of Designated Plover Management Areas

Through public and staff reporting, OPRD installs protective signage and ropes around nests discovered outside of designated plover management areas. The nests found in 2019, outlined in Table 5, are not monitored intensely by OPRD. Data is gathered by OPRD staff during the course of their normal duties or from public volunteers.

Table 5. Summary of Nesting Outside of Plover Management Areas

Beach	Number of Nests	Total Hatched	Number of Chicks	Associated Color-banded Plovers
Bayshore	1	1	2	NR
Driftwood Beach	1	1	3	NR
South Beach	10	1	2	Numerous
Cut Creek	1	0	0	NR
Johnson Creek	1	1	2	NR
Total	13	4	9	

DETECT/NONDETECT SURVEYS

OPRD staff and volunteers conducted detect/nondetect surveys at the single unoccupied SPMA, Netarts Spit, from March through July (Table 2). No breeding behaviors or nests were observed at Netarts Spit.

3. Management Task: *OPRD will perform detection/non-detection monitoring activities at unoccupied SPMAs for nesting snowy plover at the beginning of nesting season (March) through July 15. These will occur twice monthly (HCP 5-10, 5-11, 5-13, 5-24).*

OPRD possesses a USFWS Recovery Permit (Level 3), held by the wildlife biologist, Vanessa Blackstone. OPRD trained volunteers and staff on April 13 and April 20, 2019 to conduct detect/non-detect surveys and to ensure unoccupied sites were surveyed according to HCP and Recovery Permit guidelines. Training followed the 4-hour classroom style training developed by USFWS, BLM, OPRD and ORBIC in 2013 and expanded with additional photographs, props, and experiences gained since then.

SPMA OCCUPANCY

OPRD currently manages four SPMAs on the Oregon coast (Figure 1). One SPMA is not currently managed (Netarts Spit). Four OPRD-managed occupied sites supported breeding in 2019 and successfully fledged chicks: Clatsop, Sitka Sedge, Nehalem, and Bandon. A summary of the earliest record, most recent record, and current status of each SPMA is provided in Table 6 and nest distributions in SPMAs are shown in Table 3.

Table 6. SPMA plover record summary

SPMA	Earliest Record	Most Recent Breeding Attempt	Most Recent Breeding Season Record	Most Recent Wintering Record	Occupied
Bandon	1972	2019	2019	2019	Yes
Clatsop Spit	1965	2019	2019	2019	Yes
Nehalem Spit	1920	2019	2019	2019	Yes
Netarts Spit	1912	1982	2016	1978	No
Sitka Sedge	1978	2019	2019	2019	Yes

TAKE OCCURRENCES

Some incidental take in the form of harassment of adults (plovers exhibiting avoidance behaviors) is likely as part of Ocean Shore management. These include: population monitoring, predator management, compliance monitoring and enforcement, and beach management activities. There is also likelihood of plover harassment from beach visitors' lack of compliance with recreation restrictions. No known cases of direct take occurred in 2019 within OPRD managed SPMAs.

MANAGEMENT ACTIVITIES

4. Management Task: *The Ocean Shores Manager will be designated as the agency's HCP Coordinator and will provide program implementation oversight, development of management guidelines, and development of site management plans (HCP 7-2). Overall program coordination will be carried out by the Ocean Shores Management Division (7-3).*

OPRD has restructured since the HCP was signed and there is no longer an "Ocean Shores Manager" position. Tasks in the HCP have been delegated to the Parks Stewardship Section Manager, Ocean Shores Specialist, Wildlife Biologist, and Coastal Region Manager. In addition, an Ocean Shores Team meets quarterly to address issues related to management of the Ocean Shore, including plover management and HCP coordination. The Ocean Shore Team includes beach rangers, district managers, the Coastal Region Manager; ocean shores specialists, wildlife biologist, and Stewardship manager.

5. Management Task: *Day to day activities will be carried out by field staff, assisted by OPRD's Resource Management and Planning Division, Public Services Division, and Recreation Management Division (HCP 7-2). Coastal Regional Managers will have responsibility for day-to-day management activity implementation as identified in the site management plans (HCP 7-3). See "Roles and Responsibilities" table HCP 7-4.*

OPRD has restructured since the HCP was signed. The divisions mentioned above have become the Stewardship Section, Planning + Design Section, Properties Unit, Safety and Risk Unit, and Communications Division.

6. Management Task: *The HCP Coordinator will prepare management guidelines for use by OPRD within 2 years of issuance of the ITP (HCP 7-4).*

Management guidelines have been presented to park staff via in-person training, presentations, and email correspondence.

7. Management Task: *All beach management activities that will occur in an occupied or unoccupied SPMA/RMA will be done in a way to avoid take, and will consult with USFWS on these activities, unless there is an emergency (HCP 5-36).*

Beach management actions during the breeding period are limited to wet sand access only; beach rangers consult with ORBIC monitors on current locations of plover nests and broods when dry sand access is required to address hazards or fence adjustments. OPRD consulted with USFWS and coordinated with multiple other agencies on removal of a shipwreck in a plover site in 2019, no take occurred.

SITE MANAGEMENT PLANS

8. Management Task: *Produce site management plans within one year of the ITP issuance for Bandon State Natural Area (SNA), and within two years of the ITP issuance for Columbia River South Jetty, Necanicum Spit, and Nehalem Spit (HCP 1-9, 5-6). Site management plans define the area of restricted recreation within the SPMA (1-9).*

Site management plans for Bandon and Nehalem have been completed. Draft site management plans for Clatsop Spit and Necanicum Spit are still undergoing development and review in coordination with USFWS. OPRD began enforcing recreation restrictions at the three sites based on the draft site management plans March 15, 2014. Clatsop Spit requires additional coordination and consultation with USACE due to delays in the timing of the south jetty major rehabilitation project (ongoing). In 2014, OPRD acquired Sitka Sedge State Natural Area, which abuts

South Sand Lake RMA, and in 2016 through 2019 managed the site following a draft site management plan developed in response to plover occupancy. This plan addresses seasonal recreation restrictions to facilitate visitor management, and was approved as an interim management plan by USFWS until the full site management plan is developed. The final site management plan will involve consultation with DSL to coordinate recreation and habitat management actions along the estuary, and may include USFS Siuslaw National Forest, Hebo District as a partner. In addition, OPRD had planned on developing a full site management plan for Sitka Sedge SPMA in 2019, but delayed that work to 2020 while waiting for key USFWS vacancies to be filled. OPRD will also begin developing a site management plan for Netarts Spit now that Nehalem SPMA is occupied. Park and ocean shore staff met on site to discuss initial ideas for site management and plan to continue work in 2020. A meeting to discuss HCP coordination with USFWS is scheduled for early 2020.

9. Management Task: *Annually OPRD and USFWS will review what adjustments should be made to site management plans to improve potential for plover occupancy at unoccupied SPMAs (HCP 5-31).*

Discussions regarding Bandon, Sitka, Nehalem, and Clatsop spit management occurred in coordination with the Western Snowy Plover Working Team in October, 2019. Thus far, changes in management in response to on-the-ground conditions have remained within the parameters of the site management plans.

10. Management Task: *If plovers successfully nest for 2 out of 3 years on OPRD owned or leased lands outside of an SPMA then OPRD will consult with USFWS to possibly add the site to the list of SPMAs based on a set of conditions, including dropping another unoccupied SPMA in exchange for the new site since OPRD is not required to manage more than five SPMAs (HCP 5-30).*

This scenario just occurred following successful nesting in 2019. OPRD has been monitoring both South Beach State Park and Driftwood Beach, where successful nesting has occurred in 2017, 2018 and 2019 in the same general vicinity. A meeting to discuss HCP coordination is scheduled for early 2020.

11. Management Task: *OPRD will manage Netarts Spit if one of the following conditions exist: 1) there are fewer than three unoccupied SPMAs or RMAs being managed for occupancy (5-33) or 2) if none of the initial three SPMAs are occupied after 5 years from the active management start date, and no RMAs are being managed for occupancy, then OPRD will begin active management for occupancy at Netarts Spit (HCP 5-31, 5-33, 5-37).*

There are fewer than three unoccupied SPMAs or RMAs being managed for occupancy since every SPMA except Netarts is occupied and the only remaining designated sites that are unoccupied are not managed by OPRD. OPRD has not been asked to assist with active management of private sites at the Elk and Euchre Rivers. The North Jetty Umpqua River was recently occupied and OPRD is meeting with USFS to discuss this site in early 2020. OPRD will begin drafting a plan for Netarts Spit and finalizing a plan for Sitka Sedge SPMA in 2020.

12. Management Task: *OPRD will review and comment on RMA site management plans. If an RMA becomes owned by OPRD, the snowy plover management measures described above will be implemented at that site (5-34).*

OPRD acquired South Sand Lake RMA as part of Sitka Sedge State Natural Area. Master planning for the park occurred in 2016 and a master plan is available. Conservation measures in agreement with the HCP are included in the master plan, and OPRD has developed an interim Site Management Plan since plovers have occupied the site. OPRD and USFWS formally exchanged South Sand Lake RMA in lieu of Necanicum Spit, an unoccupied SPMA in 2018.

PLOVERS OUTSIDE PLOVER AREAS

13. Management Task: *OPRD will protect any discovered nests on the Ocean Shore on non-federally owned lands that are not within an SPMA/RMA by placing a 50-meter radius buffer that allows access to the wet sand to protect the nest from human disturbance, and an exclosure may be used, if necessary, to minimize predation. The fencing will consist of ropes affixed to light weight poles with signs posted at intervals around the buffer (HCP 5-10, 5-19, 5-27, 5-35).*

A total of 13 nests were discovered outside of designated plover areas, with two additional broods discovered after hatching (see Management Task 1). In addition, 9 nests were located just outside of the Bandon SPMA. ORBIC monitors and OPRD beach rangers utilized symbolic fencing to protect these nests.

HABITAT MANAGEMENT

BANDON SPMA

14. Management Task: *Provide and maintain a minimum of 50 acres of quality habitat available for nesting and wintering western snowy plovers at Bandon SNA (HCP 1-9, 5-11, 5-19, 5-33).*

Bandon SPMA needs habitat restoration and maintenance, yet still provides approximately 161 acres varying quality habitat for nesting (Figure 6, Table 3). There is currently one habitat restoration area (HRA) area that was graded flat, but it is now covered in beachgrass to the point where plovers avoid nesting there, which is clearly visible in Figure 6 – nest distribution followed the ocean-side edge of the HRA. The mouths of New River and China Creek overwash the beach in winter, creating two self-sustaining area of nesting habitat largely south of the river mouth. The amount of habitat changes every year with the shifting of New River. As the river continues to move north, beach grass encroachment also moves north into restored areas and requires maintenance.

OPRD is continuing to address cultural considerations in coordination with the Tribes, and work was not cleared in time for work to move forward in 2019. Throughout 2017-2019, OPRD archaeologists have been working with the Siletz and Coquille Tribes to address the known cultural sites in the vicinity and develop an appropriate testing and monitoring plan that will allow habitat restoration while protecting any cultural resources buried beneath the sand. In 2020, OPRD's coastal archaeologist and wildlife biologist are continuing development of a long-term habitat restoration plan for Bandon SPMA to streamline cultural resource consultations. The plan will identify different Areas of Potential Effect (APE) based on the landform and likelihood of cultural resources, and address inadvertent discoveries, monitoring, or testing efforts needed for each APE in cooperation with the Tribes and the State Historical Preservation Office. This long-view plan will ensure that the Tribes are aware and acquainted with the work OPRD is planning well in advance, and will give OPRD more flexibility in selecting areas for restoration based on available funding. OPRD hopes to conduct restoration in 2020 given progress made in 2019.

SITKA SEDGE SPMA

Management Task: *Total amount of maximum habitat restoration at this site has not been determined. OPRD is restoring habitat according to the Master Plan. The HCP may be amended to include Sitka Sedge maximums into the document.*

Habitat at Sitka Sedge is mostly north of the SPMA boundary on sand accreting into the estuary, but also extends south down the beach in a narrow strip. Total habitat in the area was approximately 42 acres (Figure 7). OPRD applied herbicide to 5 acres in January 2019 and conducted a small dune contouring project in February 2019 in advance of the breeding period to test techniques at this site. Complete restoration of the site may require working with DLCD, Tillamook County and FEMA to properly address FEMA dune height requirements and flood risk; this will be a long and complex process. So, OPRD is opting to retain the primary foredune, manage invasive beachgrass on the dune, and restore habitat behind the dune in lieu of complete restoration.

NETARTS SPIT

There are currently no habitat management goals at Netarts Spit; these will be developed during the site management plan process. Sand deposition and overwash has created approximately 20 acres of suitable habitat at the northernmost tip of the spit. The remainder of the spit has an abrupt edge where high water has eroded into the dune and there is no path for juvenile plovers to navigate up the cut bank.

NEHALEM SPIT SPMA

15. Management Task: *Restore up to 40 acres at Nehalem Spit. Habitat restoration at Nehalem Spit will be initiated within 2 years of completing the site management plan.*

OPRD restored approximately 24 acres of habitat via dune grading in February 2019 (Figure 8). This restoration area was immediately used by the resident plovers for loafing and nesting. The pattern from previous years was for a fair-sized wintering flock (12+ birds) that dispersed away by April, leaving at most 4 breeding birds. This year 12 birds remained on site. Interestingly, most nests were found close to the ocean rather than further back in the HRA. Coyotes are common at Nehalem, and they tend to follow the edge of the beachgrass, so pushing back east from the ocean will be important to mitigate predation on nesting plovers.

CLATSOP SPIT SPMA

16. Management Task: *Restore up to 40 acres at Columbia River South Jetty SPMA. Habitat restoration at Columbia River South Jetty will be initiated within 5 years of completing the site management plan (HCP 1-9, 5-11, 5-12, 5-19, 5-33, 5-37).*

No habitat has been restored at Clatsop Spit, and available habitat has increased dramatically from sand deposition, providing approximately 45 acres of habitat. OPRD cannot plan habitat restoration at this site until appropriate agreements with the USACE have been signed. Restoration will likely follow the Columbia River South Jetty rehabilitation project, as originally intended in the HCP, but who will be responsible for the first restoration effort is under discussion. The Jetty Restoration is now slated to begin in 2020.

Figure 6. Bandon SPMA Habitat Areas

Oregon Parks and Recreation Dept.
725 Summer St. NE, Suite C
Salem OR, 97301

Figure 7. Sitka Sedge SPMA habitat area

Oregon Parks and Recreation Dept.
725 Summer St. NE, Suite C
Salem OR, 97301

Figure 8. Nehalem SPMA habitat area

Oregon Parks and Recreation Dept.
725 Summer St. NE, Suite C
Salem OR, 97301

Figure 9. Clatsop Spit SMPA habitat areas

PREDATOR MANAGEMENT

Predator management is largely comprised of lethal removal of animals hunting in plover occupied sites and non-lethal methods to reduce predator density, including trash and carcass removal from occupied beaches. Currently, active predator management occurs at Bandon SPMA. OPRD is gathering data at Clatsop, Nehalem and Sitka Sedge in order to determine when predator management actions will become necessary. Thus far, common plover predators have been observed at each SPMA (Table 7); a coyote was confirmed depredating a nest at Nehalem in 2017, but nest failures have had little evidence at the nest sites. Adjusting monitoring practices at the north coast SMPAs by using cameras and more frequent nest checks will help identify cause of nest failures.

Predators are the main cause of nest failure across the Oregon coast (71%, Lauten et al. 2019), which is a consistent trend. Corvids regained their rank as the largest source of predation in 2019.

Table 7. Predator presence at each SPMA

Predator	Clatsop Spit	Nehalem Spit	Netarts Spit	Sitka Sedge	Bandon
Bald eagle	Present	Present	Present	Present	
California gull		Present	Present	Present	Present
Coyote	Present	Present		Present	Present
Crows	Present	Present	Present	Present	Present
Fox					Present
Great blue heron	Present			Present	
Great horned owl					Present
Mice	Present	Present	Present	Present	Present
Northern Harrier	Present	Present		Present	Breeding
Opossum	Present				Present
Peregrine falcon	Present	Present		Present	
Raccoon				Present	Present
Ravens	Present	Present	Present		Present
Skunk					Present
Western gull	Present	Present	Present	Present	Present

CLATSOP

No documented nest depredation occurred at Clatsop Spit, even with very attentive birders monitoring the site weekly. Corvids, coyote, mice, and opossum are present on site, and a merlin was observed as well. Two great blue herons regularly were observed, and while this species has not been documented depredating plover nests they are a generalist predator. Deploying cameras at this site is challenging due to high potential for theft. In 2020, USACE will have a contractor monitoring the site in response to the jetty construction. If coordination occurs between the monitor(s) and Plover Patrol volunteers, the causes of nest failure may become more apparent.

NEHALEM

Two out of three nests failed, and were likely depredated. The sand at Nehalem does not display tracks well or for long, as afternoon winds tend to eradicate any tracks within a day. Coyotes, crows, and ravens have been documented on the site.

SITKA

Thus far, no nests have failed due to known predation. In 2019, nest loss was high, although exact numbers are unknown due to miscommunication among volunteers. Nests were simply gone with no evidence of failure; this could be from wind erasing the evidence, or the harriers that inhabit the marsh could be hunting the dunes. There are no reports of harriers in the plover habitat, however most surveys are at mid-morning. Wildlife Services staff report that harriers tend to use the beach on the South Coast early in the morning.

BANDON

For the first year a Northern Harrier began hunting Bandon SPMA. Nest failures were very high until this bird was removed. So, even though there was little evidence at the nest sites, it is likely the harrier was the cause of failure (Lauten et al,. 2019). Bandon consistently has predation pressures and this year many of the depredations were unable to be identified. Bandon has a diversity of potential predators on the site, making determination of depredation challenging (Lauten et al., 2018). Additional camera deployment would assist in determining which predators are having the largest impact on nesting and fledging success.

Total removals were higher in 2019 when compared to 2018. A total of 49 animals were lethally removed from Bandon State Natural Area including: 35 common raven, 7 American crows, 3 grey fox, 2 striped skunk, 4 raccoons, and 1 northern harrier. Forty-one nests were depredated by unknown predators, the largest predation category, followed by corvids (4), and harrier (3). The harrier was likely responsible for many of the unknown depredation events (Lauten et al., 2019).

17. Management Task: *Provide financial assistance for predator management activities on OPRD SPMAs, including full funding for garbage removal at OPRD unoccupied SMPAs (HCP 5-11, 5-23). OPRD is required to comply with terms and conditions of the USFWS 2001 Biological Opinion and its amendments for predator management actions (5-22).*

OPRD continued lethal predator removal at Bandon SPMA via a joint contract with Animal Plant and Health Inspection Service (APHIS) Wildlife Services and agency members of the Snowy Plover Working Team (USACE, BLM, Oregon Department of Fish and Wildlife, OPRD, USFS, and USFWS). OPRD also maintained ten beach rangers that patrol the Ocean Shores and remove garbage, as well as assisted marine debris collection efforts by partners such as SOLVE and Surfrider Foundation.

18. Management Task: *Facilitate lethal control methods of predator management through cooperative agreement with Animal and Plant Health Inspection Service (APHIS) or similar organization (HCP 5-23).*

OPRD contributed $25,000 in funding to the contract with Wildlife Services for the 2017-2019 biennium. Two wildlife biologists were employed on the south coast. A summary of the predator management activities can be found in the Integrated Predator Damage Management Report (Metzler et al., 2019). Predator management activities (lethal control) have been occurring at Bandon SNA since 2002; the remaining SPMAs do not currently have predator management actions.

ENFORCEMENT

19. Management Task: *OPRD will seek to modify the Oregon State Rule of Ocean Shore Management to provide an ongoing mechanism for recreational use restrictions (HCP 5-11, 5-16, 5-28, 5-35).*

OPRD completed Rulemaking for the Ocean Shore at the end of 2012. The new rules went into effect on February 1, 2013.

20. Management Task: *OPRD will install symbolic fencing around nesting areas at the start of snowy plover nesting season at OPRD-owned nesting areas, and will provide signs for all SPMAs/RMAs regardless of ownership (HCP 5-11, 5-18, 5-33, 5-37, 5-38).*

Symbolic fencing was initially installed March 15 at China Creek overwash to the mouth of New River. Staff attempted to place signs on the south side of New River, however, the access was blocked by high water. Staff continued to monitor the access and additional signage south of New River was installed once water levels allowed

crossing of New River on March 26-27th. New I-Beam signage was installed on April 25, 2019. Signage was installed at Sitka Sedge and Clatsop Spit on March 14th and Nehalem Spit on March 15th.

OPRD will provide supervision, enforcement, and ropes and/or signage at RMAs not adjacent to Federal lands (HCP 5-11, 5-19, 5-38).

Currently there is one RMA not adjacent to Federal lands – Elk River. USFWS has been working with the private owners to restore the site, including development of a site management plan. There have been no requests for OPRD to assist with supervision, enforcement, fencing, or signage at Elk River. If requested, OPRD will work with the landowner to ensure these needs are met.

21. Management Task: *OPRD will provide authorization to restrict recreation within the Ocean Shore at RMAs (HCP 5-18, 5-35). OPRD will implement these restrictions based on either an USFWS- approved site management plan. If an RMA is unoccupied OPRD will implement recreation restrictions at the request of the landowner and after consultation with ODFW and USFWS. If an RMA becomes occupied and no site management plan exists, OPRD will implement recreation restrictions within the covered lands until an agreement is reached between USFWS and the landowner, or a site management plan is developed (HCP 5-19, 5-35).*

All occupied RMAs, except for Elk River have recreation restrictions in place. No landowners have requested OPRD restrict recreation at unoccupied RMAs. In 2019, OPRD assisted the Corps with wet sand restrictions at Bayocean Spit, along with helping to install signage. For 2020, USFS has asked for assistance with management of the wet sand at North Umpqua which is newly occupied.

22. Management Task: *OPRD will implement recreation restrictions at occupied SPMA/RMAs during the breeding period (March 15 – September 15) within the Covered Lands. These include prohibitions on vehicles, dogs, kites, and any activities in the dry sand (HCP 5-34, 5-37, 5-38).*

Recreation restrictions were put into place as specified and according to site management plans.

23. Management Task: *OPRD will implement recreation restrictions and enforcement activities at unoccupied SPMA/RMAs during the breeding period (March 15 – September 15) within the Covered Lands. These include prohibitions on vehicles and dogs must be leashed (HCP 5-34, 5-37). Restrictions may be lifted after July 15 if no breeding found.*

Recreation restrictions were put into place according to the site management plans.

24. Management Task: *OPRD will conduct enforcement actions on managed RMA sites (HCP 5-38).*

Beach Rangers patrolled RMAs and interacted with beach visitors to gain compliance with recreation restrictions (see task 28).

25. Management Task: *Work with Oregon State Police (OSP) and local law enforcement offices to provide additional enforcement support. (HCP 5-11, 5-28). Provision of OSP senior troopers, as needed, for enforcement of State Park and Ocean Shore regulations, including restrictions protecting snowy plover (HCP 5-34).*

OPRD has contracted with Coos County Sherriff in the past to provide western snowy plover specific enforcement. OPRD Ocean Shore Specialist, Calum Stevenson has provided training to Coos County Reserve Deputies. Patrols were halted due to increased risk to plover young on the beach. In 2015, after additional incidents related to driving on dry sand, the contract was not renewed and will not be until OPRD can ensure reduced risk of plover take from the patrols.

26. Management Task: *OPRD will not create any new access points within SPMAs except where necessary to re-route an existing route away from plover nesting areas (HCP 5-29)*

No new access points have been created.

27. Management Task: *OPRD will provide funding for three full-time beach ranger positions that are currently in place to encourage compliance with beach restrictions (HCP 1-14 and 5-15) one each for the north, south, and central coast, and these duties will be conducted in both SPMAs and RMAs (HCP 1-9, 1-14, 1-22, 5-11, 5-15, 5-16, 5-19, 5-28, 5-37). Provision of beach rangers is for enforcement of State Park and Ocean Shore regulations, including restrictions protecting snowy plover (HCP 5-34).*

In 2019, OPRD had an increase in staff to 10 Beach and Oregon Coast Trail District Rangers, one for each management unit on the coast. This allows for more expedient response times to incidents (far less drive time since staff is located closer to areas of responsibility), however it does not necessarily mean that the rangers are on the beach more since they have a broader scope of job duties, including the Oregon Coast Trail. In 2019, Beach Rangers performed over 350 of plover-specific patrol hours at Clatsop, Nehalem, Sitka Sedge, and Bandon SPMAs. In addition, the contacts that included a violation of plover area rules (see Table 8), Beach Rangers also performed over 486 informational contacts to beach visitors at SPMAs.

Additionally, OPRD Plover Hosts provided over 655 hours of on-site presence and plover information/outreach at Bandon with over 1000 contacts. Plover patrol volunteer monitors provided over 200 hours of on-site monitoring at north coast plover sites, which including tracking violations they observed while on site (and reporting to beach rangers to help improve compliance).

Beach Rangers also conducted patrols on the wet sand beach for over 320 hours at federally managed RMAs and other plover sites that required attention (e.g, signage, fencing management of active nests outside designated plover sites) in 2019. OPRD Beach Rangers had over 380 public contacts at these non-SPMA sites during the 2019 season.

VIOLATION SUMMARY

Violations and compliance requests were extracted from beach ranger logs, volunteer docent reports, ORBIC monitors (for Bandon SPMA only) and the Plover Patrol Monitors (Clatsop, Sitka, and Nehalem) and are summarized in Table 8 for all sites. Docent and Plover Patrol reports are based on direct observations of violations (i.e., not tracks). Violations are reported by total number of individuals rather than events since determining an event based on tracking is not feasible. This may inflate the total number of violations. There is the possibility that some violations were double-counted since there is currently no reliable method for determining if beach rangers, ORBIC monitors, Plover Patrol monitors, and docents recorded the same violations. Violations in RMAs are addressed by the agency managing the dry sand, and are not reported here. Beach rangers are currently the only consistent enforcement presence across all SPMAs.

Total reported violations decreased across all sites from 963 in all sites in 2018 to 676 in 2019 (Table 8). Several categories of violations increased, which may be explained by a variety of factors including continued high coastal visitation (slightly under 29 million day-use visits to coastal state parks occurred in 2019, another near record-breaking year). In 2018 and 2019, the source of violation data is taken from Beach Ranger logs (all sites), plover monitors (Bandon-ORBIC, Clatsop/Nehalem/Sitka-Plover Patrol), and plover hosts (Bandon). In 2017 this data was reported using Beach Ranger data only, which likely accounts for some of the increases across categories over time. For this year, percentage increases will not be calculated given the change in methodology due to increased ability to track violations across a variety of sources using digital (internet-based) reporting forms used by Beach Rangers, hosts, and volunteers. Once the methodology has been standardized across sites for several years, which will occur in 2020, this report will resume reporting violations/hour.

Table 8. Violations summary for SPMAs (2017-2019)

	Bandon			Clatsop Spit			Nehalem Spit			Sitka Sedge			Totals		
Violation	**'17**	**'18**	**'19**	**'17**	**'18**	**'19**	**'17**	**'18**	**'19**	**'17**	**'18**	**'19**	**2017**	**2018**	**2019**
Bicycle on plover beach	24	30	31	0	2	6	38	58	13	1	0	1	63	90	51
Dog off leash (unoccupied SPMA)	NA	NA	NA	63	NA	NA	NA	NA	NA	NA	NA	NA	63	NA	NA
Dog present occupied SPMA	62	42	84	NA	51	113	125	200	75	25	40	23	212	333	295
Horses in dry sand on plover beach	2	0	4	NA	0	3	1	55	22	2	0	0	5	55	29
Kite on plover beach	2	4[1]	4	2	6	1	10	2	0	0	1	9[2]	14	13	14
Motorized vehicle on plover beach	0	2	2	68	26	22	0	1	2	0	8	17	68	37	43
People in dry sand on plover beach	33	116	49	NA	146	40	84	141	118	43	32	37	160	435	244
Totals	**123**	**194**	**174**	**133**	**231**	**185**	**258**	**457**	**230**	**71**	**81**	**87**	**585**	**963**	**676**

[1]Includes drone, [2] includes 2 groups of motorized paragliders

Dogs

Dogs are typically the largest overall compliance issue across all occupied sites, and efforts to increase compliance with this user group will continue. New dog related signage was installed at Bandon, Sitka Sedge and Nehalem in 2018 and 2019 that has helped some based on input from the beach rangers (Figure 10). This signage is designed for defined, relatively narrow beach access points, where visitors with dogs are making a choice about which section of beach to recreate on, or in the case of Sitka Sedge, which trail to use to access the beach.

Figure 10. Dog directional signage at Sitka Sedge SNA (left) and orientation signage (right)

Additional orientation signage was installed at Sitka Sedge State Natural Area, within the park trail system to orient visitors and direct users with dogs away from the plover area on the north end of the spit (Figure 10).

Reported dog violations increased at Bandon SNA and Clatsop Spit, while decreasing at Nehalem and Sitka Sedge and overall across sites. In 2019, the biggest increase in violations at Bandon was “dogs” which differs from 2018 where the biggest increase was pedestrians (which is down for the 2019 season).

Pedestrians

Reported pedestrians in dry sand was down from 435 in 2018 to 244 in 2019 and across all sites except for Sitka Sedge where it was up, but only slightly (Table 8). OPRD will continue to work on addressing people in the dry sand for the 2020 season across sites. A new “mini-Ibeam” style sign (same design as the full size Ibeam, designed for smaller-scale installation without the Ibeam) was installed at several sites this year, later in the season when signs lower on the beach are possible. The full scale IBeam was designed for driving beaches, and will still be employed at appropriate sites but this accomplishes some of the same goals at a lower price-point with in-house installation possible.

Bikes/Vehicles

Bike recreation on Oregon’s beaches has been increasingly popular over the past few years, with improvements in “fat-bike” and e-bike technology along with promotion by the tourism industry and local businesses offering bike rentals compatible with the beach environment. OPRD continued to work on improving signage at China Creek for the 2019 season, including a new “mini I-Beam” type sign (like the one pictured below) as well as outreach conducted to local bike shops (in Bandon) renting fat bikes (Figure 11). Anecdotally from park and beach ranger staff, this is helping and bike violations appear to have leveled off at Bandon SPMA.

Figure 11. Mini I-Beam Style sign installed at Nehalem SPMA

Additionally, since violations for bicycles had increased at Nehalem in 2018, OPRD staff conducted outreach to local bike shops in Manzanita early spring (and plans to do it again in 2020). Bike violations went down in 2019. OPRD also installed a "mini-Ibeam" style sign at Nehalem (Figure 11).

A notable change at Clatsop Spit in 2018 was the decrease in the number of reported vehicle violations which continues to account for the overall decrease in this violation as it went down again in 2019 for the second consecutive year. Bike violations increased, but only slightly (Table 8).

Equestrians

The only site with consistent issues with horse violations in the dry sand is at Nehalem Bay State Park, which hosts a horse concessioner and a dedicated horse campground. In 2019, at Nehalem Spit, horse violations decreased. This is possibly the result of continued outreach with the horse camp and equestrian concessionaire. For 2020, the equestrian concessionaire is being asked to re-route their rides to exit to the north of the SPMA and continue north for the remainder of the time on the beach in order to allow them to remove the manure with a vehicle, a result of visitor-driven complaints to the park.

Kites

Kite violations are relatively low at all of the sites. Notably, in 2019 there was a violation that involved motorized paragliders coming onto the beach from the north at the Forest Service managed Sand Lake recreation area, which is heavily used by ATVs and other motorized devices. USFS staff conducted outreach and OPRD staff have begun discussions on how to continue that outreach to potential motorized paragliders during the 2020 season.

PUBLIC OUTREACH

28. Management Task: *Work with other State and Federal agencies in the development of outreach and educational materials (HCP 5-25).*

OPRD staff members are part of the Outreach Subcommittee for the Oregon Western Snowy Plover Working Team, including signage, press releases, social media and use of the internet. OPRD continued to distribute the refreshed "dog-friendly beach" brochures for north and central/south coast sites. OPRD updated and posted informational flyers for sites with nesting plovers outside designated sites (e.g., South Beach, Driftwood) with

information about how visitors can help reduce impacts to plovers. On-site informational flyers, with maps, were also posted at Clatsop Spit, Sitka Sedge and Nehalem to orient visitors to the relatively new plover sites and provide basic information. OPRD finalized the design for north coast plover sites (Sitka Sedge) and shared it at the working group meeting. These signs will be produced in early 2020.

29. Management Task: *Provide training on HCP requirements to all OPRD coastal parks staff and volunteers (HCP 5-26).*

Volunteer docents for China Creek and south coast beach rangers received information related to the Bandon SPMA. North coast plover survey volunteers, USFS Hebo District staff, beach rangers, and two additional OPRD staff received 4 hours of training on plover biology, survey technique, and legal status including the HCP. North Coast staff also received on the job information and training from Ken Murphy and Dane Osis; both have been through multiple training events on the HCP and communicate frequently with the HCP Coordinator. Ocean Shore staff, including all beach rangers discuss plover site management, including HCP requirements, at all ocean shore team meetings which occur multiple times a year.

30. Management Task: *Assist with implementation of interpretive programs at Bullards Beach, Honeyman, Nehalem Bay, and Sunset Bay State Parks. Additional programs will be at Fort Stevens, Cape Lookout, and Harris Beach State Parks (HCP 5-26).* Interpretive programs were provided at the parks listed in Table 9.

Table 9. Interpretive Programs in 2019

Location	Type	Focus	Number of Programs	Attendees/ Contacts
Fort Stevens	Campfire Program	Survivors in the Sand	6	167
Fort Stevens	JR Ranger Program	Birds of a Feather	4	112
Fort Stevens	Roving Outreach	Plover specific	8	448
Fort Stevens	Roving Outreach	SPMA	NA	NA
Fort Stevens	Let's Go Birding	Birdwatching	6	40
Nehalem Bay	Roving Outreach	SPMA	NA	NA
Cape Lookout	Campground Program	Plover specific	2	35
Cape Lookout	JR Ranger	Shorebirds, including plovers	3	22
Sitka Sedge	Birding Hike	Plover-focused interpretive hike	2	48
Cape Kiwanda/ Sitka	Roving Outreach	SPMAs	NA	1,000+
South Beach	Roving Outreach	WSP habitat/adaptation	NA	100+
South Beach	Birding Hike/JR Ranger	Sand dunes/plovers	12	144
Honeyman	Evening/JR Ranger	Sand dunes/plovers	10	494
Sunset Bay	Roving outreach	Shorebirds, including plovers	NA	NA
Bullards Beach	Evening/JR Ranger	Western Snowy Plover	4	96
Bandon/China Cr.	Roving Outreach	SPMA	NA	1,000+
Harris Beach MU	Roving Outreach	Ocean Shore outreach	NA	NA
TOTAL			**57+**	**3706+**

31. Management Task: *Develop a snowy plover webpage that contains the HCP, the management action summary matrix, the list of SPMA/RMA beaches, maps of these areas, and the efforts OPRD is undertaking to help snowy plover recovery (HCP 5-26).*

OPRD has developed and maintains an active webpage at http://bit.ly/wsplover. This page contains links to many pertinent documents related to the HCP and plover management. OPRD Stewardship staff also has a "blog" at oprdstewardship.wordpress.com that feature western snowy plover articles. OPRD continues to work on improving maps available online for beach users, including OCT hikers. Plover informational brochures are also included on relevant state park information pages on the OPRD website and seasonal "alerts" are also posted to remind potential visitors of seasonal restrictions.

32. Management Task: *Distribute copies of "Share the Beach" brochure to SPMA visitors (HCP 5-26). Prepare a snowy plover brochure describing OPRD efforts in plover conservation and recovery and how park visitors can help (HCP 5-26).*

The "Share the Beach" brochure developed by the Working Team is outdated, and OPRD has developed two brochures, one for South Coast and one for North Coast, illustrating areas of recreation restrictions and providing information on how visitors may recreate in the plover areas. These were updated and re-produced to include recent occupancy changes for North Coast sites (available online).

33. Management Task: *Develop information sign for SPMA State Park kiosks at beach access points that includes information on the presence of snowy plovers, applicable recreational use restrictions, and the importance of snowy plover protection measures (HCP 5-27).*

Maps and information were posted at Clatsop, Nehalem and Sitka Sedge (and distributed in the campgrounds at Nehalem and Ft. Stevens) after the sites were occupied with information about ways people can help protect the nesting birds and plover chicks at the sites. Interpretive signs that are pertinent to local issues are in-production for the north coast sites (design is completed and production is planned for this biennium). Interpretive signs are present at Bandon SMPA but need updating. OPRD does not have plans to update this sign in next year as production of the north coast signs will take precedence. However, the new north coast signs may be replicated for Bandon (with minor content modifications), after production of north coast panels is complete and funding is available. Note: The cost of the newly designed panels, which include steel design elements, has gone up significantly and a temporary delay in production may make sense given the extreme cost increase (reportedly due to steel cost increases).

34. Management Task: *OPRD will install recreational use restriction signs at SPMAs and RMA boundaries (HCP 5-27, 5-28).*

Installation of signs occurred at Bandon SPMA (see Management Task 2); compliance signs were installed at Clatsop Spit, Sitka Sedge and Nehalem Spit. Signage at RMAs adjacent to Federal lands was addressed by Federal agencies. OPRD assisted the ACOE with installation and acquisition of signage for the relatively newly occupied RMA site at Bayocean Spit.

35. Management Task: *OPRD will work with USFWS to install signs at nesting locations outside of SPMAs and RMAs (HCP 5-27).*

For efficiency and to reduce disturbance to nesting plovers, ORBIC monitors installed ropes and signs around nests located outside of SPMAs when nests were discovered at China Creek. OPRD staff provided support and materials. Additional light weight supplies (fiberglass posts, rope, signs) are stored at four separate locations (Bullards Beach, Central Coast Region Office, Nehalem Bay State Park, Ft. Stevens State Park) to ensure materials are available in the event a nest is found outside of SPMAs and RMAs.

A total of 13 nests were discovered outside of designated plover areas at Driftwood Beach, South Beach, Cut Creek, Johnson Creek, and along with an undiscovered nest in the vicinity of Bayshore (see Table 5). In addition, 4 nests were located just outside of Bandon SPMAs. ORBIC monitors (at Bandon) and OPRD staff (at all other sites) utilized symbolic fencing/signs to protect these nests.

36. Management Task: *Include notifications statements on coastal campsite receipts notifying visitors on any recreational restrictions in the area and requesting cooperation in adherence to the restrictions (HCP 5-27).*

Some coastal campsite receipts now contain the following text: "Please note some beaches have seasonal recreation restrictions for shorebird conservation, though the wet sand is always open to walking. Areas where special rules are in effect are marked on the beach. For more information go to bit.ly/wsplover". This notification is on receipts issued to the following parks: Humbug Mountain, Cape Blanco, Bullards Beach, Sunset Bay, William Tugman, Umpqua Lighthouse, Honeyman, and Washburne.

37. Management Task: *OPRD will utilize volunteers at China Creek parking area in Bandon SNA for 20 hours/week from May through August. Volunteers will record information on the type of recreation use occurring, document violations, and report observed violations to the USFWS (HCP 5-11, 5-27).*

Volunteer docents provided outreach to beach visitors on plovers, beach regulations, and beach ecology at Bandon SNA. Docents also recorded recreation use, violations, and outreach contacts. OPRD had several volunteer docent positions to provide services (over 650 hours and 1000 contacts) at Bandon in 2019 that exceeded the minimum of 20 hours per week from May-August (Table 10). In 2018, plover hosts were also added at Nehalem and Sitka Sedge for a portion of the season; with a plan to replicate this activity for the 2019 season. Nehalem was unable to recruit a local plover host in 2019. However, work is in progress to build a host RV site to help with recruitment beyond the local community. Hosts were on site at Sitka Sedge during the 2019 season, as there is a new dedicated host RV station at the park. The Sitka Sedge hosts split duty between grounds keeping and visitor contacts in the parking lot and trail system 7 days/week during the spring and summer. One of the hosts was tasked with walking the trails out to the southern end of the plover site Friday-Sunday during peak visitation times to engage with visitors.

Table 10. Volunteer Docent Hours for 2019 (Bandon Plover Hosts)

Month	Hosts names		Total contacts	Total Hours
April	Beth Haley	Jay & Susan Feagan	54	91
May	Beth Haley	Jay & Susan Feagan	182	144
June	Beth Haley John & Cindy Dillard	Jay & Susan Feagan	168	136
July	Beth Haley John & Cindy Dillard	Jay & Susan Feagan	240	148
August	Carol & Leeroy Rigdon	Jay & Susan Feagan	377	136.5
			1021	**655.5**

38. Management Task: *Maintain interpretive panel on snowy plover nesting & habitat at Bandon SNA (HCP 5-27).*

The interpretive panel at Bandon SNA is shown in Figure 12, shown below.

Figure 12. Interpretive panel at Bandon SNA

39. Management Task: *Provide programs and/or information about the snowy plover to community groups, chambers of commerce, school groups, and recreational enterprises as opportunity arises (HCP 5-27).*

OPRD collaborated with the Audubon Society of Lincoln City, a local artist and school-group to develop temporary informational signs that were placed at South Beach State Park and Sitka Sedge State Natural Area (example shown in Figure 13, all the children were able to make and install their own sign). The school group also conducted fieldtrips to the parks and learned about snowy plovers in their classes at school and on the field trips. See Table 9 for a summary of outreach and educational actions taken in 2019.

Figure 13. School-children created plover sign example, shown installed at South Beach State Park

40. Management Task: *Work with land and resource managers on coordinating efforts pertaining to predator management, habitat restoration, monitoring, and public outreach and education on an annual basis and report on these efforts to the USFWS (HCP 5-27).*

OPRD attended the Washington/Oregon Western Snowy Plover Working Team annual meeting in October 2019. OPRD staff worked with Wildlife Services and USFWS throughout the season to address predator management needs, including attending the Predator subcommittee working group meetings.

ADAPTIVE MANAGEMENT

Adaptive management is defined as a process that allows resource managers to adjust their actions to reflect new information or changing conditions in order to reach the purpose and goals of the HCP (HCP 1-17, 5-29).

41. Management Task: *OPRD will use adaptive management processes to minimize take related to management of Oregon's beaches and to ensure the long-term survival of the snowy plover on Oregon's coast (HCP 5-29)*

OPRD has altered signage and staff time to address needs at Bandon and other managed sites on the central and north coast, including several seasonal interpretive employees providing roving outreach and additional beach ranger positions described elsewhere.

42. Management Task: *If biological monitoring reports indicate consistent population declines, then OPRD and USFWS will meet and confer to determine if inadequate management actions by OPRD are responsible for or are contributing to declines. If so, OPRD will revise management actions in the HCP as soon as practical (HCP 5-30).*

Consistent population declines have not occurred; the population is continuing to grow.

43. Management Task: *OPRD will work with USFWS to develop and implement protocols for assessing effectiveness of the conservation strategies based on the annual report and other information. Protocols will be developed in collaboration with other snowy plover partners (Federal, State, and local agencies and private landowners). OPRD will implement appropriate adaptive management measures, if necessary, to address snowy plover population declines or significant habitat degradation (HCP 1-13, 5-14).*

OPRD attended the Western Snowy Plover Working Team meetings to address regional snowy plover conservation strategies. No significant snowy plover population declines were documented in 2018-19.

44. Management Task: *OPRD will evaluate the relative success of nest exclosures in preventing predators from destroying nests and eggs, and will meet with USFWS annually to review on a site-by-site basis (HCP 5-30).*

OPRD continues to support the 2012 guidelines developed by ORBIC monitors, and USFWS determined guidelines for utilizing exclosures.

FUNDING

45. Management Task: *OPRD commits to protecting plover funding as a core function if budgets are reduced (HCP 7-5). Maximum biennial costs are outlined in Table 11 (HCP 7-8, 7-9).*

The total biennium budget for 17-19 was $175,000, not including staff wages (Table 11). A significant portion of OPRD's western snowy plover management is conducted in-house, and not represented in this report.

Table 12 summarizes the estimated direct expenditures associated with implementation of the HCP. OPRD developed site management plans in-house rather than contracting out the work as listed in the HCP. The amount expended on fencing exceeds the amounts predicted in the HCP, due in part to supporting RMA signage needs, new occupied sites, and materials loss to storms and tides. Expenses for plover breeding population monitoring also typically exceed expected maximums. OPRD conducted much of the restoration work at Sitka Sedge in-house, and that staff time is not accounted for in this estimate. OPRD is exploring ways to improve tracking of staff time to better estimate actual plover program expenditures, including beach rangers, ocean shore staff, and wildlife biologist staff time, not accounted for in Table 12.

Table 11. Projected Maximum Expenditures for a single SPMA for the 2017-2019 biennium (adjusted for inflation)

Type	Activity	Biennial
Unoccupied	Site Management Plan Development	**$13,047.7**
Unoccupied	Habitat Restoration	**$65,238.7**
Unoccupied	Public Outreach	**$2,609.5**
TOTAL MAXIMUM for Unoccupied SPMA		**$80,896**
Occupied	Habitat Maintenance	**$78,286.4**
Occupied	Breeding Population Monitoring	**$21,789.7**
Occupied	Public Outreach	**$6,523.9**
Occupied	Predator Management	**$20,876.4**
Occupied	Beach Patrol/Law Enforcement	**$26,095.5**
Occupied	Symbolic Fencing	**$1,304.8**
TOTAL MAXIMUM for Occupied SPMA		**$154,876**

Table 12. 2019 Spending Estimate

Funding Category	Total Annual Expended
Education/outreach	9500+
Habitat restoration and maintenance-	53,085+
Plover Monitoring	28,790
Predator Management	14,912
Symbolic fencing/signage/roping	8000+
Total	**$114, 287+**

46. Management Task: *OPRD will promptly notify USFWS of any material change in the OPRD's financial ability to fulfill its obligations. In addition, OPRD will provide USFWS with a copy of its annual report each year of the HCP or with such other reasonably available financial information that USFWS and OPRD agree will provide adequate evidence of OPRD's ability to fulfill its obligations.*

Funding sources were sufficient during 2019.

47. Management Task: *OPRD will compile and provide an annual report by January 1 to USFWS documenting its management actions to date and indicating anticipated efforts for the following year. The report will include: summary of monitoring information, occurrence of take, status of site management plans, status of habitat restoration, public outreach efforts, predator management efforts, recreational use in vicinity of nesting areas including beach rangers, monitors, docents, volunteers, and other OPRD staff, and anticipated management for the following year (HCP 5-13, 5-14, 5-24).*

The 2018 compliance report was submitted in 2019 and included the required categories.

48. Management Task: OPRD, ODFW, and USFWS will meet every 5 years following issuance of the ITP to evaluate the performance and effectiveness of the conservation measures (HCP 1-3, 5-14, 5-25, 7-2).

OPRD and USFWS have held review meetings; ODFW was not able to attend. The next review should occur in 2020.

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