

Executive Summary

Introduction

Private landowners, corporations, State or local governments, or other non-Federal landowners who wish to conduct activities on their land that might incidentally harm (or "take") wildlife that is listed as endangered or threatened under the Federal Endangered Species Act (ESA) must first obtain an incidental take permit (ITP) from the Fish and Wildlife Service (FWS). Take, as defined by the ESA, means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. An ITP authorizes take that is incidental to, and not the purpose of, the carrying out of otherwise lawful activities.

The Oregon Parks and Recreation Department (OPRD) has submitted an application to the FWS for an ITP in accordance with Section 10(a)(1)(B) of the ESA. The issuance of an ITP from the FWS would provide OPRD with the long-term regulatory assurance that implementation of their coastal management responsibilities would comply with the ESA, while providing protection for the Pacific Coast population of western snowy plover (snowy plover) along the Oregon coast, a species listed as threatened under the ESA.

The OPRD lands expected to be covered by the ITP for which OPRD has management responsibility or jurisdiction, including those that they manage for public and recreational use; natural resources (e.g., snowy plover habitat or other habitat restoration opportunities); and other beach uses (e.g., safety, law enforcement). The covered lands include the sandy portions of the Ocean Shore along the Oregon coast that extend between the mouth of the Columbia River South Jetty on the north and the California/Oregon border on the south (approximately 230 miles of the 365 total miles of Oregon coast). In addition, portions of six key State

parks, State natural areas, and State recreation areas are included in the covered lands.

As part of their ITP application to the FWS, OPRD must submit a habitat conservation plan (HCP) that documents compliance with Section 10 of the ESA, and the draft *Western Snowy Plover Habitat Conservation Plan* has been prepared to meet those requirements (Oregon Parks and Recreation Department 2007). The draft HCP was developed to contribute to the recovery of the snowy plover consistent with key elements of the *Western Snowy Plover Pacific Coast Population Draft Recovery Plan* released by the FWS in 2001. The conservation strategies for snowy plover described in the draft HCP would include management for snowy plovers on OPRD owned or leased areas, and implementation of recreational use restrictions to reduce potential effects to snowy plover on OPRD lands and on other specifically identified lands (Recreation Management Areas [RMA]) owned by other landowners.

Proposed issuance of an ITP by the FWS is a Federal action that may affect the human environment and is, therefore, also subject to review under the National Environmental Policy Act (NEPA). As part of the NEPA process, the FWS is required to prepare NEPA review documents (i.e. the Draft Environmental Impact Statement [DEIS]), and a draft HCP to be circulated for public review and comment.

This DEIS analyzes the FWS action of issuing an ITP to OPRD for incidental take coverage of the snowy plover over a 25-year period (2008-2033) which includes the HCP, and two management strategy alternatives. Following a 60-day public comment period on the DEIS, the FWS will review and respond to comments in writing and/or by incorporating changes to the proposed HCP and DEIS. The resulting Final Environmental Impact Statement (FEIS) will be circulated for an additional 30-day public review period, after which the FWS will prepare a Record of Decision (ROD) that will formally document their permit issuance decision.

Purpose and Need

The purpose for this action is to allow the FWS to respond to the OPRD application for an ITP. If issued, the ITP would authorize the incidental take of snowy plover that may result from OPRD's continued management of Oregon's coastal resources over the next 25 years.

The need for this action is to provide broader protection and conservation for the snowy plover, while allowing for long-term management of the portions of Oregon's coast under OPRD jurisdiction. Technical discussions between the OPRD and the FWS during development of the HCP have addressed the specific criteria that must be satisfied before a decision can be reached on permit issuance. The determination as to whether the ITP proposal has met these criteria will be made after the public has had an opportunity to comment on the DEIS, FEIS and draft HCP. The decision

whether or not to issue the ITP will be based on the ESA and NEPA compliance determinations. These determinations will be documented in the ESA Section 7 Biological Opinion, ESA Section 10 Findings document, and NEPA decision document, which will be developed at the conclusion of the NEPA and ESA permit issuance processes.

Alternatives

Three management strategy alternatives have been identified for detailed analysis in this DEIS. In addition to the No-Action Alternative, identified as Alternative 1, two action alternatives are analyzed. The action alternatives are: Alternative 2 – Proposed HCP, and Alternative 3 – Management of Additional OPRD Sites.

Alternative 1 – Current Management (No-Action)

Under Alternative 1, OPRD would continue the management activities currently being implemented on the covered lands. As described in chapter 1, “Purpose and Need”, OPRD is responsible for various management activities along most of the Oregon coast, including recreation management, general beach management, and management of natural resources. Since populations of snowy plover nest, roost, forage, and raise chicks on the sandy beaches of Oregon’s coast, OPRD must ensure that these management activities do not result in take of snowy plover. In addition, OPRD must balance snowy plover management activities with their mandate to maintain the public’s access to the Ocean Shore.

Each year, at the request of Federal and State agencies and Curry County, OPRD restricts use of a portion of the Ocean Shore at six areas occupied by nesting populations of snowy plover during the breeding season (March 15 to September 15). These seasonal use restrictions have been imposed since 1994, with such restrictions affecting anywhere from 0.5 miles (1994) to 19.8 miles (1998) of beach. Seasonal use restrictions limit recreational use and access to these specific areas, and vary unpredictably in scale and location.

Under Alternative 1, OPRD would continue to manage the Habitat Restoration Area at the Bandon State Natural Area, for nesting populations of snowy plover. In addition, OPRD would continue to consider requests by other landowners to restrict recreational use at areas they own that are occupied by snowy plovers. Additional information on how these restrictions would be implemented on both OPRD owned or leased lands, and lands owned by other landowners, is described in chapter 2, section 2.3.1, “Alternative 1 – Current Management (No-Action).” The No-Action Alternative is the baseline against which the effects of the action alternatives are compared.

Alternative 2 – Proposed HCP

Alternative 2, OPRD's proposed draft HCP, is supported by the *Draft Western Snowy Plover Habitat Conservation Plan* (Oregon Parks and Recreation Department 2007). The draft HCP was developed by OPRD, in collaboration with the FWS and Oregon Department of Fish and Wildlife (ODFW), to address potential effects on snowy plover within the covered lands, and to meet the regulatory requirements of the Federal and State ESAs. The draft HCP was also developed to be consistent with the *Western Snowy Plover Pacific Coast Population Draft Recovery Plan*; in consideration of input provided by the public during a series of public meetings held in the spring and winter of 2002 and the fall of 2004; and in consideration of input received between 2002 and 2004 from the Steering Committee convened to assist in formulation of the draft HCP.

Similar to Alternative 1, under Alternative 2, OPRD would manage recreational use, natural resources, and other general beach responsibilities on the covered lands to minimize potential effects to snowy plover. Up to six Snowy Plover Management Areas (SPMAs) would be managed for nesting populations of snowy plover by OPRD, including SPMAs at Bandon, Columbia River South Jetty, Necanicum Spit, Nehalem Spit, Netarts Spit and Pistol River. OPRD automatically would implement recreational use restrictions on the Ocean Shore at up to 11 RMAs owned by other landowners as they become occupied. If the RMAs are unoccupied, OPRD would implement recreational use restrictions at these areas at the request of the land owner and after consultation and collaboration with the FWS and ODFW. Additional information on how management activities and restrictions that would be implemented on both OPRD owned or leased lands, and lands owned by other landowners, is described in chapter 2, section 2.3.2, "Alternative 2 – Proposed HCP."

Alternative 3 – Management of Additional OPRD Sites

Under Alternative 3, OPRD would manage recreational use, natural resources, and other general beach responsibilities on the covered lands to minimize potential effects to snowy plover. Up to nine SPMAs would be managed for nesting populations of snowy plover by OPRD, including SPMAs at Bandon, Necanicum Spit, Columbia River South Jetty, Nestucca Spit, Pistol River, Nehalem Spit, Netarts Spit, Bullards Beach, and Sixes River Mouth. In addition, OPRD automatically would implement recreational use restrictions at up to 12 RMAs owned by other landowners as they become occupied. If the RMAs are unoccupied, OPRD would implement recreational use restrictions at these areas at the request of the land owner and after consultation and collaboration with the FWS and ODFW. Additional information on management activities and restrictions that would be implemented on both OPRD owned or leased lands, and lands owned by other landowners, is described in chapter 2, section 2.3.3, "Alternative 3 – Management of Additional OPRD Sites."

Although Alternative 3 was considered during the development of the HCP, it was subsequently eliminated as a viable option by OPRD due to the potential conflicts between recreational use and other OPRD management activities that would occur under this alternative. However, the FWS has determined that Alternative 3 would be a reasonable alternative, as defined under NEPA, and should be evaluated in this DEIS. Thus, Alternative 3 is included to provide the FWS with an additional action alternative to compare the environmental risks of Alternative 2.

Potential Effects of Alternatives

The potential environmental effects associated with these alternatives are summarized in table ES-1 and described in detail in chapter 3, “Affected Environment, Environmental Consequences, and Cumulative Effects.”

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Table ES-1. Summary of Potential Effects on Resources for Alternatives Evaluated in EIS

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
3.2 Land Use			
Consistency with Federal, State, and Local Land Use Plans and Policies	<p>OPRD's jurisdiction and authority to manage the Ocean Shore supersedes the underlying land ownership. OPRD would retain the right to implement activities associated with recreation, beach, and natural resource management in these areas and would obtain a local grading permit prior to implementing any modifications to the Ocean Shore.</p> <p>In addition, implementation of the covered activities would be consistent with Oregon's land use planning goals and policies as well as Federal, State, and local land use management plans, which will limit the potential for any adverse effects on land use.</p>	Same as Alternative 1	Same as Alternative 1

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
<p>3.3 Recreation</p>			
<p>Potential Effects on Recreational Use Opportunities at Unoccupied Areas Actively Managed for Snowy Plovers.</p>	<p>OPRD would not actively manage any unoccupied locations to attract nesting populations of snowy plover.</p> <p>No recreational use restrictions would be issued at sites that were not already occupied by nesting snowy plovers.</p>	<p>OPRD would prohibit driving, non-motorized vehicle use, and require dogs to be on leash during the nesting season at sites that are actively managed to attract nesting populations of snowy plovers.</p> <p>These restrictions would be implemented at up to 5 currently unoccupied SPMA (Columbia River South Jetty, Necanicum Spit, Nehalem Spit, Netarts Spit, and Pistol River) and up to 6 currently unoccupied RMAs (Bay Ocean Spit, South Sand Lake Spit, Tahkenitch South, Umpqua River North Jetty, Elk River Spit, and Euchre Creek) at the request of the landowner.</p> <p>These prohibitions would be more restrictive than those prescribed under Alternative 1 at sites that do not already prohibit driving (Columbia River South Jetty, Tahkenitch South, North Umpqua River, and Elk River), non-motorized vehicle use (all five unoccupied SPMA and all 6 unoccupied RMAs), or require dogs to be on leash during the nesting season (Elk River, Euchre Creek, Umpqua River North Jetty, Bayocean Spit, South Sand Lake Spit, and Tahkenitch South).</p>	<p>OPRD would prohibit driving, non-motorized vehicle use, and require dogs to be on leash during the nesting season at sites that are actively managed to attract nesting populations of snowy plovers.</p> <p>These restrictions would be implemented at up to 8 currently unoccupied SPMA (Columbia River South Jetty, Necanicum Spit, Nehalem Spit, Netarts Spit, Nestucca Spit, Bullards Beach, Sixes River Mouth, and Pistol River) and up to 7 currently unoccupied RMAs (Bay Ocean Spit, North Sand Lake Spit, South Sand Lake Spit, Tahkenitch South, Umpqua River North Jetty, Elk River Spit, and Euchre Creek) at the request of the landowner.</p> <p>These prohibitions would be more restrictive than those prescribed under Alternative 1 at sites that do not already prohibit driving (Columbia River South Jetty, Nestucca Spit, Tahkenitch South, North Umpqua River, and Elk River), non-motorized vehicle use (all 8 unoccupied SPMA and all 7 unoccupied RMAs), or require dogs to be on leash during the nesting season (Elk River, Euchre Creek, Umpqua River North Jetty, Bayocean Spit, South Sand Lake Spit, and Tahkenitch South).</p>

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
Potential Effects on Recreational Use Opportunities at Sites Occupied by Snowy Plover	<p>OPRD would implement the following restrictions during the nesting season at sites that became occupied by nesting snowy plovers: prohibition of driving and non-motorized vehicle use; requiring dogs to be on leash and restricted to the wet sand portion of the beach; and prohibiting recreational use of a portion of the dry sand area surrounding a nest site as indicated by roping and signage.</p> <p>These restrictions would be implemented anywhere nesting snowy plovers appeared, but are expected to continue to be implemented at sites currently occupied by snowy plovers, including Sutton/Baker Beach, the Siltcoos Estuary portion of Siltcoos Estuary/Dunes Overlook/Tahkenitch Estuary, Coos Bay North Spit, Tenmile Estuary, Bandon, and New River. Driving, dog exercising, and dry sand activities are already restricted at occupied sites. Prohibitions on non-motorized vehicle use would be more restrictive at these locations.</p> <p>Because these restrictions would also be implemented anywhere along the Oregon coast, Alternative 1 would be more restrictive for areas that are not already occupied by nesting snowy plovers.</p>	<p>OPRD would implement the following restrictions during the nesting season at up to six SPMA and 11 RMA once a site became occupied by nesting snowy plovers: prohibition of dog exercising, driving, non-motorized vehicle use, kite flying, and dry sand activities as indicated by roping and signage.</p> <p>Restrictions on dog exercising and kite flying would be more prohibitive compared to Alternative 1. Restrictions on driving, non-motorized vehicle use, and use of the dry sand area surrounding a nesting site would be similar compared to Alternative 1.</p> <p>The key difference between Alternatives 1 and 2 is that under Alternative 2, the restrictions would only be implemented at the SPMA and RMA. Outside of these areas, the restrictions would be limited to a 50-meter exclosure area around a nesting site on land owned or leased by OPRD. Under Alternative 1, the nature and extent of the restrictions would be determined on a case-by-case basis with the FWS and could be applied to any location along the Oregon coast. Therefore, the extent and degree of the restrictions could be greater outside of targeted areas under Alternative 1.</p> <p>Alternative 2 would be slightly more prohibitive than Alternative 1 with respect to the restrictions proposed at SPMA and RMA. Alternative 2 would be less restrictive than Alternative 1 with respect to occupied sites outside of SPMA or RMA.</p>	<p>OPRD would implement the following restrictions during the nesting season at up to nine SPMA and 12 RMA once a site became occupied by nesting snowy plovers: prohibition of dog exercising, driving, non-motorized vehicle use, kite flying, and dry sand activities as indicated by roping and signage.</p> <p>Restrictions on dog exercising and kite flying would be more prohibitive compared to Alternative 1. Restrictions on driving, non-motorized vehicle use, and use of the dry sand area surrounding a nesting site would be similar compared to Alternative 1.</p> <p>The key difference between Alternatives 1 and 3 is that under Alternative 3, the restrictions would only be implemented at the SPMA and RMA. Outside of these areas, the restrictions would be limited to a 50-meter exclosure area around a nesting site on land owned or leased by OPRD. Under Alternative 1, the nature and extent of the restrictions would be determined on a case-by-case basis with the FWS and could be applied to any location along the Oregon coast. Therefore, the extent and degree of the restrictions could be greater outside of targeted areas under Alternative 1.</p> <p>Alternative 3 would be slightly more prohibitive than Alternative 1 with respect to the restrictions proposed at SPMA and RMA. Alternative 3 would be less restrictive than Alternative 1 with respect to occupied sites outside of SPMA or RMA.</p>

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
3.4 Socioeconomics			
Potential Effects on Tourism and Local Economies	<p>Recreational use restrictions would have the potential to affect local economies if the restrictions resulted in displacement of recreational activities.</p> <p>Although there is a potential for some visitors to relocate their recreational activities in response to the proposed restrictions, the likelihood of this occurring is expected to be minimal because alternative beach areas are available for each restricted activity in the immediate vicinity of the potentially restricted areas.</p>	Same as Alternative 1	Same as Alternative 1
Potential Disproportionate Effects on Environmental Justice Populations	<p>Implementation of recreational restrictions has the potential to affect visitors who recreate at beaches where snowy plover management actions would occur. However, because low income and minority populations do not appear to be disproportionately represented among visitors to the Oregon coast, displacement effects would not be expected to excessively affect these groups. Therefore, no adverse environmental justice effects are expected.</p>	Same as Alternative 1	Same as Alternative 1
3.5 Air Quality			
Potential Increase in the Emission of Pollutants	<p>Increased emissions could occur as a result of habitat restoration activities and increased vehicle trips associated with snowy plover management activities.</p> <p>It is anticipated that these emissions would be minimal because the type of equipment and number of vehicle trips that would be required would be minimal and operations would only occur temporarily.</p> <p>There could also be a slight decrease in emissions from recreational vehicles in areas where driving would be restricted.</p>	Same as Alternative 1	Same as Alternative 1
Potential Effects on Global Climate Change Caused by Emissions From Construction Equipment for Beach Restoration Projects	<p>Alternative 1 would not contribute substantial greenhouse gases to the environment, and would not increase the rate of global climate change or further contribute to the resulting effect of rising sea levels.</p>	Same as Alternative 1.	Same as Alternative 1.

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
3.6 Noise			
Potential Increase in Noise Levels	<p>Increased noise levels could occur as a result of implementing habitat restoration activities involving temporary operation of construction equipment.</p> <p>The potential noise effects are expected to be minimal since noise generating equipment would be used infrequently and would only occur for a short duration at any given site. In addition, the loudest anticipated noise (bulldozing during dune restoration) is not expected to be audible at a great distance due to existing ambient ocean noise levels in the immediate vicinity.</p>	The extent of the restoration activities under this alternative could be greater than Alternative 1 since activities under this alternative are proposed at additional SPMA's.	The extent of the restoration activities under this alternative could be greater than Alternative 1 since activities under this alternative are proposed at additional SPMA's.
3.7 Wildlife			
Potential Effects of Beach Fires on Ground Nesting Shorebirds	<p>Small recreational fires have the potential to affect nesting and foraging birds in a number of ways. Light produced at night could disorient the birds and cause them to abandon their nests. Smoke could disturb adults incubating nests. Large groups of people commonly associated with beach fires could also put undue stress on nearby nesting shorebirds. Refuse left after a beach fire could also attract predators.</p> <p>Potential effects on ground nesting shorebirds from beach fires would be minimal because most shorebirds tend to nest away from areas that incur dense concentrations of recreational activities. Ongoing patrols by beach rangers would help to ensure that incidental effects of beach fires, including residual refuse, are minimized. Beach fires would not be allowed at any occupied snowy plover nesting area during the nesting season, providing additional protection to ground nesting shorebirds during this time.</p>	Same as Alternative 1	Same as Alternative 1

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
Potential Effects of Driftwood Collection and Removal on Snowy Plover	<p>Removal of driftwood from occupied snowy plover nesting areas could reduce the suitability of the habitat, if driftwood is in short supply. Similarly, removing driftwood from targeted unoccupied snowy plover nesting areas would reduce the likelihood that individuals would nest in those areas. Collection of driftwood near snowy plover nesting areas, and the proximity of beach visitors to such nests could also affect nest success.</p> <p>These effects are expected to be minimal because driftwood collection would not be allowed between the ocean and any snowy plover nesting area at sites actively managed by OPRD during snowy plover nesting season.</p>	Same as Alternative 1	Same as Alternative 1
Potential Effects of Recreational Activities on Foraging, Migrating, and Wintering Shorebirds	<p>Recreational activities on the wet sand portion of the beach in the wrack line may temporarily displace foraging, migrating, or wintering shorebirds, altering the normal behavior patterns of individuals within their normal range of activities.</p> <p>These effects would likely be limited to birds being temporarily displaced. In addition, as part of the education program, there would be a heightened public awareness of the beach as sensitive nesting habitat for shorebirds, which would serve to educate the public about other bird species using habitat along the Oregon coast.</p>	Same as Alternative 1	Same as Alternative 1

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
Potential Effects of Beach Management and Management in Emergency Situations on Sensitive Wildlife Populations	<p>Beach management activities have the potential to affect wildlife species that use the ocean shore by disturbing wildlife and causing damage to wildlife habitat.</p> <p>The potential effects to sensitive wildlife species are expected to be minimal because OPRD would, as time permits, attempt to contact FWS and ODFW for input on how best to respond to emergency situations or implement beach management activities near biologically sensitive areas (including nesting areas). OPRD would also meet with FWS and ODFW after the emergency response effort to determine if any habitat rehabilitation or other mitigation measures are necessary to compensate for effects to wildlife species.</p>	Same as Alternative 1	Same as Alternative 1
Potential Effects of Global Climate Change on Nesting Shorebirds	Alternative 1 would not contribute substantial greenhouse gases to the environment, and would not increase the rate of global climate change, or further contribute to the resulting effect of rising sea levels.	Same as Alternative 1.	Same as Alternative 1.
Potential Effects of Predator Management on Nesting or Foraging Raptor Species and Roosting Brown Pelicans	<p>Predator management activities, including sound making harassment techniques, could affect nesting raptors by forcing them from their nests or deterring them from foraging in optimal habitat. Such devices can also force roosting brown pelicans from optimal loafing or roosting areas.</p> <p>The potential effects are expected to be minimal because OPRD would work with the USDA and FWS to ensure that potential effects from predator management activities are minimized.</p>	<p>The potential effects of predator management on nesting or foraging raptors and brown pelicans would be slightly greater than under Alternative 1 due to an increased extent of predator management activities.</p> <p>OPRD would work with the USDA and FWS to ensure that potential effects from predator management activities are minimized.</p>	<p>The potential effects of predator management on nesting or foraging raptors and brown pelicans would be slightly greater than under Alternative 1 due to an increased extent of predator management activities.</p> <p>OPRD would work with the USDA and FWS to ensure that potential effects from predator management activities are minimized.</p>

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
Potential Effect of Predator Management Activities on Local and Regional Corvid Populations and Other Mammal Populations	<p>Non-lethal and lethal predator control measures aimed at reducing corvid and carnivore populations and foraging proficiency near nesting populations of shorebirds would likely temporarily reduce local populations. It is unlikely that they would be detrimental or have any effect on regional populations. Continued coordination between the FWS, ORNHIC, ODFW, USDA, OPRD, and other Federal landowners on predator management activities would ensure that regional populations do not decline as a result of predator management.</p>	<p>The potential effects of predator management on corvid and mammal populations would be slightly greater than in Alternative 1 due to an increased extent of predator management activities.</p>	<p>Same as Alternative 2</p>
Potential Effects of Monitoring Activities on Nesting or Foraging Snowy Plovers	<p>Monitoring activities may bring biologists in contact with nesting snowy plovers on a regular basis, which could affect individual birds causing a change in their behavior in response to human presence.</p> <p>The potential effects are expected to be minimal because all monitors would be trained in accordance with the FWS standard protocol for monitoring populations of snowy plover. Monitoring would be completed in coordination with the ORNHIC, FWS, and OPRD to ensure that snowy plover populations would not be adversely affected.</p>	<p>The potential effects of monitoring activities on nesting or foraging snowy plovers would be slightly greater than in Alternative 1 due to an increased extent of monitoring activities at additional occupied sites.</p> <p>Similar to Alternative 1, the potential effects are expected to be minimal because all monitors would be trained in accordance with the FWS standard protocol for monitoring populations of snowy plover. Monitoring would be completed in coordination with the ORNHIC, FWS, and OPRD to ensure that snowy plover populations would not be adversely affected.</p>	<p>The potential effects of monitoring activities on nesting or foraging snowy plovers would be slightly greater than in Alternative 1 due to an increased extent of monitoring activities at additional occupied sites.</p> <p>Similar to Alternative 1, the potential effects are expected to be minimal because all monitors would be trained in accordance with the FWS standard protocol for monitoring populations of snowy plover. Monitoring would be completed in coordination with the ORNHIC, FWS, and OPRD to ensure that snowy plover populations would not be adversely affected.</p>

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
Potential Effects of Recreational Activities on Nesting Snowy Plover	<p>Recreational activities on dry sand portions of the beach may disturb nesting populations of snowy plover, including adults, eggs, and chicks.</p> <p>These effects are expected to be minimal because OPRD would implement recreation use restrictions at occupied snowy plover nesting areas anywhere nesting plovers appeared on OPRD owned or leased lands, including the HRA at the Bandon SNA. OPRD would also consider applications to limit recreational use on a case-by-case basis at occupied RMAs, as requested by the landowner. In addition, OPRD would implement Mitigation Measure WLD-1, which would involve improving the visibility of signage used to designate shorebird foraging areas for the public to avoid.</p>	<p>The potential effects of these recreational activities on nesting populations of snowy plover would be similar to those described for Alternative 1. Although recreational use restrictions would be limited to areas specifically targeted for snowy plover management (up to six SPMAs and 11 RMAs), these restrictions would be more prohibitive for both occupied and unoccupied sites compared with Alternative 1. In addition, OPRD would construct nest exclosures with a 50-meter radius (164-foot) buffer around occupied nests outside of SPMAs and RMAs.</p> <p>Similar to Alternative 1, OPRD would implement Mitigation Measure WLD-1, which would involve improving the visibility of signage used to designate shorebird foraging areas for the public to avoid.</p> <p>Finally, OPRD would commit to funding three full-time beach ranger positions to encourage compliance with beach restrictions. This would also provide greater benefits for wildlife compared with Alternative 1.</p>	<p>The potential effects of these recreational activities on nesting populations of snowy plover would be similar to those described for Alternative 1. Although recreational use restrictions would be limited to areas specifically targeted for snowy plover management (up to nine SPMAs and 12 RMAs), these restrictions would be more prohibitive for both occupied and unoccupied sites compared with Alternative 1. In addition, OPRD would construct nest exclosures with a 50-meter radius (164-foot) buffer around occupied nests outside of SPMAs and RMAs.</p> <p>Similar to Alternative 1, OPRD would implement Mitigation Measure WLD-1, which would involve improving the visibility of signage used to designate shorebird foraging areas for the public to avoid.</p> <p>Finally, OPRD could commit to funding three full-time beach ranger positions to encourage compliance with beach restrictions. This would also provide greater benefits for wildlife compared with Alternative 1.</p>
Potential Effects of Predator Management Activities on Nesting Shorebirds	<p>Predator management activities may affect nesting shorebirds if carried out in proximity to known nest locations.</p> <p>Although some short-term adverse effects of predator management could occur on populations of shorebirds, the potential for these effects would be considered on a case-by-case basis by OPRD, USDA, and the FWS. In addition, it is likely that shorebird populations would benefit from predator management activities and provide an overall benefit to shorebirds and snowy plover populations.</p>	<p>Similar to Alternative 1, predator management activities could affect nesting shorebirds if carried out in proximity to known nest locations. The level of funding provided under Alternative 2 would be similar to Alternative 1, but would increase as additional SPMAs are targeted for management over the term of the 25-year ITP.</p> <p>Similar to Alternative 1, the potential effects are expected to be beneficial overall to shorebirds and snowy plover populations.</p>	<p>Similar to Alternative 1, predator management activities could affect nesting shorebirds if carried out in proximity to known nest locations. The level of funding provided under Alternative 3 would be similar to Alternative 1, but would increase as additional SPMAs are targeted for management over the term of the 25-year ITP.</p> <p>Similar to Alternative 1, the potential effects are expected to be beneficial overall to shorebirds and snowy plover populations.</p>

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
Potential Effects of Habitat Maintenance on Nesting or Over wintering Shorebird Populations	<p>Activities associated with maintaining optimal habitat for nesting snowy plovers at the HRA in the Bandon SPMA have the potential to affect nesting and over wintering shorebird populations.</p> <p>The potential effect is expected to be minimal because maintenance work would be completed outside of the snowy plover nesting season. In addition, adult birds have the ability to move to other suitable locations when maintenance activities are occurring. In the long term, maintenance activities would ensure that suitable snowy plover nesting habitat is maintained at a level comparable to existing conditions.</p>	<p>Similar to Alternative 1, habitat maintenance activities have the potential to affect nesting or over wintering shorebird populations at the Bandon SMPA. However, the potential effect is expected to be minimal because maintenance work would be completed outside of the snowy plover nesting season.</p> <p>In addition, the overall benefit to shorebird populations is expected to be greater under Alternative 2 because OPRD would restore up to 40-acres of habitat at the following three targeted SPMAs: Columbia River South Jetty SPMA, Necanicum Spit SPMA, and Nehalem Spit SPMA. Over the term of the 25-year permit, maintenance and habitat restoration activities at these sites would increase the amount and quality of habitat available for snowy plover and other shorebirds, as compared to Alternative1.</p>	<p>Similar to Alternative 1, habitat maintenance activities have the potential to affect nesting or over wintering shorebird populations at the Bandon SMPA. However, the potential effect is expected to be minimal because maintenance work would be completed outside of the snowy plover nesting season.</p> <p>In addition, the overall benefit to shorebird populations is expected to be greater under Alternative 3 because OPRD would restore up to 40-acres of habitat at the following six targeted SPMAs: Columbia River South Jetty SPMA, Necanicum Spit SPMA, Nehalem Spit SPMA, Nestucca Spit, Bullards Beach, and Sixes River Mouth. Over the term of the 25-year permit, maintenance and habitat restoration activities at these sites would increase the amount and quality of habitat available for snowy plover and other shorebirds, as compared to Alternative1.</p>

3.8 Fish

Potential Effects on Marine Invertebrates from Motor Vehicle Use	<p>Beach driving has the potential to kill marine invertebrates on or in the sand and those that live in the wrack line. Sand may also be compacted, thereby destroying burrows or hiding places and forcing moisture from the sand. The potential long-term effects of these impacts are not known, nor are the indirect effects to fish prey and intertidal fish.</p> <p>Potential effects on marine invertebrates would increase over the next 25-years due to increases in recreational use on the Oregon coast.</p>	Same as Alternative 1	Same as Alternative 1
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Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
Potential Effects on Fishery Resources from Public Recreational Use	<p>Recreational use, including activities that introduce contaminants (oil) or draw larger groups of people, may affect fish and fish habitat by affecting water quality, affecting riparian vegetation, or increasing fishing pressure.</p> <p>Potential effects on recreational use would increase over the next 25-years due to increases in recreational use on the Oregon coast.</p>	Same as Alternative 1	Same as Alternative 1
Potential Benefits to Fishery Resources from Law Enforcement Activities	<p>OPRD staff would continue to patrol the beach and implement recreational use restrictions in accordance with existing management practices. These patrols could reduce poaching and provide protection for aquatic resources by decreasing opportunities for natural resource abuse.</p>	<p>In addition to activities discussed in Alternative 1, three full time beach ranger positions would be funded to encourage compliance with beach restrictions at SPMA's, and provide additional oversight protection for fishery resources.</p>	<p>In addition to activities discussed in Alternative 1, three full time beach ranger positions would be funded to encourage compliance with beach restrictions at SPMA's, and provide additional oversight protection for fishery resources.</p>

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
Potential Effects of Invasive Species Removal	<p>OPRD would continue to manage dunes in the study area to remove targeted invasive plant species. These activities would occur specifically on the dunes outside of the direct influence of tides and river outlets and are unlikely to affect fish or fish habitat.</p>	<p>In addition to activities discussed in Alternative 1, OPRD would restore up to 40 acres of snowy plover habitat in three separate locations. It is possible that restoration activities at the Columbia River South Jetty SPMA could create additional nesting habitat for Caspian terns, which are known to feed on juvenile salmonids. A site management plan would be minimize the potential for the inadvertent creation of Caspian tern nesting areas.</p> <p>Restoration activities at the Nehalem Spit SPMA, such as clearing large areas of non-native beach grass, may affect erosional processes and destabilize the beach sands. These actions could result in large-scale erosion over time. Such erosion could result in a net gain of shallow nearshore habitat and estuarine wetlands that benefit rearing salmonids. A site management plan would minimize the potential for site restoration to adversely effect aquatic resources.</p> <p>Overall, the effects of invasive species removal on fish and fish habitat under this alternative are likely to be minimal.</p>	<p>In addition to activities discussed in Alternative 1, OPRD would restore up to 40 acres of snowy plover habitat in six separate locations. These restoration activities would be the same as those mentioned under Alternative 2, although they would extend across three additional sites.</p> <p>Overall, the effects of invasive species removal on fish and fish habitat under this alternative are likely to be minimal.</p>

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
<p>3.9 Plant Communities</p>			
<p>Invasive Species Management</p>	<p>OPRD would continue to maintain the 50 acres of snowy plover nesting habitat that was restored at the HRA on the Bandon SPMA in 1998. Outside of this maintenance, additional dune management and invasive species control measures would be implemented in accordance with a statewide invasive species management plan that OPRD is currently preparing for State park property.</p> <p>Overall, this maintenance would reduce the extent of invasive plant species on covered lands over the next 25-years.</p>	<p>In addition to activities described under Alternative 1, OPRD would restore and remove invasive plant species from up to 40 acres of habitat at 3 of the following SPMA: Columbia River South Jetty SPMA, Nehalem Spit SPMA, and Necanicum Spit SPMA.</p> <p>Overall, management of invasive species resulting from implementation of a statewide invasive species management plan, maintenance activities at the Bandon SPMA, and restoration activities at 3 additional targeted SPMA would likely reduce the extent of invasive plant species on covered lands. These benefits would be similar to those described for Alternative 1, if not slightly greater due to the additional restoration efforts at the 3 additional SPMA.</p>	<p>In addition to activities described under Alternative 1, OPRD would restore and remove invasive plant species from up to 40 acres of habitat at six of the following SPMA: Columbia River South Jetty SPMA, Nehalem Spit SPMA, Necanicum Spit SPMA, Nestucca Spit, Bullards Beach, and Sixes River Mouth.</p> <p>Overall, management of invasive species resulting from implementation of a statewide invasive species management plan, maintenance activities at the Bandon SPMA, and restoration activities at 6 additional targeted SPMA would likely reduce the extent of invasive plant species on covered lands. These benefits would be similar to those described for Alternative 1, if not slightly greater due to the additional restoration efforts at the 6 additional SPMA.</p>
<p>Potential Effects on Special-Status Plant Species</p>	<p>OPRD would manage the public's use of the beach in accordance with existing management practices and to avoid potential effects on snowy plover habitat, some of which may support populations of sensitive plant species. In addition, efforts to control invasive species would likely allow native dune stabilizing species, including sensitive-status species, to re-colonize the study area. As such, Alternative 1 is expected to benefit special-status plant species over the next 25 years.</p>	<p>Under Alternative 2, OPRD would manage the public use of the beach to minimize potential effects on snowy plover habitat, some of which may support populations of sensitive plant species. Up to six SPMA and 11 RMA would be managed with additional recreational use restrictions under Alternative 2.</p> <p>OPRD would manage areas know to support special-status plant species to avoid conflicts with recreational use. Similar to Alternative 1, efforts to control invasive species and habitat maintenance and restoration activities at up to 4 other SPMA would likely allow native dune stabilizing species to recolonize the study area. As such, Alternative 2 is expected to provide more benefit to special-status species than Alternative 1.</p>	<p>Under Alternative 3, OPRD would manage the public use of the beach to minimize potential effects on snowy plover habitat, some of which may support populations of sensitive plant species. Up to nine SPMA and 12 RMA would be managed with additional recreational use restrictions under Alternative 3.</p> <p>OPRD would manage areas know to support special-status plant species to avoid conflicts with recreational use. Similar to Alternative 1, efforts to control invasive species and habitat maintenance and restoration activities at up to 6 other SPMA would likely allow native dune stabilizing species to recolonize the study area. As such, Alternative 3 is expected to provide more benefit to special-status species than Alternative 1.</p>

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
3.10 Soils and Dunes			
Potential Effects on Erosion and Sedimentation Rates	<p>Some of the covered activities, such as habitat restoration, involve ground-disturbing activities that could increase the risk of erosion and temporarily accelerate erosion and sedimentation rates. Accelerated erosion and sedimentation can adversely affect soil quality and water quality in nearby receiving waters.</p> <p>OPRD will prepare and implement ESCPs to control accelerated erosion and sedimentation resulting from restoration activities and to comply with the requirements of the General Permit and local grading and erosion control ordinances, as appropriate. Accordingly, this alternative would not have any direct adverse effects on erosion and sedimentation rates or soil and water quality in the study area.</p>	<p>Potential effects on erosion and sedimentation rates are similar to those discussed under Alternative 1; however, the extent of ground-disturbing activities would be greater under Alternative 2 due to proposed restoration activities at three additional sites.</p> <p>OPRD will prepare and implement ESCPs to control accelerated erosion and sedimentation resulting from restoration activities and to comply with the requirements of the General Permit and local grading and erosion control ordinances, as appropriate. Accordingly, this alternative would not have any direct adverse effects on erosion and sedimentation rates or soil and water quality in the study area.</p>	<p>Potential effects on erosion and sedimentation rates are similar to those discussed under Alternative 1; however, the extent of ground-disturbing activities would be greater under Alternative 3 due to proposed restoration activities at six additional sites.</p> <p>OPRD will prepare and implement ESCPs to control accelerated erosion and sedimentation resulting from restoration activities and to comply with the requirements of the General Permit and local grading and erosion control ordinances, as appropriate. Accordingly, this alternative would not have any direct adverse effects on erosion and sedimentation rates or soil and water quality in the study area.</p>
3.11 Cultural Resources			
Inadvertent Damage to Unknown Cultural Resources	<p>Some of the covered activities currently conducted by OPRD in the study area involve ground-disturbing activities that could potentially affect unknown cultural resources.</p> <p>Since OPRD avoided the location of documented cultural resource sites and known areas with a high potential for cultural resources in the selection of targeted snowy plover management areas, the likelihood of disturbance to cultural resources is minimal. In addition, implementation of Mitigation Measure CLT-1 would further ensure that these potential effects would be minimized.</p>	<p>Potential effects on unknown cultural resources are similar to those discussed under Alternative 1; however, the extent of ground-disturbing activities would be greater under Alternative 2 due to proposed restoration activities at three additional sites.</p> <p>Avoidance and minimization measures in the planning process decrease the likelihood of disturbance to cultural resources. In addition, implementation of Mitigation Measure CLT-1 would further ensure that these potential effects would be minimized.</p>	<p>Potential effects on unknown cultural resources are similar to those discussed under Alternative 1; however, the extent of ground-disturbing activities would be greater under Alternative 3 due to proposed restoration activities at six additional sites.</p> <p>Avoidance and minimization measures in the planning process decrease the likelihood of disturbance to cultural resources. In addition, implementation of Mitigation Measure CLT-1 would further ensure that these potential effects would be minimized.</p>

Potential Effects	Alternative 1 – Current Management (No Action)	Alternative 2 – Proposed HCP	Alternative 3 – Management of Additional OPRD Sites
3.12 Water Quality			
Potential Effects on Water Quality from Public Recreational Use	<p>Dog and horse feces, left on the beach following public recreational use, could contribute small amounts of bacteria to streams and estuaries in the study area. In addition, petroleum products could contribute pollutants into waterbodies in areas where motor vehicles are allowed.</p> <p>Potential effects on water quality from public recreational use would likely be minimal. These effects would increase, however, over the next 25-years due to expected increases in recreational use in the study area.</p>	Same as Alternative 1	Same as Alternative 1

ESCPs = Erosion and Sediment Control Plans
 FWS = Fish and Wildlife Service
 ODFW = Oregon Department of Fish and Wildlife
 OPRD = Oregon Parks and Recreation Department
 ORNHIC = Oregon Natural History Information Center
 RMA = Recreation Management Area
 USDA = U.S. Department of Agriculture

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Acronyms

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Fish and Wildlife Service (FWS) 1

Oregon Parks and Recreation Department (OPRD) 1

Endangered Species Act (ESA) 1

western snowy plover (snowy plover) 1

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