



# Final Environmental Impact Statement - Volume I

for the Western Snowy Plover Habitat Conservation Plan • August 2010





Western Snowy Plover Habitat Conservation Plan  
Final Environmental Impact Statement  
Volume I: Report

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# Acronyms and Abbreviations

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|                         |  |
|-------------------------|--|
| %                       | percent  |
| °C                      | Celsius  |
| °F                      | Fahrenheit   |
| µg/m <sup>3</sup>       | micrograms of pollutant per cubic meter of air                                       |
| ACHP                    | Advisory Council on Historic Preservation  |
| Alternative 2           | Proposed Habitat Conservation Plan   |
| ATV                     | all-terrain vehicle  |
| ATV/OHV                 | all-terrain vehicle/off-highway vehicle  |
| BC                      | Before Christ  |
| BLM                     | Bureau of Land Management  |
| BMP                     | best management practice   |
| CAA                     | Federal Clean Air Act  |
| CAAA                    | Clean Air Act Amendments of 1990   |
| CCP                     | Comprehensive Conservation Plan  |
| CFR                     | Code of Federal Regulations  |
| Chinook                 | Chinook salmon   |
| cm                      | centimeters  |
| CO                      | carbon monoxide  |
| CO <sub>2</sub>         | carbon dioxide   |
| coho                    | Southern Oregon/Northern California coho salmon                                      |
| Corps                   | U.S. Army Corps of Engineers   |
| covered lands           | The area covered by the alternatives addressed in this FEIS                          |
| CPC                     | Center for Plant Conservation  |
| Critical Habitat Report | Draft Economic Analysis of Critical Habitat Designation for the Western Snowy Plover |
| CWA                     | Clean Water Act  |
| CZMA                    | Coastal Zone Management Act  |
| dB                      | decibel  |

|                |  |
|----------------|--|
| dBA            | A-Weighted Decibel   |
| DDE            | dichloro-diphenyl-dichloroethylene   |
| DDT            | dichloro-diphenyl-trichloroethane  |
| DEIS           | Draft Environmental Impact Statement   |
| DLCD           | Oregon Department of Land and Conservation Development                         |
| DPS            | distinct population segment  |
| DSL            | Department of State Lands  |
| EFH            | essential fish habitat   |
| EIS            | Environmental Impact Statement   |
| EPA            | Environmental Protection Agency  |
| ESA            | Federal Endangered Species Act   |
| ESCP           | erosion and sediment control plan  |
| ESU            | Evolutionarily Significant Unit  |
| FEIS           | Final Environmental Impact Statement   |
| FMP            | Forest Management Plan   |
| GCVTC          | Grand Canyon Visibility Transport Commission                                   |
| General Permit | General Permit for Stormwater Discharges Associated with Construction Activity |
| GHG            | greenhouse gas   |
| HCP            | habitat conservation plan  |
| HRA            | Habitat Restoration Area   |
| I-5            | Interstate 5   |
| IA             | Implementing Agreement   |
| IPCC           | Intergovernmental Panel on Climate Change                                      |
| ITP            | incidental take permit   |
| km             | kilometer  |
| Leq            | equivalent sound level   |
| Lmax           | maximum sound levels   |
| MBTA           | Migratory Bird Treaty Act  |
| mg/l           | milligrams per liter   |
| mm             | millimeters  |

|                           |   |
|---------------------------|---|
| MMTCO <sub>2E</sub> /year | million metric tons of carbon dioxide equivalent per year |
| MOA                       | Memorandum of Agreement                                   |
| MOU                       | memorandum of understanding                               |
| NAAQS                     | National Ambient Air Quality Standard                     |
| NEPA                      | National Environmental Policy Act                         |
| NHPA                      | National Historic Preservation Act                        |
| NMFS                      | National Marine Fisheries Service                         |
| NO <sub>2</sub>           | nitrogen dioxide  |
| NOAA                      | National Oceanic and Atmospheric Administration           |
| NO <sub>x</sub>           | oxides of nitrogen  |
| NPDES                     | National Pollutant Discharge Elimination System           |
| NPS                       | National Park Service                                     |
| NRCS                      | Natural Resources Conservation Service                    |
| NRHP                      | National Register of Historic Place                       |
| NWFP                      | Northwest Forest Plan                                     |
| OAR                       | Oregon Administrative Rule                                |
| OCMP                      | Oregon Coastal Management Program                         |
| ODA                       | Oregon Department of Agriculture                          |
| ODEQ                      | Oregon Department of Environmental Quality                |
| ODFW                      | Oregon Department of Fish and Wildlife                    |
| ODSL                      | Oregon Department of State Lands                          |
| OHV                       | off-highway vehicle                                       |
| OPRD                      | Oregon Parks and Recreation Department                    |
| ORNHIC                    | Oregon Natural Heritage Information Center                |
| ORS                       | Oregon Revised Statute                                    |
| OSMP                      | Ocean Shore Management Plan                               |
| OVPP                      | Oregon Visibility Protection Plan                         |
| OWQI                      | Oregon Water Quality Index                                |
| Pb                        | lead  |
| PCBs                      | polychlorinated biphenyls                                 |
| PM <sub>10</sub>          | particulate matter smaller than 10 microns in diameter    |

|                        |   |
|------------------------|---|
| PM <sub>2.5</sub>      | particulate matter smaller than 2.5 microns or less in diameter   |
| ppm                    | parts per million   |
| Recovery Plan          | Western Snowy Plover Pacific Coast Population Draft Recovery Plan |
| recreational use study | Oregon Shore Recreational Use Study                               |
| RM                     | River Mile  |
| RMA                    | Recreation Management Area  |
| RMP                    | Resource Management Plan  |
| ROD                    | Record of Decision  |
| SAAQS                  | Oregon State Ambient Air Quality Standards                        |
| salmonids              | salmon species  |
| SHPO                   | Oregon State Historic Preservation Office                         |
| SIP                    | State Implementation Plan   |
| SNA                    | State Natural Area  |
| snowy plover           | western snowy plover  |
| SO <sub>2</sub>        | sulfur dioxide  |
| sockeye                | sockeye salmon  |
| SPMA                   | snowy plover management area                                      |
| steelhead              | steelhead trout   |
| TCDD                   | tetrachlorodibenzo-p-dioxin                                       |
| TMDL                   | Total Maximum Daily Load  |
| USC                    | United States Code  |
| USDA                   | U.S. Department of Agriculture                                    |
| USFS                   | U.S. Forest Service   |
| USFWS                  | U.S. Fish and Wildlife Service                                    |
| VOC                    | volatile organic compound   |

# 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 listed as endangered or threatened under the Federal Endangered Species Act (ESA) must first obtain an incidental take permit (ITP) from the U.S. Fish and Wildlife Service (USFWS). 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 USFWS for an ITP in accordance with Section 10(a)(1)(B) of the ESA. The issuance of an ITP from USFWS 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 include 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 362 total miles of Oregon coast). In addition, portions of five key State parks, State natural

areas, and State recreation areas are included in the covered lands. The covered lands do not include estuaries or river mouths, which are under the management of the Oregon Department of State Lands (DSL), or Federal lands within the Ocean Shore. Actions occurring on Federal lands are the responsibility of the Federal landowner and would be covered under separate consultation with USFWS. For more information about the description of covered lands, see “Covered Lands” in Chapter 1 of Volume I of the FEIS.

As part of their ITP application to USFWS, OPRD must submit a habitat conservation plan (HCP) that documents compliance with Section 10 of the ESA. The *Western Snowy Plover Habitat Conservation Plan* has been prepared to meet those requirements (Oregon Parks and Recreation Department 2008). The HCP was developed to contribute to the recovery of the snowy plover consistent with key elements of the *Western Snowy Plover Pacific Coast Population Final Recovery Plan* released by USFWS in 2007. The conservation measures for snowy plovers described in the HCP include management for snowy plovers on OPRD-owned or leased park unit lands, implementation of recreational use restrictions to reduce potential effects on snowy plovers on lands managed by OPRD, including other specifically identified lands (Recreation Management Areas [RMA]) owned by other landowners, and implementation of beach management activities within the covered lands.

Proposed issuance of an ITP by USFWS 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, USFWS is required to prepare NEPA review documents (i.e. the Draft Environmental Impact Statement [DEIS] and Final Environmental Impact Statement [FEIS]) to be circulated for public review and comment.

The DEIS was submitted for public review on November 5, 2007 and again on April 17, 2009. Following a 60-day public comment period on the DEIS in 2007, USFWS determined it was appropriate to extend the public comment period for two additional weeks. A second public comment period was announced on April 17, 2009, for 45 days. Upon the close of the second public comment period on June 1, 2009, USFWS reviewed and responded to comments in writing (Volume II of this FEIS) and incorporated changes to the proposed HCP and DEIS (Volume I of this FEIS). The resulting FEIS will be circulated for an additional 30-day public review period, after which USFWS will prepare a Record of Decision (ROD) that will formally document the permit issuance decision.

## Purpose and Need

The purpose for this action is to allow USFWS to respond to the OPRD application for an ITP. If issued, the ITP would authorize the incidental take of snowy plovers 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 USFWS 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, Implementing Agreement (IA), and 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 FEIS. 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 Ocean Shore, including recreation management, general beach management, and management of natural resources. Since populations of snowy plovers 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 plovers. In addition, OPRD must balance snowy plover management activities with the mandate to maintain the public's access to the Ocean Shore.

Each year, in coordination with 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 plovers 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 plovers. 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 land managed by OPRD, including lands owned by other landowners, is described in 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 HCP, is supported by the *Western Snowy Plover Habitat Conservation Plan* (Oregon Parks and Recreation Department 2008). The HCP was developed by OPRD, in collaboration with USFWS and Oregon Department of Fish and Wildlife (ODFW), to address potential effects on snowy plovers within the covered lands, and to meet the regulatory requirements of the Federal and State ESAs. The HCP was also developed to be consistent with the *Recovery Plan for the Pacific Coast Population of the Western Snowy Plover* (*Charadrius alexandrinus nivosus*) (U.S. Fish and Wildlife Service 2007a); 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 HCP. The HCP was also revised to reflect comments on the DEIS and draft HCP received during the public comment period.

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 on snowy plovers. Up to five Snowy Plover Management Areas (SPMAs) would be managed for nesting populations of snowy plovers by OPRD, including SPMAs at Bandon, Columbia River South Jetty, Necanicum Spit, Nehalem Spit, and Netarts Spit. OPRD would also implement recreational use restrictions at those five SPMAs and potentially up to 11 RMAs as they become occupied.

At SPMAs, OPRD would implement recreational use restrictions as determined by the site management plan for each SPMA. At RMAs, OPRD would only implement recreational use restrictions at occupied sites or at the request of the landowner as indicated by the site management plan for that RMA. If no site management plan was in place but the site was occupied, OPRD would automatically implement restrictions on the covered lands. OPRD would issue and continue to enforce recreational use restrictions within the full extent of the RMA until an agreement was

reached between USFWS and the landowner and/or a site management plan was developed, and OPRD was notified of any changes that may modify recreational use restrictions to a more focused area. OPRD would also work with USFWS and the landowner to provide limited nest protections at nesting sites located outside of SPMAs and RMAs within the covered lands.

Additional information on how management activities and restrictions would be implemented within the covered lands is described in 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 on snowy plovers similar to Alternative 2. Four additional SPMAs would be managed for nesting populations of snowy plovers by OPRD for a total of nine SPMAs, including SPMAs at Bandon, Necanicum Spit, Columbia River South Jetty, Nestucca Spit, Pistol River, Nehalem Spit, Netarts Spit, Bullards Beach, and Sixes River Mouth. OPRD would implement recreational use restrictions at these SPMAs and potentially up to 12 RMAs as they become occupied.

Similar to Alternative 2, OPRD would implement recreational use restrictions as determined by the site management plan for each SPMA. At RMAs, OPRD would only implement recreational use restrictions at occupied sites or at the request of the landowner as indicated by the site management plan for that RMA. If no site management plan was in place, but the site was occupied, OPRD would automatically implement restrictions within the covered lands. OPRD would issue and continue to enforce recreational use restrictions within the full extent of the RMA until an agreement was reached between USFWS and the landowner, and/or a site management plan was developed, and OPRD was notified of any changes that may modify recreational use restrictions to a more focused area. OPRD would also work with USFWS and the landowner to provide limited nest protections at nesting sites located outside of SPMAs and RMAs within the covered lands. .

Additional information on management activities and restrictions that would be implemented within the covered lands is described in Section 2.3.3, “Alternative 3 – Management of Additional OPRD Sites.”

## **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.”

**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   |
|--|---|---|---|
| <b>3.2 LAND USE</b>  |   |   |   |
| Consistency with Federal, State, and Local Land Use Plans and Policies   | <p>OPRD is responsible for managing the Ocean Shore as granted by the Beach Bill. OPRD would retain the right to implement activities associated with recreation, beach, and natural resource management on the covered lands and would obtain a local grading permit prior to implementing any modifications to the Ocean Shore.</p> <p>In addition, the site management plans specifying management actions at SPMA/RMAs would be required to be consistent with local county comprehensive plans and zoning ordinances, which will limit the potential for any adverse effects on land use. Therefore, Alternative 1 would be consistent applicable land use plans and policies.</p> | Same as Alternative 1   | Same as Alternative 1   |
| <b>3.3 RECREATION</b>  |   |   |   |
| Potential Effects of the Covered Activities on Recreational Use Opportunities at Unoccupied Areas Actively Managed for Snowy Plovers | <p>OPRD would not actively manage any unoccupied locations to attract nesting populations of snowy plovers.</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 4 currently unoccupied SPMA (Columbia River South Jetty, Necanicum Spit, Nehalem Spit, and Netarts Spit) 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 four unoccupied SPMA and all 6 unoccupied RMAs), or that do not already 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 that do not already 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 of the Covered Activities on Recreational Use Opportunities at Sites Occupied by Snowy Plovers | <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 compared to existing conditions.</p> <p>Because these restrictions would also be implemented anywhere along the Oregon coast, Alternative 1 has the potential 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 five SPMAs and 11 RMAs once a site became occupied by nesting snowy plovers: prohibition of dog exercising, driving, non-motorized vehicle use, kite flying, and activities as indicated by roping and signage on portions of the dry sand.</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 SPMAs and RMAs. Outside of these areas, the restrictions would be limited to a 50-meter area around a nesting site. Under Alternative 1, the nature and extent of the restrictions would be determined on a case-by-case basis with USFWS 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 SPMAs and RMAs. Alternative 2 would be less restrictive than Alternative 1 with respect to occupied sites outside of SPMAs or RMAs.</p> | <p>OPRD would implement the following restrictions during the nesting season at up to nine SPMAs and 12 RMAs once a site became occupied by nesting snowy plovers: prohibition of dog exercising, driving, non-motorized vehicle use, kite flying, and activities as indicated by roping and signage on portions of the dry sand.</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 SPMAs and RMAs. Outside of these areas, the restrictions would be limited to a 50-meter area around a nesting site. Under Alternative 1, the nature and extent of the restrictions would be determined on a case-by-case basis with USFWS 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 SPMAs and RMAs. Alternative 3 would be less restrictive than Alternative 1 with respect to occupied sites outside of SPMAs or RMAs.</p> |

| Potential Effects   | Alternative 1 – Current Management (No Action)   | Alternative 2 – Proposed HCP | Alternative 3 – Management of Additional OPRD Sites |
|---|--|------------------------------|---|
| <b>3.4 SOCIOECONOMICS</b>   |  |                              |   |
| Potential Effects of the Covered Activities 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 close proximity to the potentially restricted areas.</p>  | Same as Alternative 1        | Same as Alternative 1                               |
| Potential Disproportionate Effects of the Covered Activities 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, as determined in Section 3.3, "Recreation," the potential for effects on recreational use is minimal. Furthermore, 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                               |
| <b>3.5 AIR QUALITY</b>  |  |                              |   |
| 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   | Alternative 1 – Current Management (No Action)  | Alternative 2 – Proposed HCP   | Alternative 3 – Management of Additional OPRD Sites  |
|---|---|--|--|
| Potential Effects on Global Climate Change Caused by Emissions From Construction Equipment for Beach Restoration Projects | Alternative 1 would not contribute substantial green-house 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  |
| <b>3.6 NOISE</b>  |   |  |  |
| Potential Effects of the Covered Activities on Noise-Sensitive Receptors  | <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. |
| <b>3.7 WILDLIFE</b>   |   |  |  |
| 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 Plovers   | <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.</p> <p>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 the rules governing driftwood collection would limit the amount of driftwood removed from sensitive sites. Additional restrictions on driftwood collection and removal in the vicinity of SPMA's would be outlined in the site management plans prepared for each SPMA, as necessary.</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, the public outreach and education program would increase public awareness of the beach as habitat for shorebirds.</p>   | Same as Alternative 1        | Same as Alternative 1                               |
| 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 on sensitive wildlife species are expected to be minimal because OPRD would, as time permits, attempt to contact USFWS 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 USFWS and ODFW after the emergency response effort to determine if any habitat rehabilitation or other mitigation measures are necessary to compensate for effects on wildlife species.</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 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 USFWS 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 USFWS 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 USFWS to ensure that potential effects from predator management activities are minimized.</p>  |
| 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 USFWS, 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>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>   |
| 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 USFWS standard protocol for monitoring populations of snowy plovers. Monitoring would be completed in coordination with the ORNHIC, USFWS, 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 USFWS standard protocol for monitoring populations of snowy plovers. Monitoring would be completed in coordination with the ORNHIC, USFWS, 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 USFWS standard protocol for monitoring populations of snowy plovers. Monitoring would be completed in coordination with the ORNHIC, USFWS, and OPRD to ensure that snowy plover populations would not be adversely affected.</p> |
| Potential Effects of Global Climate Change on Nesting Shorebirds   | <p>Alternative 1 would not contribute substantial green-house 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>   | <p>Same as Alternative 1. Nonetheless, under Alternative 2, if rising sea levels result in a net loss of snowy plover nesting habitat over the term of the ITP, OPRD would discuss with USFWS appropriate implementation measures to address the changes.</p>  | <p>Same as Alternative 1</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 Plovers     | <p>Recreational activities on dry sand portions of the beach may disturb nesting populations of snowy plovers, 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 snowy 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, and would continue to pursue agreements with Federal landowners to jointly issue restricts on adjacent ownerships within the Ocean Shore Boundary. OPRD would also continue to fund three full time beach ranger positions to encourage compliance with Ocean Shore and State Park rules and would contract with State Troopers and other law enforcement officials as needed.</p> | <p>The potential effects of these recreational activities on nesting populations of snowy plovers 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 five SPMA and 11 RMA), these restrictions would be more prohibitive for both occupied and unoccupied sites compared with Alternative 1. In addition, OPRD would establish a 50-meter radius (164-foot) roped buffer around occupied nests outside of SPMA and RMA, and would consider installing a nest enclosure if necessary to protect the nest from predation after consultation with USFWS.</p> <p>OPRD would also commit to continuing to fund three full-time beach ranger positions to encourage compliance with beach restrictions and would contract with State Troopers and other law enforcement officials as needed. 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 plovers 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 SPMA and 12 RMA), these restrictions would be more prohibitive for both occupied and unoccupied sites compared with Alternative 1. In addition, OPRD would establish a 50-meter radius (164-foot) roped buffer around occupied nests outside of SPMA and RMA, and would consider installing a nest enclosure if necessary to protect the nest from predation after consultation with USFWS.</p> <p>OPRD would also commit to continuing to fund three full-time beach ranger positions to encourage compliance with beach restrictions and would contract with State Troopers and other law enforcement officials as needed. 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. 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 USFWS. 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 SPMA 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 SPMA 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 Overwintering Shorebird Populations | <p>Activities associated with maintaining optimal habitat for nesting snowy plovers at the HRA in the Bandon SNA have the potential to affect nesting and overwintering 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 overwintering 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 SPMA: Columbia River South Jetty SPMA, Nehalem Spit SPMA, and Necanicum Spit SPMA, as necessary. 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 plovers and other shorebirds, as compared to Alternative 1.</p> | <p>Similar to Alternative 1, habitat maintenance activities have the potential to affect nesting or overwintering 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 SPMA: 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 plovers and other shorebirds, as compared to Alternative 1.</p> |
| <b>3.8 FISH</b>  |  |  |  |
| Potential Effects on Marine Invertebrates from Motor Vehicle Use                           | <p>Beach driving has the potential to affect 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 on 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>   | <p>Motor vehicle use would be prohibited during the nesting season at occupied SPMA and adjacent RMAs, which would represent a reduction in motor vehicle use in areas where driving is not already prohibited under Alternative 1. Alternative 2 may reduce potential impacts on marine invertebrates compared to Alternative 1.</p>  | <p>Motor vehicle use would be prohibited during the nesting season at occupied SPMA and adjacent RMAs, which would represent a reduction in motor vehicle use in areas where driving is not already prohibited under Alternative 1. Alternative 3 may reduce potential impacts on marine invertebrates compared to Alternative 1.</p>  |
| 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 fisheries resources would increase over the next 25 years due to increases in recreational use on the Oregon coast.</p>   | <p>Some recreational uses would be restricted near areas managed for nesting populations of snowy plovers. This could reduce the potential effects of recreation on aquatic resources in those areas and compared to Alternative 1.</p>  | <p>Some recreational uses would be restricted near areas managed for nesting populations of snowy plovers. This could reduce the potential effects of recreation on aquatic resources in those compared to Alternative 1.</p>  |

| Potential Effects   | Alternative 1 – Current Management (No Action)   | Alternative 2 – Proposed HCP   | Alternative 3 – Management of Additional OPRD Sites  |
|---|--|--|--|
| Potential Benefits to Fishery Resources from Law Enforcement Activities | 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. | Same as Alternative 1  | Same as Alternative 1  |
| Potential Effects of Invasive Species Removal                           | 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.                  | Restoration activities under Alternative 2, including the removal of invasive species, would be coordinated with the resource agencies to ensure that adverse impacts on fish and fish habitat do not occur. | Restoration activities under Alternative 3, including the removal of invasive species, would be coordinated with the resource agencies to ensure that adverse impacts on fish and fish habitat do not occur. |

### 3.9 PLANT COMMUNITIES

|  |  |   |   |
|--|--|---|---|
| Potential Effects of Invasive Species Management | <p>OPRD would continue to maintain the 50 acres of snowy plover nesting habitat that was restored at the HRA on the Bandon SNA 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 the following three SPMA, as necessary: 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 three 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.</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 the following six SPMA, as necessary: 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 six 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.</p> |
|--|--|---|---|

| Potential Effects   | Alternative 1 – Current Management (No Action)  | Alternative 2 – Proposed HCP  | Alternative 3 – Management of Additional OPRD Sites   |
|---|---|---|---|
| Potential Effects of the Covered Activities on Special-Status Plant Species | 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. | 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 five SPMA's and 11 RMA's would be managed with additional recreational use restrictions under Alternative 2.<br><br>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 SPMA's 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. | 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's and 12 RMA's would be managed with additional recreational use restrictions under Alternative 3.<br><br>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 SPMA's 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. |

### 3.10 SOILS AND DUNES

|  |   |   |   |
|--|---|---|---|
| Potential Effects of the Covered Activities on Erosion and Sedimentation Rates | 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.<br><br>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. | 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.<br><br>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. | 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.<br><br>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. |
|--|---|---|---|

| Potential Effects   | Alternative 1 – Current Management (No Action)   | Alternative 2 – Proposed HCP   | Alternative 3 – Management of Additional OPRD Sites  |
|---|--|--|--|
| <b>3.11 CULTURAL RESOURCES</b>                                  |  |  |  |
| 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> |
| <b>3.12 WATER QUALITY</b>                                       |  |  |  |
| 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; USFWS = U.S. 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

## Overview of Revisions to the DEIS

A number of revisions were incorporated into the DEIS to reflect changes to the conservation measures associated with Alternatives 2 and 3 as a result of public comment, and/or to clarify or correct information or analyses presented in that document. The substantive changes, as presented in Volume I of this FEIS, are summarized below.

- Chapter 1, “Covered Lands”
  - Federal Land Ownership within the Ocean Shore. The discussion of the covered lands has been updated to acknowledge the presence of Federal lands within the Ocean Shore. These lands have been removed as part of the covered lands because Federal landowners will continue to be responsible for management of their lands, including any necessary compliance with the Federal ESA for potential effects on snowy plovers. Therefore, any actions on these lands, regardless of who conducts them, would be the responsibility of the Federal landowner, and would require separate consultation with USFWS.
- Chapter 2, “Alternatives”
  - Management of Occupied Snowy Plover Nesting Areas – The definition of occupancy has been added to Chapter 2 under the description of Alternative 2 and has been updated to state that occupancy includes nests or nesting attempts made adjacent to RMAs on federally owned lands.
  - Pistol River SPMA. OPRD has removed the option for management of an SPMA at Pistol River under Alternative 2. In exchange, OPRD is proposing to extend the northern boundary of the Bandon SPMA to the south end of the China Creek access parking lot. Trail access to the beach would be rerouted to the new north access. Figure 1-9 has been updated to depict the new boundary, and the descriptions of the conservation measures associated with Alternative 2 have been updated in the FEIS.
  - Protections for Nests Outside Targeted Areas. The FEIS has been updated to reflect that exclosures may not always be used at individual nest sites found outside of occupied SPMAs or RMAs on the covered lands. Rather, OPRD would work with USFWS to determine if installation of nest exclosures would be in the best interest of the nest, based on the predator population and recreational use in a given area. Implementation of nest protections would be implemented on all lands outside of SPMAs and RMAs within the covered lands, not just those owned or leased by OPRD. This correction does not affect the analysis completed in the DEIS.

- Snowy Plover Monitoring, Reporting, and Enforcement.
  - o *Monitoring.* The commitments to monitoring have been updated to clarify that OPRD would continue to participate in and fund detect/non-detect monitoring, breeding population monitoring, and wintering and breeding window surveys.
  - o *Reporting.* Reporting requirements have been updated to reflect that OPRD would complete an annual report documenting OPRD's management actions to date and describing anticipated efforts for the following year. The annual compliance report would be used by USFWS to evaluate the effectiveness of the HCP conservation measures. OPRD would also review the HCP with USFWS and ODFW every 5 years after issuance of the ITP.
  - o *Enforcement.* Commitments to law enforcement have been clarified to note that the three existing full-time beach ranger positions would continue to be funded under the HCP, and that their responsibilities would be to enforce compliance with all Ocean Shore and State Park rules, including beach use restrictions designed to protect snowy plovers. Other State Park staff and contracted enforcement personnel would be used as needed.
- Public Outreach and Education. Chapter 2 has been updated to clarify that OPRD would erect signage at beach access points, at the boundaries of restricted areas within SPMA's and RMA's, and at nesting locations outside of SPMA's/RMA's on the covered lands. Signage would be used to alert the public to the presence of snowy plovers and the measures that have been put in place to protect them. The exact location and information presented on these signs would be determined during development of site-specific management plans.
- Changed Circumstances. The discussion of changed circumstances has been updated to reflect that three circumstances could change during the term of the ITP and could affect the ability of OPRD to properly implement the HCP. These circumstances include the listing of a new species, potential environmental changes associated with global climate change and rising sea levels, and effects on wintering snowy plovers rising to the level of take.
  - o Although it is not anticipated that effects on wintering populations of snowy plovers would rise to the level of take and OPRD is not seeking take coverage for wintering snowy plovers, a discussion of wintering effects has been added as a potential changed circumstance to Chapter 2.
  - o Other changed circumstances identified in the draft HCP and DEIS were removed because they were otherwise covered by the management actions and conservation measures in the HCP (e.g., management of

invasive species), or were more appropriately addressed in unforeseen circumstances.

- Chapter 3, “Affected Environment, Environmental Consequences, and Cumulative Effects”
  - Section 3.1, “Land Use”
    - o The FEIS has been updated to clarify that habitat restoration activities proposed at SPMAs under Alternatives 2 and 3 would be designed to be consistent with county comprehensive plans and zoning ordinances as indicated in the site management plan.
  - Section 3.3, “Recreation”
    - o The HCP, and associated references in the FEIS under Alternatives 2 and 3, have been updated to clarify how the recreational use restrictions would be implemented at RMAs. In the event that an RMA became occupied, but no site management plan was in place, OPRD would automatically implement recreational use restrictions on the covered lands. OPRD would issue and continue to enforce recreational use restrictions within the full extent of the RMA until an agreement is reached between USFWS and the landowner, and/or a site management plan is developed, and OPRD is notified of any changes that may modify recreational use restrictions to a more focused area. These clarifications do not change the outcome of the analysis as it was presented in the DEIS.
    - o The FEIS has been updated to clarify that dry sand restrictions would apply to the entire extent of the management area at SPMAs and RMAs rather than to smaller areas within the managed boundary as indicated by roping and signage. As mentioned above, the extent of the restrictions could be refined through development of the site management plans or in consultation with USFWS. Because the analysis in Section 3.3 considered the most restrictive scenario on recreational use, this clarification does not change the analysis conducted in the DEIS.
    - o The FEIS and HCP have been updated to indicate that exceptions to the driving restrictions would be made for administrative uses, such as such as access for emergency and law enforcement vehicles and snowy plover monitors, and to provide for land management.
  - Section 3.4, “Socioeconomics and Environmental Justice”
    - o The discussion of the environmental consequences of the alternatives on environmental justice populations has been updated to clarify that potential effects would be minimal under all alternatives because the overall socioeconomic and recreational effects are minimal. In addition,

low income and minority populations are not disproportionately represented among beach visitors.

- Section 3.7, “Wildlife and Their Habitat”
  - o Snowy plover population data have been corrected and updated to include data through the 2007 breeding season.
  - o Mitigation Measure WLD-1 has been incorporated into the conservation measures proposed as part of Alternatives 2 and 3 and is, therefore, no longer needed as a mitigation measure.
- Section 3.8, “Fish and Their Habitat”
  - o The listing and critical habitat status of Oregon Coast coho has been updated to reflect the revised 2008 listing by the National Marine Fisheries Service (NMFS).
  - o The discussion of the potential effects of the alternatives has been clarified to reflect that proposed activities associated with Alternatives 2 and 3 are not anticipated to affect fish or their habitat.
- Section 3.13, “Cumulative Effects”
  - o The section regarding the cumulative effects of the Siuslaw National Forest Management Plan has been updated to reflect that the potential effects of the management activities implemented by the U.S. Forest Service, including habitat restoration, predator control, and beach closures, would have the potential to result in cumulatively beneficial effects on snowy plovers and other shorebirds. These activities are not to be confused with those proposed under the different alternatives analyzed in this FEIS.