

## **Chapter 2. Refuge Management Direction**

### **2.1 Considerations in the Design of the CCP**

In thinking through appropriate actions for this long-term conservation plan, Refuge Complex staff members reviewed and considered a variety of resource, social, economic, and organizational aspects important for managing these refuges. As is appropriate for a national wildlife refuge, resource considerations were fundamental in developing this plan. House Report 105-106 accompanying the National Wildlife Refuge System Improvement Act of 1997 (P.L. 105-57) amending the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee) states “. . .the fundamental mission of our System is wildlife conservation: wildlife and wildlife conservation must come first.”

The planning team for the Complex reviewed available scientific reports and studies to better understand ecosystem trends and the latest scientific recommendations for managing and conserving species and their habitats.

Local, state, and federal agencies and elected officials were contacted by the refuge planning team to ascertain priorities and problems as perceived by others. The team also contacted refuge users, nonprofit groups, and community organizations to ensure that their comments and ideas were considered during CCP development. Details of public participation can be found within Chapter 1, section 1.9 Planning and Issue Identification.

### **2.2 General Guidelines**

General guidelines for implementing the CCP follow, as do maps that summarize the proposed CCP actions by refuge. These maps are labeled Figure 2-1 (North Coast); Figure 2-2 (Central Coast); Figure 2-3 (South Coast); Figure 2-4 (Cape Meares detail); Figure 2-5 (Three Arch Rocks detail); and Figure 2-6 (Oregon Islands Coquille Point Unit detail).

To reduce the length and redundancy of the descriptions for individual refuges, common features are presented below. Refuge names have been listed within the text as appropriate when the highlighted item is applicable only to that specific refuge.

#### **2.2.1 Implementation subject to funding availability**

Actions (strategies) will be implemented over the life of the CCP, contingent upon available funding. It is the intent of the planning team that annual priorities will follow the final CCP guidelines, although funding initiatives, unforeseeable management challenges, and varying budgets may impact feasibility of actions from year to year. The CCP will be reviewed every five years and updated as necessary throughout its life.

#### **2.2.2 Fire management plans**

The 2004 Wildland Fire Management Plans for Cape Meares and Oregon Islands NWRs detail response to the threat of wildfire and under what circumstances the Refuges will use wildland fire as a tool on refuge lands. Three Arch Rocks NWR is covered under a signed exemption from the requirement for a fire management plan. The fire management plans and the exemption are incorporated through reference in the CCP.

### 2.2.3 Invasive species control

The greatest threats to most habitat types on these Refuges are invasive plant and animal species. Therefore, control/eradication of invasive species that negatively impact refuge wildlife populations or habitats will be a strategy during the life of the CCP. The top priorities for control are sea fig (a.k.a. ice plant, *Carpobrotus chilensis*), Himalayan blackberry (*Rubus discolor*), tansy ragwort (*Senecio jacobaea*) and introduced mammalian predators including rats (*Rattus norvegicus*), feral cats (*Felis catus*), and red fox (*Vulpes vulpes*). Invasive plants and animals will be treated with integrated pest management techniques and tools.

### 2.2.4 Integrated pest management (IPM)

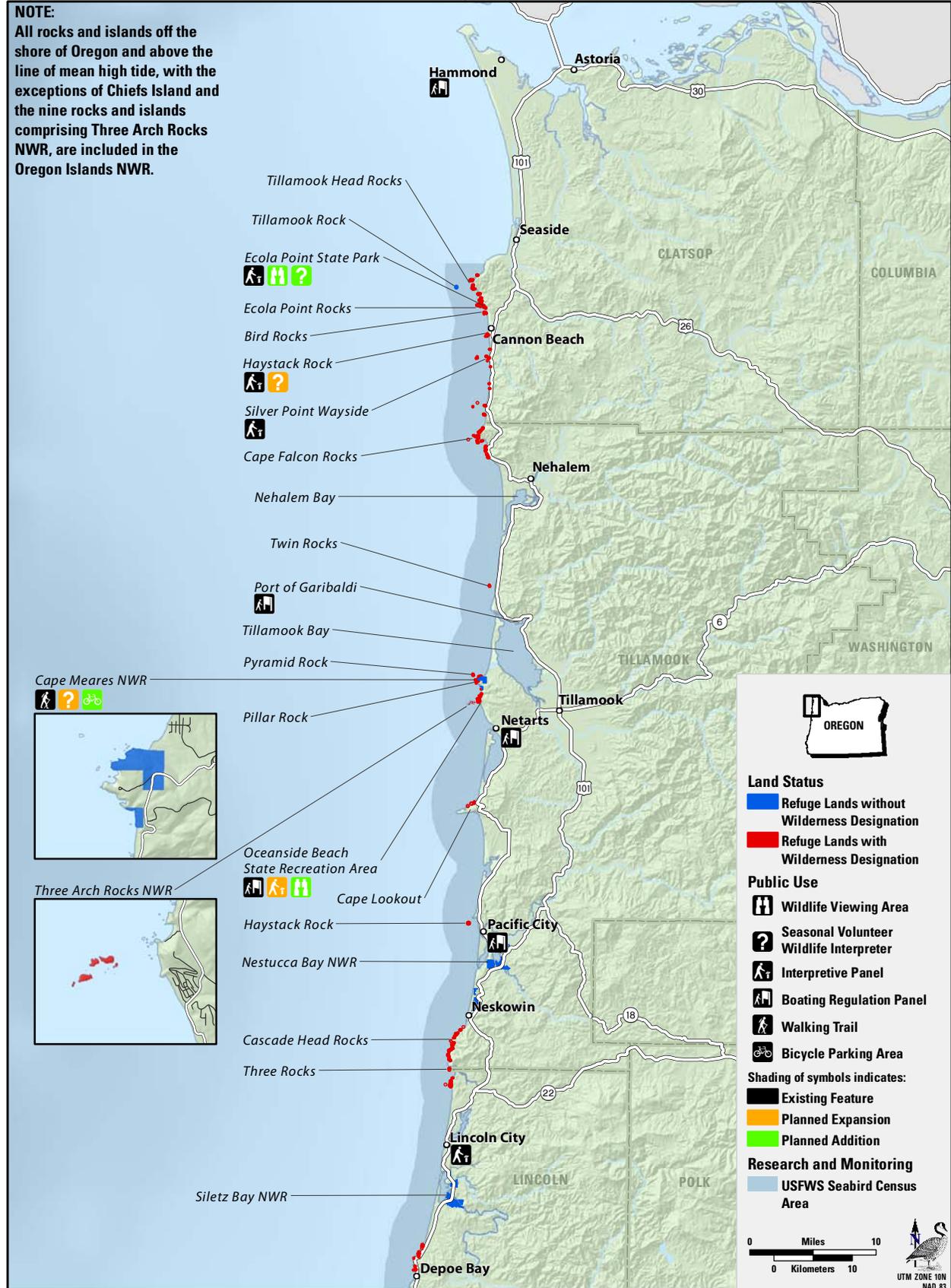
In accordance with 517 DM 1 and 7 RM 14, an integrated pest management (IPM) approach will be utilized, where practicable, to eradicate, control, or contain pest and invasive species (herein collectively referred to as pests) on the Refuges. Integrated pest management will involve using methods based upon effectiveness, cost, and minimal ecological disruption, which considers minimum potential effects to non-target species and the refuge environment. Pesticides may be used where physical, cultural, and biological methods or combinations thereof, are impractical or incapable of providing adequate control, eradication, or containment. Furthermore, pesticides will be used primarily to supplement, rather than as a substitute for, practical and effective control measures of other types. If a pesticide would be needed on a refuge, the most specific (selective) chemical available for the target species would be used unless considerations of persistence or other environmental and/or biotic hazards would preclude it. In accordance with 517 DM 1, pesticide usage will be further restricted because only pesticides registered with the U.S. Environmental Protection Agency (USEPA) in full compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and as provided in regulations, orders, or permits issued by USEPA may be applied on lands and waters under the Complex's jurisdiction.

Environmental harm by pest species will refer to a biologically substantial decrease in environmental quality as indicated by a variety of potential factors including declines in native species populations or communities, degraded habitat quality or long-term habitat loss, and/or altered ecological processes. Environmental harm may be a result of direct effects of pests on native species including preying and feeding on them; causing or vectoring diseases; preventing them from reproducing or killing their young; out-competing them for food, nutrients, light, nest sites or other vital resources; or hybridizing with them so frequently that within a few generations, few if any truly native individuals remain. In contrast, environmental harm can be the result of an indirect effect of pest species. For example, invasive sea fig (ice plant) is present on the mainland and on a number of other nearshore rocks and is spreading. This introduced plant species forms vast monospecific zones, lowering biodiversity, outcompeting native plants, and eliminating habitat for burrow-nesting seabird species.

Environmental harm may also include detrimental changes in ecological processes, and may cause or be associated with economic losses and damage to human, plant, and animal health. For example, invasions by highly flammable European gorse (*Ulex europaeus*), which alters entire plant and animal communities by eliminating or sharply reducing populations of many native plant and animal species, can also greatly increase fire prevention and fire-fighting costs.

Along with a more detailed discussion of IPM techniques, the Complex's IPM Plan (2009) describes the selective use of pesticides for pest management on the Complex Refuges, where

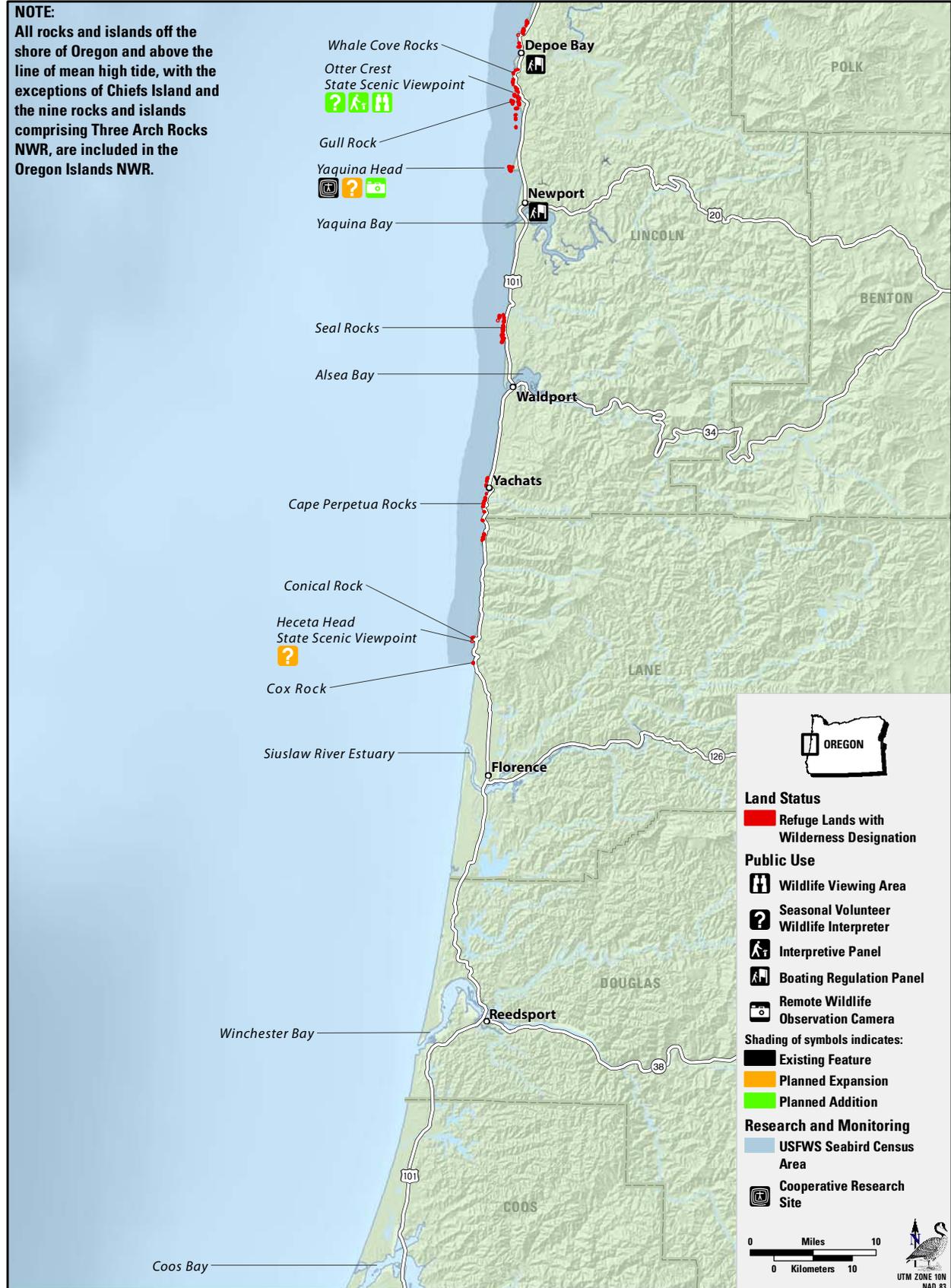
**Figure 2-1. North Coast National Wildlife Refuges and Wilderness Areas CCP/WSP Overview**



Data Sources: Refuge Boundaries from USFWS/R1; Roads from ESRI; County Boundaries from BLM; Hydrology from NOAA and USGS; Elevation from USGS

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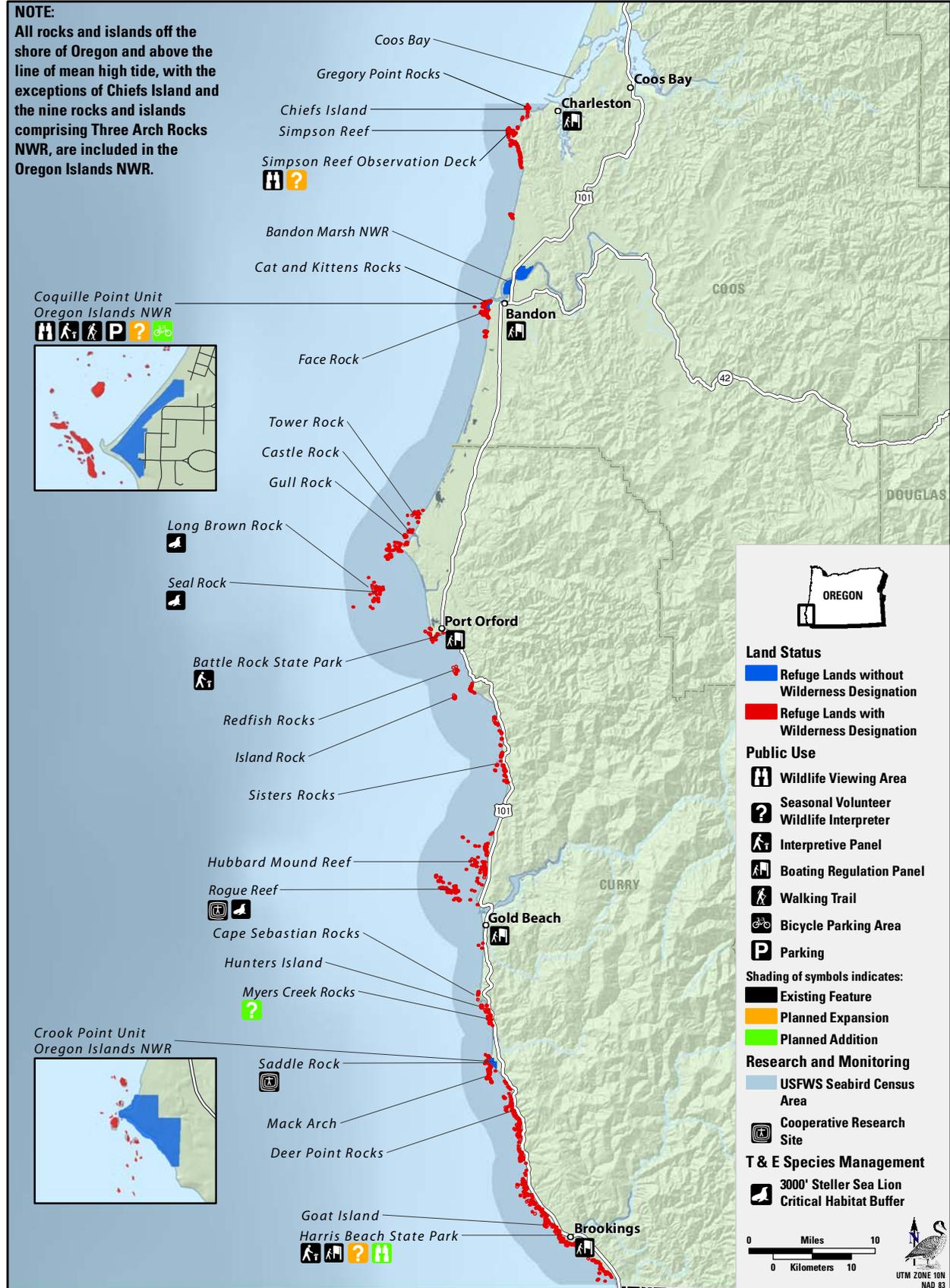
**Figure 2-2. Central Coast CCP/WSP Overview - Oregon Islands NWR and Wilderness Area**



Data Sources: Refuge Boundaries from USFWS/R1; Roads from ESRI; County Boundaries from BLM; Hydrology from NOAA and USGS; Elevation from USGS

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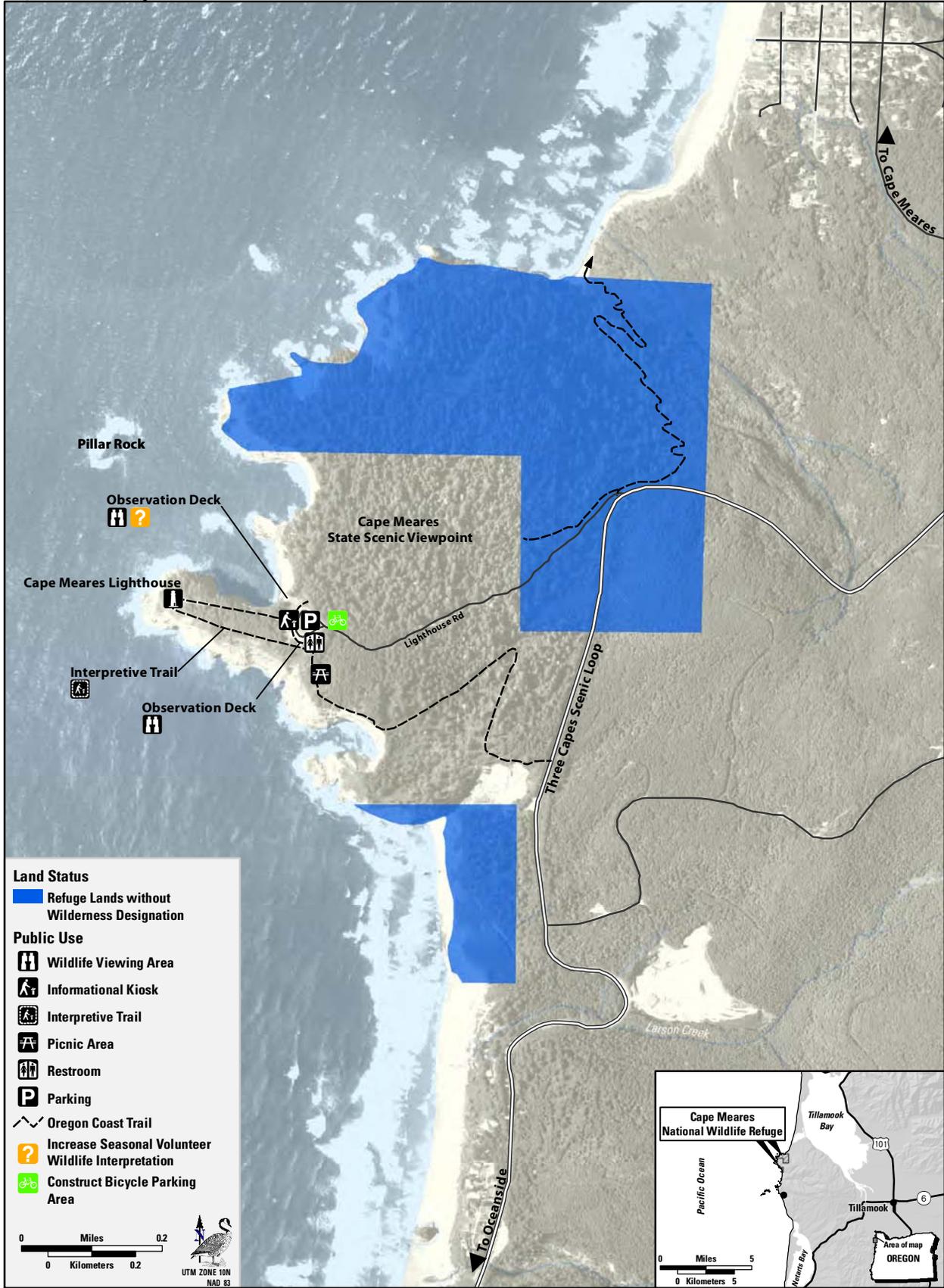
**Figure 2-3. South Coast CCP/WSP Overview - Oregon Islands NWR and Wilderness Area**



Data Sources: Refuge Boundaries from USFWS/R1; Roads from ESRI; County Boundaries from BLM; Hydrology from NOAA and USGS; Elevation from USGS

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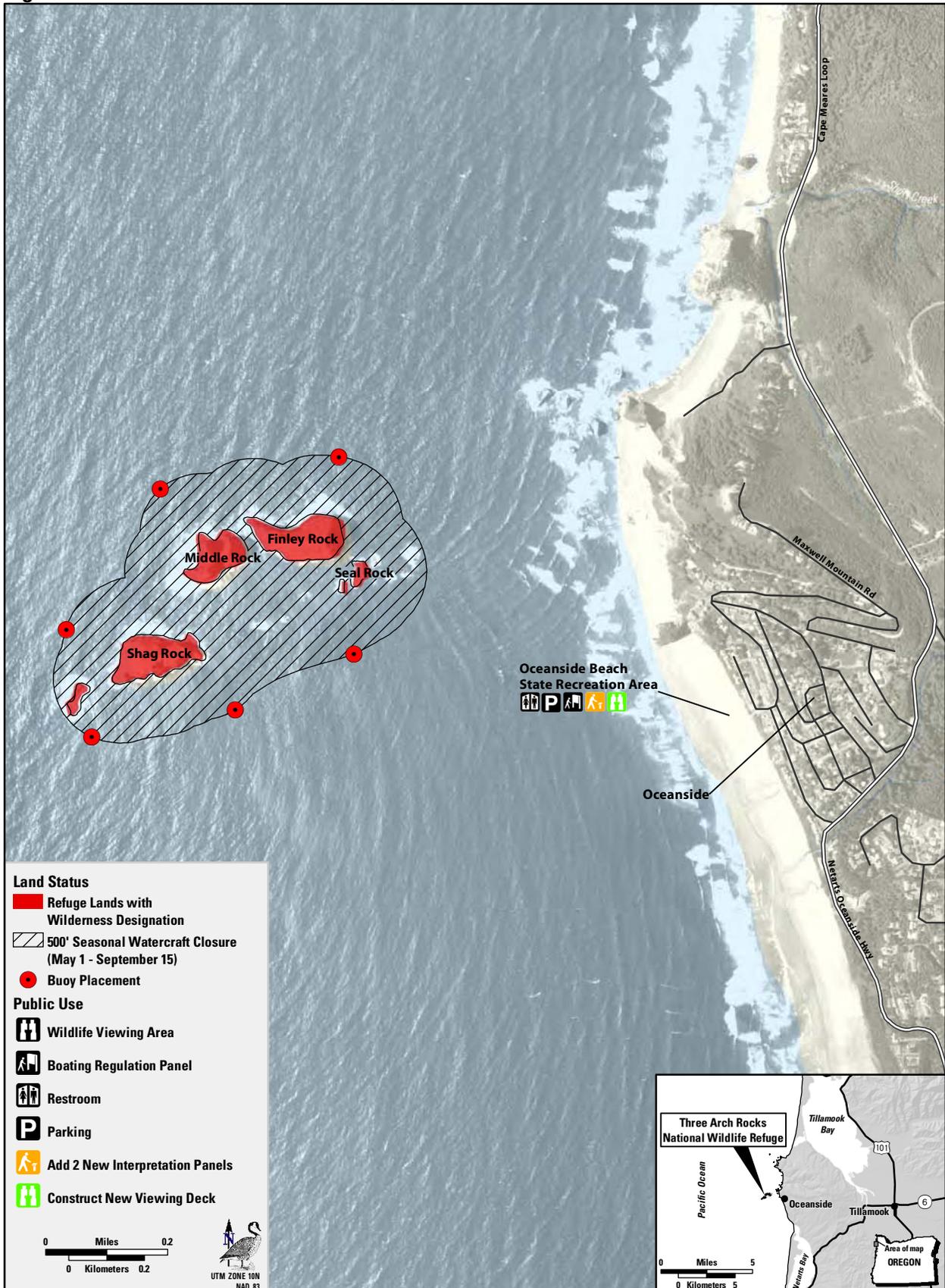
Figure 2-4. Cape Meares NWR CCP Detail



Data Sources: Refuge Boundaries and Public Use from USFWS/R1; Roads from ESRI; Hydrology from NOAA and USGS; Imagery from 2005 NAIP

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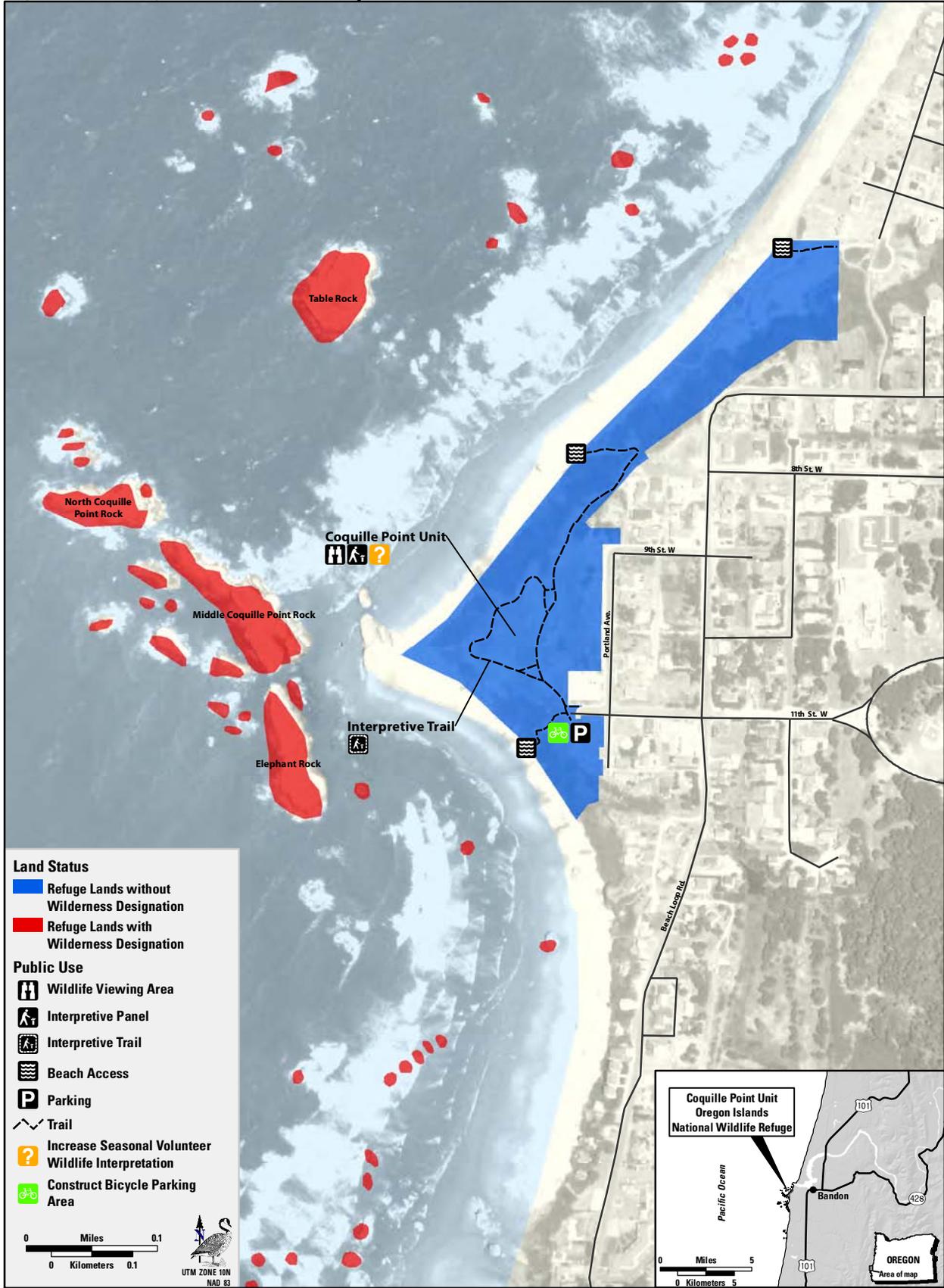
Figure 2-5. Three Arch Rocks NWR CCP/WSP Detail



Data Sources: Refuge Boundaries and Public Use from USFWS/R1; Roads from ESRI; Hydrology from NOAA and USGS; Imagery from 2005 NAIP

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Figure 2-6. Oregon Islands NWR Coquille Point Unit CCP Detail



Data Sources: Refuge Boundaries and Public Use from USFWS/R1; Roads from OR OCMP; Hydrology from NOAA and USGS; Imagery from 2005 NAIP

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necessary. Throughout the life of the CCP, most proposed pesticide uses on the Complex will be evaluated for potential effects to the particular Refuge's biological resources and environmental quality. These potential effects will be documented in "Chemical Profiles" within the IPM plan. Pesticide uses with appropriate and practical best management practices (BMPs) for habitat management as well as cropland/facilities maintenance will be approved for use on a refuge where there likely would be only minor, temporary, and localized effects to species and environmental quality based upon non-exceedance of threshold values in Chemical Profiles. However, pesticides may be used on a refuge where substantial effects to species and the environment are possible (exceed threshold values) in order to protect human health and safety (e.g., mosquito-borne disease).

### **2.2.5 Mammalian predator control**

As needed, implement actions as described in Mammalian Predator Damage Management to Protect Seabird Colonies on Oregon Islands NWR, Three Arch Rocks NWR, and Adjacent Mainland Areas (2005a).

### **2.2.6 Maintaining/upgrading of existing facilities**

Periodic maintenance and upgrading of refuge buildings and facilities will be necessary. Periodic maintenance and upgrading of facilities is necessary for safety and accessibility and to support management and visitor needs, and is incorporated in the Service's Asset Management System.

### **2.2.7 Participation in planning and review of regional development activities**

The Complex staff will actively participate in and contribute to planning and studies for ongoing and future industrial, urban, housing and energy development, contamination, and other potential concerns that may adversely affect refuge wildlife resources and habitats. Working with the Service's Ecological Services Division, the Complex will cultivate working relationships with pertinent local, county, state, and federal agencies to stay abreast of current and potential developments; and will utilize outreach, education, and information as needed to raise awareness of refuge resources and dependence on the local environment.

### **2.2.8 Permanent full-time staffing additions**

This CCP proposes adding four new permanent full-time (PFT) positions to the staff of the Oregon Coast NWR Complex: a Wildlife Biologist, Environmental Education Specialist, Volunteer Coordinator, and Wage Grade Maintenance Worker for the South Coast office. All staffing additions are subject to regional approval and allocation of additional base funding.

### **2.2.9 Regulatory compliance**

All activities requiring review, permits and clearances (e.g., Section 106 of the National Historic Preservation Act, Section 7 endangered species consultation, and 401 water quality permit) will undergo appropriate review and obtain necessary permits and/or clearances as needed.

### **2.2.10 Requests for public uses on refuge lands**

Non-wildlife-dependent recreational activities will be subjected to the Service's Appropriate Use Policy criteria, and if found appropriate, will be further analyzed through a compatibility

determination. Priority public uses will be re-evaluated through compatibility determinations as well. Appropriateness determinations will be made based on policy guidance in the Service's Appropriate Refuge Uses Policy 603 FW 1 (2006), and will be documented on FWS Form 3-2319 in Appendix D. Compatibility Determinations made in the course of CCP development are included in Appendix E.

### **2.2.11 State coordination**

The Complex will continue to maintain regular discussions with ODFW and OPRD. Key topics for discussion with ODFW will be wildlife monitoring, pinniped monitoring and management, threatened and endangered species management, marine wildlife mortality and disease monitoring, seabird management and protection strategies, and mammalian predator management. Public use opportunities, as well as protection of refuge wildlife and habitat, will be the primary topics of discussion with OPRD.

### **2.2.12 Tribal coordination**

Regular communication with Native American Tribes with interest in the Refuges will continue. The Coquille Indian Tribe; Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians; Confederated Tribes of the Siletz Indians; and Confederated Tribes of the Grand Ronde are the major Oregon coast Tribes the Complex will coordinate and consult with regarding issues of shared interest. Currently, the Complex seeks assistance from Tribes in issues related to the National Historic Preservation Act (NHPA) as well as cultural resources education and interpretation.

### **2.2.13 Volunteer opportunities and partnerships**

Volunteer opportunities and partnerships will occur. These are recognized as key components of the successful management of public lands and vital to implementation of refuge programs, plans, and projects, especially in times of declining budgets.

## 2.2.14 Summary of CCP actions by Refuge

**Table 2.1 Summary of CCP Actions – Oregon Islands and Three Arch Rocks NWRs**

Key Themes/Issues	CCP Action
<b>RESOURCE MANAGEMENT</b>	
<b>Resource Protection</b>	<ul style="list-style-type: none"> <li>• Protect undisturbed natural environment on all refuge rocks, reefs, and islands by prohibiting public access.</li> <li>• Increase emphasis on resource protection through partnerships.</li> </ul>
<b>Aerial Disturbance Management</b>	<ul style="list-style-type: none"> <li>• Document and respond to wildlife disturbance violations resulting from overflights.</li> <li>• Produce and distribute educational materials to advocate a 2,000-foot minimum above ground level (AGL) altitude conservation recommendation for aircraft over refuge rocks, reefs, and islands.</li> </ul>
<b>Law Enforcement (LE)</b>	<ul style="list-style-type: none"> <li>• Develop LE assistance agreements with county sheriffs and associated marine patrol officers, Oregon State Police, U.S. Coast Guard (USCG) and National Marine Fisheries Service (NMFS) enforcement.</li> </ul>
<b>Monitoring and Inventory</b>	<ul style="list-style-type: none"> <li>• Continue current inventory and monitoring activities in support of adaptive management decisions.</li> <li>• Hire an additional PFT Wildlife Biologist. Research, design, fund and implement a GIS-based inventory and monitoring program for target wildlife/plant species.</li> </ul>
<b>Research</b>	<ul style="list-style-type: none"> <li>• Work with universities/agencies/organizations to design and implement research on subjects including seabirds, pinnipeds, climate change, and ecological factors affecting seabird survival and reproductive success.</li> </ul>
<b>Pest Management</b>	<ul style="list-style-type: none"> <li>• Use IPM techniques to treat invasive plant infestations, as funding and staff time permit.</li> <li>• Monitor vegetated rock and island habitats for invasive plants.</li> <li>• Evaluate and monitor habitat response to IPM treatments.</li> </ul>
<b>Predator Control</b>	<ul style="list-style-type: none"> <li>• Implement actions as described in 2005 Mammalian Predator Damage Management Plan.</li> <li>• Utilize a collaborative approach to inventory mammalian predators at seabird colonies on a systematic basis</li> </ul>
<b>Oregon Department of Fish and Wildlife</b>	<ul style="list-style-type: none"> <li>• Continue to work with ODFW to limit or prevent human disturbance to seabirds and pinnipeds.</li> <li>• Increase cooperation with ODFW to provide a more systematic and accessible process for sharing information, expertise and funding.</li> </ul>
<b>U.S. Coast Guard</b>	<ul style="list-style-type: none"> <li>• Provide occasional wildlife resource protection training to USCG pilots as time permits.</li> <li>• Work with USCG Motor Lifeboat and Air Stations along the Oregon coast to document major wildlife use areas on nautical charts and flight maps in their area of responsibility.</li> <li>• Clarify operational measures to avoid wildlife disturbance impacts for non-search and rescue missions.</li> </ul>
<b>Oregon State Marine Board</b>	<ul style="list-style-type: none"> <li>• Annually deploy warning buoys to delineate the 500-foot watercraft exclusion zone from May 1 to September 15 around Three Arch Rocks NWR.</li> <li>• Re-examine the need for additional special management area designations and/or buffer zones at 33 areas within Oregon Islands and Three Arch Rocks NWR.</li> </ul>
<b>Bureau of Land Management Yaquina Head Outstanding Natural Area (YHONA)</b>	<ul style="list-style-type: none"> <li>• Continue to coordinate public use management to prevent impacts to wildlife using the refuge rocks directly adjacent to YHONA.</li> <li>• Develop a new memorandum of understanding (MOU) with BLM for wildlife management at YHONA, to address wildlife resource impacts associated with current or potential future public use, and monitoring and research programs of mutual interest.</li> </ul>
<b>Wilderness</b>	<ul style="list-style-type: none"> <li>• Continue to preserve the wilderness characteristics of Oregon Islands Wilderness and Three Arch Rocks Wilderness by avoiding visually intrusive alterations.</li> <li>• Initiate management actions to control and where possible eliminate invasive plant and animal species.</li> <li>• Work with local residents, commercial properties, city, county, and state agencies and planning departments to prevent light and noise intrusion into the wilderness.</li> </ul>

Key Themes/Issues	CCP Action
<b>PUBLIC USE</b>	
<b>Wildlife Observation and Photography</b>	<ul style="list-style-type: none"> <li>• In partnership with others, continue to provide information and off-site facilities for visitors to view and photograph wildlife using coastal rocks and islands.</li> <li>• Establish new partnerships to facilitate public use opportunities. Design and install interpretive panels, observation decks, and materials with partners.</li> </ul>
<b>Volunteers – Interpretation and Education</b>	<ul style="list-style-type: none"> <li>• Hire PFT Volunteer Coordinator.</li> <li>• With partners, expand volunteer interpreter program to include additional locations and days at key interpretive sites.</li> </ul>
<b>OPRD – Interpretation and Education from adjacent state lands</b>	<ul style="list-style-type: none"> <li>• Collaborate with OPRD to station volunteer wildlife interpreters on OPRD lands overlooking Oregon Islands NWR.</li> <li>• Establish a coastwide MOU with OPRD to formalize and expand cooperative volunteer interpreter program.</li> </ul>
<b>Environmental Education – formal programs (EE)</b>	<ul style="list-style-type: none"> <li>• Hire a PFT Environmental Education Specialist. Develop MOU with school districts to implement EE.</li> <li>• Secure long-term funding for AmeriCorps members.</li> </ul>
<b>Friends Groups</b>	<ul style="list-style-type: none"> <li>• Support Friends of Haystack Rock and Friends of Southern Oregon Coastal Refuges by having Complex staff members and/or volunteers available to assist with interpretation.</li> <li>• Expand support of both Friends of Southern Oregon Coastal Refuges and Friends of Haystack Rock.</li> </ul>
<b>Coquille Point</b>	<ul style="list-style-type: none"> <li>• Continue to maintain self-guided interpretation and visitor facilities, and recruit refuge volunteers to lead guided naturalist/wildlife walks.</li> <li>• Re-design and upgrade parking lot.</li> <li>• Work with City of Bandon to install wind- and wildlife-proof trash and pet clean up station.</li> <li>• Hire a refuge maintenance position for the south coast.</li> </ul>

**Table 2.2 Summary of CCP Actions – Cape Meares NWR**

Key Themes/Issues	CCP Action
<b>RESOURCE MANAGEMENT</b>	
<b>Resource Protection</b>	<ul style="list-style-type: none"> <li>• Allow natural processes to occur, and maintain closed areas of Refuge.</li> <li>• Conduct official boundary survey and post boundary. Partner with landowners to maintain and enhance habitat quality on adjacent privately owned lands.</li> </ul>
<b>Law Enforcement (LE)</b>	<ul style="list-style-type: none"> <li>• Develop LE assistance agreements with county sheriffs and associated Marine Patrol officers, Oregon State Police, and USCG.</li> </ul>
<b>Monitoring and Inventory</b>	<ul style="list-style-type: none"> <li>• Conduct boat and land-based surveys for pelagic cormorants on cliffs as funding allows; cooperate in monitoring population trends of black oystercatchers and reproductive success of peregrine falcons.</li> <li>• Conduct boat and land-based surveys for pelagic cormorants on cliffs as funding allows; cooperate in monitoring population trends of black oystercatchers and reproductive success of peregrine falcons.</li> <li>• Hire a PFT Wildlife Biologist.</li> <li>• Conduct pelagic cormorant and marbled murrelet surveys annually.</li> <li>• Work with partners to research, design, fund and implement inventory and monitoring programs for migratory and resident focal bird species and other wildlife, and certain plant species within forest and riparian habitats.</li> </ul>
<b>Research</b>	<ul style="list-style-type: none"> <li>• Encourage research efforts by partners to determine use of refuge habitat by old-growth-dependent avian species, as well as other compatible old-growth forest-related research.</li> </ul>
<b>Invasive Species</b>	<ul style="list-style-type: none"> <li>• Monitor refuge habitats for invasive plant species and treat infestations with IPM techniques.</li> </ul>
<b>PUBLIC USE</b>	
<b>Wildlife Observation and Photography</b>	<ul style="list-style-type: none"> <li>• Maintain refuge-constructed visitor facilities at Cape Meares State Scenic Viewpoint and the portion of the Oregon Coast Trail that runs through refuge lands.</li> <li>• Continue to allow hiking and wildlife observation and photography.</li> <li>• Develop a wildlife checklist.</li> <li>• Recruit refuge volunteers to lead guided naturalist/wildlife walks.</li> </ul>
<b>Interpretation and Education</b>	<ul style="list-style-type: none"> <li>• Station refuge volunteers at Cape Meares every spring/summer to interpret wildlife resources for visitors, and maintain interpretive panels.</li> <li>• Increase refuge wildlife interpretation volunteer presence.</li> <li>• Develop and implement an EE program and an evening campground program at adjacent Cape Lookout State Park.</li> <li>• Hire a PFT Volunteer Coordinator.</li> </ul>
<b>Oregon Parks and Recreation Department</b>	<ul style="list-style-type: none"> <li>• Revise 1986 MOU to ensure the goals and objectives of both the OPRD and Complex are met and the roles and responsibilities of each agency are clear.</li> <li>• Include protocol for volunteer management.</li> </ul>

## Help Protect Marine Wildlife

Seabirds and marine mammals are extremely sensitive to human disturbance. Because they view humans as predators, they will not tolerate close approach at any time. Disturbance often causes adults to flee their colonies which can result in losses of eggs and young or complete colony abandonment.

### Please Observe Boating and Recreational Guidelines

**Stay Back.** Studies have shown that seabirds and marine mammals may flee their colonies when closely approached by humans. Please do not approach rocks and islands closer than 500 feet, in boats or on foot. Aircraft are requested to maintain a minimum of 2,000 feet above the rocks and islands at all times.

**Use Caution.** Approach and depart areas near rocks and islands cautiously. Minimize noise and abrupt movements.

**Observe.** Take a few moments to observe the birds and mammals. If you see animals bobbing their heads, making alarm calls or departing from the colony, you are too close and should move away immediately.

**Conditions Change.** Don't assume a safe operating distance one day will be the same as the next, even at the same site. Be cautious and observant every time out.

**Wildlife Harassment is Against the Law.** Federal and State laws prohibit harassment of seabirds and marine mammals. Violators will be cited. Help protect Oregon's wildlife by reporting suspected violators to the Refuge Manager (541) 867-4550.

### Stay More Than 500 Feet Away From Rocks, Islands and Cliffs



Seabirds and marine mammals are especially vulnerable to disturbance during the breeding season which extends from April through September.



The Oregon coast is home to over a million nesting seabirds and tens of thousands of seals and sea lions. They depend on coastal rocks, islands and steep mainland cliffs where they are protected from mammalian predators.

Tenyo/Maru Oil Spill

In July 1991, the Japanese fishing vessel Tenyo Maru and the Chinese freighter Tai Hai collided in heavy fog northeast of Cape Henry, Washington. The Tenyo Maru sank, immediately releasing 75,000 gallons of oil and kelp that killed thousands of seabirds. The education panel was funded by the Tenyo Maru National Endowment. It features six one-color metal relief sculptures designed to educate the public and to raise awareness of resources, particularly migratory birds injured by the oil spill. The artist is the U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, the British Indian Tribe and the State of Washington.

**Marine Wildlife Need Places Free from Disturbance**

All rocks, reefs and islands along the Oregon coast are part of the Oregon Islands National Wildlife Refuge or Three Arch Rocks National Wildlife Refuge. Managed by the U.S. Fish and Wildlife Service, these refuges are closed to public access at all times.

Most rocks and islands along the coasts of Washington and California are also closed to public access at all times. When visiting these states, please stay a safe distance away from rocks and islands to prevent disturbance to sensitive wildlife.

## **2.3 Oregon Islands and Three Arch Rocks National Wildlife Refuges Management**

The CCP provides a current, integrated plan to guide resource management on the Oregon Islands and Three Arch Rocks NWRs by replacing the Wilderness Management Plan (1980) and Refuge Management Plan (1987); supplementing the Public Use and Sign Plan (1988); and incorporating the Fire Management Plan (2004), Mammalian Predator Damage Management document (2005), and the Complex IPM plan (2009).

### **2.3.1 Wildlife and habitat**

Under the CCP, Complex staff will continue to protect and maintain habitat for priority species, including seabirds and pinnipeds. Efforts to prevent wildlife disturbance on refuge rocks, reefs, and islands will continue by restricting public access, posting educational and regulatory signage, enforcing fireworks prohibition laws on areas adjacent to nearshore rocks and islands, and deploying buoys annually to delineate the seasonal 500-foot watercraft exclusion buffer zone around Three Arch Rocks NWR.

Building on the existing level of activity, protection and management of refuge rocks, reefs, and islands will expand in scope, and emphasis will shift from Complex staff-based efforts to cooperative efforts. The Complex will work with partners to promote the establishment of watercraft-free buffer zones in waters around specific refuge rocks, and islands that have seabird colonies and/or pinniped rookeries/haul-outs that could be negatively impacted by trespass or harassment. The Complex will also produce and distribute educational materials to airports, aircraft fueling stations, pilots associations, and aircraft publications to advocate the 2,000-foot minimum AGL altitude conservation recommendation over refuge rocks, reefs, islands and headlands.

Existing wildlife and habitat surveys for Oregon Islands and Three Arch Rocks NWRs, both staff-conducted and cooperative efforts, will continue. Greater emphasis will be given to working closely with partners to research, design, and implement cooperative studies that will directly contribute toward maintaining or restoring the biological integrity, diversity, and environmental health of the Refuges. Specifically, the Refuge will seek partners to collaborate on research, design, funding and implementation of a geographic information system (GIS) based inventory and monitoring program for pinnipeds, seabirds, and other migratory birds, terrestrial mammals, reptiles, amphibians, invertebrates, and plant species. Annual review and reporting of results of monitoring and inventory efforts will be a priority, as well as reporting of results from cooperative monitoring and inventory efforts. As staffing allows, the Complex will begin the establishment of a digital photographic library of species inventoried, as well as the development of a web interface to disseminate results of research, monitoring, and inventory. Complex staff members will work with location-specific partners to monitor for invasive plant species and to treat infestations with IPM techniques using mechanical, physical, biological, and/or chemical means. The Complex will also actively pursue funding and approvals to hire a seasonal GS-7/9 Wildlife Biologist and a PFT GS-9/11 Wildlife Biologist.

Regularly scheduled aerial, boat, and land surveys of nesting seabirds will continue to be conducted by Complex staff. Limited cooperative efforts to assess population trends and habitat use by Aleutian cackling geese on Oregon Islands NWR and private lands will continue. Complex staff will continue to coordinate with Oregon State University (OSU), the Service's Ecological

Services Division, and U.S. Geological Survey (USGS) to assist in monitoring long-term population trends of peregrine falcon and black oystercatcher (*Haematopus bachmani*).

Specific areas of research will receive increased emphasis. Research topics identified to date include but are not limited to the long-term effects of an increasing coastal bald eagle population on common murre colonies, investigation of the population ecology of black oystercatchers to better understand the impacts of human population growth, and threats from invasive plant species and mammalian predators on refuge habitat and wildlife. Additional research topics will be pursued as appropriate. Partnership efforts will also be geared toward research, design, and implementation of a comprehensive inventory and standardized census program for burrow- and crevice-nesting seabirds to obtain a more accurate estimate of populations, monitor population trends, and establish a long-term seabird research program using seabirds as biological indicators of ocean conditions and effects of climate change. Native and non-native mammalian predators will be inventoried at seabird colonies and controlled as necessary, as discussed in the Predator Damage Management Environmental Assessment (EA) (USFWS 2005a). All research efforts will be undertaken through a collaborative approach.

Climate change is an important area in need of collaborative efforts to accomplish meaningful research. Complex staff will contribute to ongoing studies by universities, agencies, and organizations to assess the impacts of climate change on seabirds, sea level, invasive species, weather, and current patterns. Complex staff will also contribute to studies analyzing impacts from human activities including fisheries management, wind and wave energy development, and other activities that may be harmful to wildlife and habitat.

The National Wildlife Refuge System Administration Act, as amended, requires “coordination, interaction, and cooperation” with state natural resource agencies. Existing cooperative efforts will continue at current levels. State agencies are and will continue to be critical partners for collaborative work along the coast. Under the CCP, existing cooperative efforts with state agencies will be continued and the partnerships expanded to include more activities in support of the Refuges’ and the Service’s mission and goals.

The OPRD is an important partner in helping us protect refuge wildlife, plants, and habitats, and promote conservation of these resources through interpretation and education on lands adjacent to the Refuges. Complex staff will continue collaborating with OPRD on various efforts to prevent impacts to refuge resources from adjacent beach uses such as fireworks, beach fires, commercial filming activities, and trespass on refuge lands.

The Complex staff will continue to work with ODFW on coastal and marine wildlife management issues of mutual interest, including overseeing and participating in Steller sea lion research activities on refuge lands, and sharing information and data during seabird mortality events. In addition to continuing existing cooperative efforts with ODFW, the Complex will establish a schedule of annual meetings to discuss issues and opportunities and develop a strategy for timely notification of pertinent information and actions of mutual interest. More effort will be devoted toward conducting joint wildlife surveys as well as supporting existing ODFW efforts to survey pinnipeds, seabirds, waterfowl, and other marine wildlife using the Refuges and territorial sea. The Complex will seek to establish a strategy to obtain wildlife inventory, survey, and other data from ODFW on a regular and timely basis, and joint survey results will be reported in publications and periodic reports and on the Complex web site. The Complex will also pursue joint research opportunities with ODFW, OSU, and other partners.

Staff will continue to work with Oregon State Marine Board (OSMB) on the 500-foot seasonal watercraft closure zone around Three Arch Rocks NWR. The Complex will also seek to develop an MOU with the OSMB to formalize specific collaborative actions to protect wildlife using Oregon Islands and Three Arch Rocks NWRs. The Complex will provide refuge information and educational materials to be distributed through the state watercraft licensing program and other means, with the goal of reducing wildlife disturbances resulting from watercraft use and operation in waters adjacent to the Refuges. Complex staff members will give periodic presentations to OSMB board members regarding refuge issues/concerns for wildlife disturbance caused by watercraft, and will work with the Board to determine if additional state-regulated protective measures are necessary and feasible to reduce wildlife disturbance on the Refuges.

The Complex will continue to work collaboratively with BLM to promote protection of seabirds and pinnipeds and to provide quality wildlife viewing opportunities at YHONA. A new MOU will be developed to document management responsibilities and to clarify roles and responsibilities with regard to LE jurisdictions, use of volunteers, interpretive messages and programs, and management actions of potential impact to BLM's program. The Complex will also work cooperatively with BLM to develop monitoring and research programs of mutual interest to both agencies at YHONA. In addition, the occurrence and impacts of mammalian predation on nesting seabirds at YHONA will be actively monitored and documented, and the Complex will work cooperatively with BLM to remove predators as needed.

Working cooperatively with the FAA to reduce wildlife disturbance on refuge lands caused by low-level aircraft overflights will be a priority. The Complex's Law Enforcement Officer will continue cooperative efforts to reduce wildlife disturbance on refuge lands caused by low-level aircraft overflights, by reporting aircraft/wildlife disturbance violations to the FAA and Oregon Aeronautical Board and using existing refuge regulations to enforce wildlife disturbance violations resulting from overflights. The Complex will identify and document priority resource areas where low flights over refuge lands have the potential to cause the greatest impacts and will focus efforts on documenting disturbances at these sites. In coordination with FAA and the Oregon Aeronautical Board, the Complex will develop strategies to educate pilots about the Refuges and the impacts caused by low level overflights along the Oregon coast, stressing bird-strike safety concerns for pilots. Coordination with OPRD, BLM, and other partners to monitor and immediately report overflight incidents and wildlife response to the FAA will also be a priority, and the Complex will document results in annual reports for use in discussions with FAA on the feasibility of establishing a minimum flight altitude restriction of 2,000 feet AGL over Oregon Islands and Three Arch Rocks NWRs.

Staff will continue to work cooperatively with the USCG to protect seabirds and pinnipeds and will continue to provide wildlife resource protection training to USCG pilots as time and funding allow. Cooperative efforts with the USCG will expand to include development of an MOU with the USCG. The MOU will establish conditions and protocols to facilitate the Complex's use of USCG aircraft and vessels on dual missions, for law enforcement, training purposes, response to and surveillance of oil spills, and in support of other refuge needs. Both air and lifeboat stations will be the focus of increased communication and coordination. The Complex will document major wildlife use areas on USCG flight maps and suggest seasonal or year-round flight restrictions for non-search and rescue missions. Staff will also work with USCG Motor Lifeboat Stations along the Oregon coast to document major wildlife use areas on nautical charts and provide measures to avoid wildlife disturbance impacts for non-search and rescue missions.

Law enforcement jurisdictions and capabilities will be clarified, with the goal of enabling joint enforcement of wildlife protection and refuge trespass laws and regulations. Through the Complex's Law Enforcement Officer, Complex staff members will work cooperatively with Oregon State Police (OSP), county sheriffs, city police departments, OPRD, NMFS Enforcement, and the USCG to provide primary and backup LE on the Refuges. A standard LE Management Plan will be developed for each refuge.

### **2.3.2 Crook Point**

Current management activities at the Crook Point Unit of Oregon Islands—occasional monitoring for human trespass violations, the presence/spread of invasive plant species, and predator management as needed (USFWS 2005a)—will continue under the CCP, but will be greatly expanded in scope and level of effort. The south coast headland prairie-grassland habitat, a small but exceptional example of coastal grassland representing a rare and endemic vegetation type that has almost entirely vanished from the Oregon coast, will be a focus of collaborative studies with other agencies and organizations with expertise and interest in this rare habitat type. The Complex will seek partners to participate in designing and implementing a comprehensive GIS-based inventory, restoration, and monitoring program for this habitat. Development of an inventory, monitoring, and habitat management program for other priority habitats and wildlife at the Crook Point Unit will also be a priority for a collaborative effort. Additional efforts will include establishment of a plant herbarium and digital photographic library of plant species inventoried, and web interface development to disseminate the results of habitat monitoring and management efforts.

The Complex will also seek to acquire funding to conduct an official boundary survey and complete the boundary posting of this unit. Hiring of a WG 5/7 Maintenance Worker for the Complex who could assist with restoring habitat, posting boundaries, and maintaining access roads, facilities, and equipment will be a priority.

### **2.3.3 Coquille Point**

The Complex will seek partners to assist with research, design, and implementation of a GIS-based inventory, monitoring, and habitat management program at the Coquille Point Unit. Resources from partners will be sought to restore habitat types using propagated seedlings, transplanted cuttings, and divisions or plugs of native species and facilitate the establishment of a plant herbarium and digital photographic library of species inventoried. A web interface will be developed to disseminate habitat inventory, monitoring, and management efforts. Complex staff will seek funding to conduct an official boundary survey and will post the boundary of this Refuge unit as appropriate. Staff will continue efforts to partner (where feasible) with the City of Bandon and OPRD to decrease wildlife disturbances on refuge lands and adjacent beaches by posting educational and regulatory signage, and maintain and enforce laws prohibiting fireworks in areas adjacent to refuge lands. Complex staff will also work with the City of Bandon to educate coastal residents and business owners about the negative effects of light pollution on seabird colonies and how they can help minimize or eliminate this problem.

### **2.3.4 Public use**

All refuge rocks, reefs, and islands, as well as the Crook Point Unit of Oregon Islands NWR, will continue to be closed to public use to protect sensitive seabirds, pinnipeds, and associated habitats

from human disturbance. Wildlife photography, observation, and interpretation are existing approved public uses of Oregon Islands that occur at many off-site mainland areas owned and managed by city, county, state, and federal agencies. These public uses will continue to take place at the many off-site mainland areas owned and managed by city, county, state, and federal agencies. To facilitate off-site public use, the Complex has enhanced wildlife viewing opportunities on several mainland areas that overlook refuge rocks and islands, at sites that are managed by OPRD. These public uses will continue to be offered, and maintenance of Service-built facilities at off-site mainland areas will continue.

Refuge wildlife resources benefit from the Complex's work with partners such as OPRD and BLM. These agencies improve or maintain visitor facilities and provide wildlife conservation information to the public with emphasis on minimal disturbance to wildlife. Under the CCP, the Complex will maintain and grow existing partnerships and look to establish new partnerships with the Oregon Coast Aquarium and Sea Lion Caves to develop public use facilities, especially interpretive panels, on their lands or within their visitor facilities. Each partnership between the Complex and a private or public group, including OPRD and BLM, will be formalized in an MOU to ensure the goals and objectives of both the cooperator and the Refuge are delineated and that the roles and responsibilities of each agency or partner are clear.

Formalizing the cooperative relationship with OPRD will be a priority. This will be accomplished through establishment of a coastwide MOU, which will clarify roles and responsibilities particularly with regard to the placement of Service volunteers on OPRD lands and facilities, training OPRD interpretive docents provided by Complex staff, and maintenance of Service-funded facilities on OPRD lands. The Complex will also undertake a mapping effort for all refuge-constructed and/or maintained visitor facilities on OPRD lands.

The Complex will continue to work cooperatively with BLM to provide quality wildlife viewing opportunities at YHONA and the adjacent rocks within Oregon Islands NWR, stationing Service volunteers at YHONA to provide wildlife information to the public, and providing annual training regarding the resources of Oregon Islands NWR to BLM staff and interpretive docents.

Due to an increase in the number of visitors to the Oregon coast there is a need to expand the Refuge's interpretation program to have volunteers available seven days per week and to include additional locations to station volunteers. The volunteer wildlife interpretation program will be expanded to include new sites that have been identified as high priority for interpretation, including Ecola State Park, Heceta Head State Scenic Viewpoint, Otter Crest Headland, Port Orford, and Myers Creek Rocks. As the Complex volunteer program grows, more work will be placed on an already limited staff. Therefore, hiring a PFT GS 7/9 Volunteer Coordinator will be pursued. This position will manage a program that annually utilizes volunteers to control invasive species, maintain public use facilities, lead environmental education field trips, and conduct wildlife interpretation, as well as assist with biological tasks.

The Complex has designed and installed interpretive and regulatory panels at off-site locations with dual purposes of explaining the natural history of the wildlife living on the rocks and islands and communicating to visitors the regulations protecting these species. The Complex will maintain all existing panels. The Complex has determined it is important to develop a new interpretive panel focusing on the wildlife resources and protective strategies of Oregon Islands and Three Arch Rocks NWRs. The panel will be developed and placed at new and appropriate public access sites along coast.

The Complex will develop a quality environmental education program focusing on the wildlife of Oregon Islands NWR. Children and adults will better understand habitat ecology and actions utilized to protect the area. Since Complex staff time is limited, the Refuge must hire a PFT environmental educator or temporary staff through work-study programs like AmeriCorps and Student Conservation Association, to be able to offer a high-quality EE program; therefore, hiring AmeriCorps personnel will continue to be a necessary strategy, and the Complex will seek to secure long-term funding for AmeriCorps personnel on the Complex. The Complex will develop an MOU with school districts to implement EE along the Oregon coast, including strategies to secure long-term funding for bus transportation to support school participation in the Complex's EE programs. The Complex will also pursue partnerships to develop, fund, and implement a seabird education module for coastal schools, and hire a PFT Environmental Education Specialist (GS-7/9) for the Complex.

In the past ten years a network of support groups, called Friends, have essentially adopted individual refuges or refuge complexes nationwide and have begun to advocate for the needs of the refuges, providing both financial and volunteer support. The Complex currently has three Friends Groups: Friends of the Southern Oregon Coastal Refuges (or Shoreline Education for Awareness [SEA]), Friends of Cape Meares Lighthouse and Wildlife Refuge, and Friends of Haystack Rock. It is in the interest of the Complex to formalize the relationship with each of the Friends Groups through development of an MOU. We already have an MOU in place with SEA. Developing MOUs will facilitate improved communication and serve to expand the role of the Friends Groups from wildlife interpretation to direct support of marine wildlife conservation and advocacy. The Complex will commit to contributing a regular column to the Friends newsletters. This will provide members of the Friends Groups with more in-depth information about wildlife and current refuge issues that could use their support.

On-site public use facilities managed by the Complex at Coquille Point including the paved hiking trail, two sets of stairs that provide beach access, the parking lot, and interpretive panels, will all be maintained. Wildlife observation, photography, interpretation, and environmental education are existing public uses that will continue to be offered at Coquille Point by Complex staff members and partners. The Complex will work with OPRD and the City of Bandon to reduce user conflicts. The Complex also needs a full-time permanent maintenance worker for the South Coast to perform trail, stairway, trash collection and habitat maintenance onsite at Coquille Point. Hiring a PFT WG 5/7 Maintenance Worker for the Complex (already listed under Crook Point) will be a priority to assist with this needed work.

### **2.3.5 Wilderness stewardship**

The Complex will continue all current actions intended to promote and preserve wilderness characteristics of Oregon Islands and Three Arch Rocks Wilderness areas and to foster the public's understanding of and appreciation for the importance of wilderness.

Boundary and regulatory signs, interpretive panels, and other refuge and wilderness protection facilities on the adjacent mainland and at ports along the Oregon coast will continue to be maintained. In addition, construction of temporary structures used for wildlife management or research purposes, construction of signs to prevent trespass, and access to rocks and islands by boats and aircraft will be allowed only when these are the minimum tools necessary to safely and effectively accomplish refuge work. Complex staff will continue to work with current local residents and commercial properties to prevent light and noise intrusion into the wilderness, and

with OPRD to locate commercial fireworks displays away from wilderness areas. Wilderness themes and messages will continue to be incorporated into new or updated pamphlets, brochures, and interpretive panels, and Complex staff will include wilderness information and education in all interagency, volunteer, and Friends Group training.

In addition, the Complex will complete a botanical survey of Oregon Islands and Three Arch Rocks Wilderness areas, initiating management actions to control and where possible eliminate invasive plants, with special emphasis on eliminating sea fig/ice plant from rocks and islands in Curry County. In cooperation with the U.S. Department of Agriculture (USDA) Wildlife Services, the Complex will also conduct a survey of mammalian predator occurrence, determine impacts to native fauna, develop annual work plans, and implement predator removal. Additional efforts will go toward working with city, county, and state agencies and planning departments to prevent increased light and noise intrusion into the wilderness as a result of new residential and commercial development.

### **2.3.6 Cultural resource protection**

Native American Tribes and Federal agencies will continue to be essential partners. Complex staff will continue to coordinate with Native American Tribes when conducting ground-disturbing activities, particularly in the preplanning stage for projects involving significant ground-disturbing activities. The Complex will continue to work with Native American Tribes, to locate, characterize, and protect cultural resource sites on refuge lands, and maintain the secrecy and security of sites. In addition, the Complex will seek the Tribes' assistance to identify and characterize significant archaeological sites and plan for their protection in accordance with provisions of the Archaeological Resource Protection Act of 1979. A refuge GIS layer will be developed for archaeological sites, burial sites, and sacred areas, and will contain "constraint for use" conditions to protect sensitive information. In accordance with the Native American Graves Protection and Repatriation Act of 1990, Complex protocol and procedures will be established for handling inadvertent discoveries of human remains, burial objects, sacred objects, and objects of cultural patrimony.

## **2.4 Cape Meares National Wildlife Refuge Management**

The CCP provides a current, integrated plan to guide resource management on Cape Meares NWR by replacing the Refuge Management Plan (1987); supplementing the Public Use and Sign Plan (1988) and the MOA between the Service and OPRD (1986); and incorporating the Research Natural Area Management guidance (1982), the Fire Management Plan (2003), and the Complex IPM plan (2009).

### **2.4.1 Wildlife and habitat**

The Complex will continue to protect and maintain coastal habitats characteristic of Pacific Northwest old-growth Sitka spruce forest and associated stream and riparian zone habitat, the existing coastal bluff and cliff habitat, and the associated wildlife and plant species, allowing natural processes to control successional vegetative changes. Complex staff members will continue to work with OPRD and others to protect habitat and wildlife by utilizing signage and other deterrents to maintain closed areas of the Refuge. Cooperative efforts to monitor reproductive success of peregrine falcons, bald eagles, and black oystercatchers at Cape Meares will continue, and surveys to document nesting by marbled murrelet will be initiated. Greater

emphasis will be given to working closely with partners to research, design and implement cooperative studies that will directly contribute toward understanding and maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge.

For refuge habitats, partners will be sought to collaborate on research, design, funding and implementation of a GIS-based inventory of refuge habitats and, when appropriate, a monitoring program for forest and riparian habitats and plant species. Establishment of a plant herbarium and digital photographic library of plant habitats and species inventoried will be a priority, as well as annual review and reporting of the results of forest and riparian habitat inventory and monitoring efforts. Refuge lands will be monitored for invasive plant species, and infestations will be treated using IPM techniques. The Complex will promote research efforts by universities and other partners to determine the roles of downed wood in nutrient cycling and habitat suitability for target species in Pacific Northwest old-growth Sitka spruce forest. Efforts will also go toward partnering (where feasible) with landowners to maintain and enhance habitat quality on adjacent privately owned lands. The Complex will also conduct an official boundary survey to accurately post the entire Cape Meares NWR and Research Natural Area boundary.

Wildlife conservation will be the focus of increased collaborative efforts as well. Partners will be sought for research, design, funding and implementation of an inventory, and when appropriate, monitoring program for focal bird species, mammals, amphibians, and invertebrates. A web interface will be developed to disseminate avian and other wildlife inventory and monitoring results. The Complex will promote and actively encourage research efforts by universities and other partners to determine use of refuge habitat by threatened marbled murrelets and other old-growth-dependent avian species, as well as migratory and resident focal bird species including brown creeper (*Certhia americana*), red crossbill (*Loxia curvirostra*), pileated woodpecker (*Dryocopus pileatus*), varied thrush (*Ixoreus naevius*), and potentially other late-successional forest species. Monitoring plans will be developed as appropriate, based on results of initial inventories. Annual boat and land surveys for pelagic cormorants along the cliff faces will be initiated. The Complex will continue to work cooperatively with partners to monitor reproductive success of black oystercatchers, peregrine falcons, and bald eagles at Cape Meares. The Complex will also actively pursue funding and approvals to hire an annual seasonal GS-7/9 Wildlife Biologist and an additional PFT GS-9/11 Wildlife Biologist.

#### **2.4.2 Public use**

The Complex will continue to provide on-site and off-site opportunities for visitors to enjoy wildlife observation, photography, and interpretation while limiting disturbance to wildlife. Most public use is on OPRD lands, and the only public use on refuge lands at Cape Meares NWR takes place on the portion of Oregon Coast Trail that traverses refuge lands. This trail will continue to be cooperatively maintained with OPRD.

Existing offsite public uses of Cape Meares NWR occur on facilities built or improved by the Service, on lands owned and managed by OPRD as part of Cape Meares State Scenic Viewpoint. Facilities include two viewing decks accessible to individuals with physical limitations, interpretive panels, a welcoming kiosk, and a remote “wildlife cam.” Public uses at these facilities include wildlife observation, photography, and interpretation. The Complex will continue to cooperatively maintain the viewing decks, kiosk, and interpretive panels. Upgrades and replacement of all interpretive panels will be completed as funding allows. Complex staff will continue to provide leadership and resources to manage and train volunteers, and will maintain a presence at local

festivals. The MOA between the Service and OPRD, established in 1986 and predating the 1997 amendments to the National Wildlife Refuge System Administration Act, will be revised and updated as an MOU.

The Complex will also work toward expansion of wildlife interpretation opportunities in cooperation with OPRD. The Complex will continue to partner with OPRD to station refuge volunteers on the viewing decks every spring and summer to interpret wildlife resources, increasing the Service's volunteer presence at Cape Meares to include coverage seven days per week from April 15 to August 1. Leadership and resources to manage and train volunteers will continue to be provided by the Complex. Hiring of a PFT GS-7/9 Volunteer Coordinator will be a priority.

Expansion of environmental education opportunities in cooperation with OPRD will also take place offsite. Specifically, the Complex will work with OPRD and the Friends of Cape Meares Lighthouse and Wildlife Refuge to develop and implement environmental education and evening campground programs at Cape Lookout State Park, seeking grant opportunities to cover expenses. Providing high-quality outreach to visitors, community members, local media, and chambers of commerce on the wildlife and habitat resources of Cape Meares will be a priority. Complex staff members or volunteers will attend local festivals and community events that have a high potential to deliver refuge messages to key audiences. Complex staff will also contribute news and information about refuge wildlife and habitat to be published in future newsletters published by the Friends of Cape Meares.

Management of public use will continue to include maintaining Service-constructed public use facilities on OPRD lands as well as upgrading and replacing interpretive panels as needed at the kiosk and along the self-guided interpretive trail. In addition, the Complex will increase cooperative LE efforts with state and federal agencies for the protection of refuge habitats and the wildlife associated with them.

## **2.5 Goals, Objectives, and Strategies**

Goals and objectives are the unifying elements of successful refuge management. They identify and focus management priorities, resolve issues, and link to refuge purposes, Service policy, and the Refuge System Mission.

A CCP describes management actions that help bring a refuge closer to its vision. A vision broadly reflects the refuge purposes, the Refuge System mission and goals, other statutory requirements, and larger-scale plans as appropriate. Public use and wildlife/habitat management goals then define general targets in support of the vision, followed by objectives that direct effort into incremental and measurable steps toward achieving those goals. Finally, strategies identify specific tools and actions to accomplish objectives.

The goals for Cape Meares, Oregon Islands and Three Arch Rocks Refuges over the next 15 years under the CCP/WSP are presented on the following pages. Each goal is followed by the objectives that pertain to it. Some objectives pertain to multiple goals and have simply been placed in the most appropriate spot. Similarly, some strategies pertain to multiple objectives. The objectives remain throughout the life of the CCP unless otherwise specified in the objective.

The goal order does not imply any priority. Action priorities are assigned in Appendix G.

### 2.5.1 Goal 1: Preserve and protect all rocks, reefs and islands within Oregon Islands and Three Arch Rocks NWRs for the benefit of seabirds, shorebirds, waterfowl, other migratory birds, pinnipeds, and native plants.

Objective 1.a Rocks, Reefs, and Islands – Oregon Islands and Three Arch Rocks NWRs
<p>Maintain and protect 1,854 rocks, reefs, and islands within Oregon Islands NWR and 9 rocks within Three Arch Rocks NWR for common murre, Leach’s storm-petrel (<i>Oceanodroma leucorhoa</i>), pelagic cormorant, Brandt’s cormorant (<i>Phalacrocorax penicillatus</i>), black oystercatcher, Steller sea lion, peregrine falcon, brown pelican (<i>Pelecanus occidentalis</i>), Aleutian cackling goose, Purdy’s stonecrop (<i>Sedum spathulifolium</i>), San Francisco bluegrass (<i>Poa unilateralis</i>), seaside goldfields (<i>Lasthenia maritima</i>), and other native wildlife and plants.</p> <p>The rocks, reefs, and islands are characterized by the following:</p> <ul style="list-style-type: none"> <li>• No invasive plants.</li> <li>• No mammalian predators</li> </ul>
Strategies Applied to Achieve Objective
<ul style="list-style-type: none"> <li>• Allow natural processes to drive vegetative changes.</li> </ul>
<ul style="list-style-type: none"> <li>• Protect an undisturbed natural environment on all refuge rocks, reefs and islands by prohibiting public access.</li> </ul>
<ul style="list-style-type: none"> <li>• Use IPM strategies including mechanical, physical, biological, and chemical to eradicate, control, and contain invasive plants.</li> </ul>
<ul style="list-style-type: none"> <li>• By 2012, complete a limited botanical survey of Oregon Islands and Three Arch Rocks NWRs and document the occurrence and distribution of native and invasive plants and animals (also addressed in Wilderness Goal 7).</li> </ul>
<ul style="list-style-type: none"> <li>• In cooperation with the USDA’s Wildlife Services, conduct a survey of mammalian predator occurrence, determine impacts to native fauna, develop annual work plans, and implement predator removal (also addressed in Wilderness Goal 7).</li> </ul>
<ul style="list-style-type: none"> <li>• Document the occurrence and impacts of mammalian predation on nesting seabirds at YHONA and work cooperatively with BLM to remove predators.</li> </ul>
<ul style="list-style-type: none"> <li>• Facilitate and assist in the implementation of the Service’s Regional Seabird Conservation Plan (2005b) in Oregon, including participation in planning efforts and meetings, contribution of data to a common pool, updates to the seabird colony catalog, and participation and support of associated research.</li> </ul>
<p><b>Rationale:</b> Seabirds and pinnipeds spend the majority of their life at sea foraging on marine fishes and invertebrates and return to land for breeding, loafing, and roosting. The rocks, reefs, and islands associated with Oregon Islands and Three Arch Rocks NWRs provide habitat that is important for vulnerable adults, young and in the case of seabirds, eggs and young. Nearly 1.3 million seabirds, representing 12 different species (Naughton et al. 2007), and four species of pinnipeds, including threatened Steller sea lions, depend on these isolated habitats. All rocks, reefs and islands within Three Arch Rocks and Oregon Islands NWRs are closed to public entry to minimize disturbance to wildlife.</p> <p>A botanical survey has never been attempted for Oregon Islands or Three Arch Rocks NWRs. A single-day botanical survey of Goat Island was conducted on July 17, 1984, and recorded 65 plant species present, of which 20 are classified as invasive species. None of the remaining 1,862</p>

rocks, reefs and islands have been surveyed. General observations in the Crook Point area of Curry County indicate that invasive sea fig is present on the mainland, Saddle Rock and other nearby rocks and is spreading. This introduced plant species poses serious ecological problems, forming vast monospecific zones, lowering biodiversity, outcompeting native plants, and eliminating habitat for burrow-nesting seabird species. Infestations by other invasive plants on rocks and islands, carries the potential for similar disastrous effects.

Invasive red foxes have been documented on rocks at Coquille Point in Coos County, damaging and destroying nesting seabird colonies. Red foxes have spread to Curry County and may eventually be found in all coastal counties in Oregon, and have the potential for devastating impacts to nesting seabirds within Oregon Islands Wilderness. Other predators may be present as well such as mice, rats and feral cats, but no comprehensive survey has been conducted.

**Objective 1.b Respond to and Reduce Damage from Oil Spills – Oregon Islands and Three Arch Rocks NWRs**

Throughout the life of the CCP, support regional efforts to reduce the risk of catastrophic damage from oil spills around rocks, reefs, and islands within Oregon Islands and Three Arch Rocks NWRs to protect seabirds, pinnipeds, and other marine natural resources.

**Strategies Applied to Achieve Objective**

- Participate in regional spill prevention and planning efforts.
- Participate in updates of the five Oregon Coast Geographic Response Plans.
- Work with the National Oceanic and Atmospheric Administration (NOAA) to make reference of refuge lands/wilderness on navigation charts.
- Attend Hazardous Materials, Shoreline Assessment and Incident Command training.
- Respond to oil spills in cooperation with the Service’s Ecological Services Division, Oregon Department of Environmental Quality (ODEQ) and ODFW.
- Participate in oil spill Natural Resource Damage Assessment (NRDA) program on the Oregon coast working with the Service’s Ecological Services Division, ODFW, USCG and Oil Spill Trustees to assess damages, and plan and implement restoration projects.

**Rationale:** Oil spills in the California Current System have caused significant seabird and shorebird mortality and are among the greatest threats to refuge resources (USFWS 2005b, 2007). To minimize the potential effects of a catastrophic spill in Oregon, the main transportation corridor for crude-laden tankers in the Trans-Alaskan Pipeline Petroleum Trade occurs 30 to 60 nautical miles offshore. In contrast, numerous small oil tankers, cargo vessels and barges use the waters near the coast as a transportation route. Any spill from these routes could potentially be devastating to populations of marine wildlife and habitat. In addition, nonpoint source oil tarballs, or slicks, periodically wash up on Oregon’s beaches and negatively impact wildlife. Nonpoint chronic sources may be products of vessels illegally pumping bilges, sunken vessels, recreational outboard motors, and improper use of petroleum products in marinas (USFWS 2005b).

To assist watercraft in recognizing hazards and to operate their vessels in a safe manner, NOAA’s Office of Coast Survey produces nautical charts and supplemental information on channel descriptions, anchorages, bridge and cable clearances, currents, tide and water levels, prominent features, pilotage, towage, weather, ice conditions, wharf descriptions, dangers,

routes, traffic separation schemes, small-craft facilities, and federal regulations applicable to navigation (NOAA 2007a). The Service, working cooperatively with NOAA, needs to ensure that charts and other supplemental navigation information is updated to assist mariners in understanding the sensitivity of refuge lands and wildlife resources that may be impacted by their activities.

Populations of colonial nesting seabirds and pinniped rookeries are extremely vulnerable to the effects of spills. To ensure these sensitive species are protected during oil spill planning, response and injury assessment the Federal Oil Pollution Act of 1990 requires that a Fish and Wildlife and Sensitive Environment Plan be developed in consultation with the Service, NOAA, and other interested parties, including state fish and wildlife agencies. Compliance with the Migratory Bird Treaty Act of 1918, the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and state wildlife rehabilitation rules also apply to oil spill response. In Oregon, pre-spill planning is accomplished by the Northwest Area Committee (NWAC) that consists of representatives from federal and state governments, with input from industry, academia, environmental groups, and the community. The NWAC has written the Area Contingency Plan (RRT/NWAC 2008), including a Wildlife Response Plan that identifies response resources, cleanup strategies, and resources at risk within their jurisdiction. It is the policy of NWAC that representatives of the Service will assume the positions of Director and Deputy Director of the Wildlife Branch. Additionally, 40 CFR 300, Section 300.210(c)(4) sets forth the requirements for this plan as an annex to Area Contingency Plans. The Oregon coast is subdivided into five Area Geographic Response Plans that are an integral part of the Northwest Area Contingency Plan (ODEQ 2007) and Complex Staff has been involved in preparation of these plans.

After an oil spill, response agencies clean up the toxic material and eliminate or reduce risks to human health and the environment. Clean-up efforts may not fully restore injured refuge resources or address their lost uses by the public. Through the NRDA process, NOAA's Damage Assessment, Remediation, and Restoration Program and co-trustees, such as the Service, conduct studies to understand the level of resource damage as compared to baseline mortality levels, the best methods for restoring those resources, and the type and amount of restoration required.

**Objective 1.c Law Enforcement Efforts to Minimize Human Disturbance – Oregon Islands and Three Arch Rocks NWRs**

Work cooperatively with LE entities and other partners to maintain and enforce minimum or no human disturbance on rocks, reefs and islands of Oregon Islands and Three Arch Rocks NWRs.

**Strategies Applied to Achieve Objective**

- Increase cooperative LE efforts with state and federal agencies for the protection of seabirds, pinnipeds, and refuge habitats (defined in Chapter 2, Partnerships section).
- Increase LE efforts to enforce and document refuge trespass regulations (CFR 50, Part 26.21).
- Annually deploy warning buoys to delineate the 500-foot watercraft exclusion zone around Three Arch Rocks NWR from May 1 to September 15.

<ul style="list-style-type: none"> <li>• Develop MOU with the OSMB to facilitate development of cooperative educational strategies to protect wildlife using Oregon Islands and Three Arch Rocks NWR.</li> </ul>
<ul style="list-style-type: none"> <li>• Provide information and educational materials on Refuges and refuge wildlife to be distributed through the state watercraft licensing program and other means.</li> </ul>
<ul style="list-style-type: none"> <li>• Continue to work with OSMB to implement a 500-foot seasonal watercraft closure zone around Three Arch Rocks NWR.</li> </ul>
<ul style="list-style-type: none"> <li>• Develop an MOU with the USCG to facilitate the Service’s use of USCG aircraft and vessels on dual missions, for LE, pilot and aircrew-training purposes, response and surveillance of oil spills, and in support of other refuge needs.</li> </ul>
<ul style="list-style-type: none"> <li>• Provide wildlife resource protection training to USCG pilots.</li> </ul>
<ul style="list-style-type: none"> <li>• Document major wildlife use areas on USCG flight maps that include suggested seasonal or year-round flight restrictions for non-search-and-rescue missions.</li> </ul>
<ul style="list-style-type: none"> <li>• Work with USCG Motor Lifeboat Stations along the Oregon coast to document major wildlife use areas on nautical charts in their area of responsibility and provide measures to avoid wildlife disturbance for non-search-and-rescue missions.</li> </ul>
<ul style="list-style-type: none"> <li>• Use existing refuge regulations to enforce wildlife disturbance violations resulting from overflights and participate in investigations and court cases when necessary.</li> </ul>
<ul style="list-style-type: none"> <li>• Identify priority resource areas where low flights over refuge lands have the potential to cause the greatest impacts, and focus efforts on documenting disturbances at these sites in cooperation with OPRD, BLM and other partners.</li> </ul>
<ul style="list-style-type: none"> <li>• Produce and distribute educational materials to advocate the 2,000-foot minimum AGL altitude conservation recommendation for aircraft over refuge rocks, reefs, and islands.</li> </ul>
<ul style="list-style-type: none"> <li>• Work with FAA, the Oregon Aeronautical Board, and commercial air tour operators to educate pilots about the Refuges and the impacts caused by low-level overflights along the Oregon coast, stressing bird-strike safety concerns for pilots and passengers.</li> </ul>
<ul style="list-style-type: none"> <li>• Work with OPRD and others to develop signs and other deterrents to keep the public off rocks, reefs, and islands that are accessible at low tide.</li> </ul>
<ul style="list-style-type: none"> <li>• Update the MOU with BLM for management at YHONA, to include measures to prevent human disturbance of wildlife using the rocks and islands adjacent to the headland.</li> </ul>
<ul style="list-style-type: none"> <li>• Assist NOAA and ODFW in the implementation of the Marine Mammal Protection Act (1972) by providing undisturbed breeding and haul-out habitat for pinnipeds.</li> </ul>
<ul style="list-style-type: none"> <li>• Communicate with all branches of the military that conduct flights along the Oregon coast to educate pilots about the refuges and the impacts caused by low-level overflights along the Oregon coast.</li> </ul>
<p><b>Rationale:</b> Seabirds and pinnipeds spend the majority of their life at sea foraging on marine fishes and invertebrates and return to land for breeding, loafing, and roosting. The rocks, reefs, and islands associated with Oregon Islands and Three Arch Rocks NWRs provide habitat that is important for vulnerable adults, young, and in the case of seabirds, eggs and young. Nearly 1.3 million seabirds, representing 12 different species (Naughton et al. 2007), and four species of pinnipeds, including threatened Steller sea lions, depend on these isolated habitats. Protective measures for pinnipeds include the designation of critical habitat under the ESA for threatened Steller sea lions at the two major rookeries in Oregon (i.e., Rogue and Orford Reefs). All rocks, reefs, and islands within Three Arch Rocks and Oregon Islands NWRs are closed to public entry to minimize disturbance to wildlife.</p> <p>Watercraft approaching too close to the rocks, reefs, and islands within Oregon Islands and Three Arch Rocks NWRs can cause serious disturbance to seabirds and pinnipeds and can</p>

result in the loss of reproduction and in some cases in colony or rookery abandonment (USFWS unpublished data). A single aircraft or watercraft disturbance event at a common murre colony has caused reduced reproductive output, breeding failure and abandonment of the colony (Rojek et al. 2007). Legal watercraft-associated activities occurring in the marine environment near these islands (such as scuba diving, sport and commercial fishing, bait and shellfish collection, kayaking, and canoeing) have a high potential for disturbing wildlife. The need for establishment of buffer zones to minimize disturbance around waterbird colonies and pinniped rookeries is well documented (Rodgers and Smith 1997; LCDC 1994). Three Arch Rocks NWR has an enforceable 500-foot watercraft buffer (closure) zone from May 1 to September 15 annually to minimize wildlife disturbance by boaters (OSMB 1994; OAR 250-20-309). The Complex staff annually deploys buoys to clearly delineate this closure.

In addition to the regulated seasonal closure at Three Arch Rocks NWR, the Complex staff requests that all watercraft voluntarily remain at least 500 feet away from rocks, reefs, and islands within Oregon Islands NWR inhabited by seabirds and pinnipeds; watercraft venturing closer than 500 feet may disturb wildlife. If a vessel operator disturbs wildlife, it will represent an enforceable violation under refuge regulations. Through the watercraft licensing program administered by the OSMB, the Complex staff could provide educational materials to marine boat operators with watercraft operation methods to prevent them from impacting refuge wildlife. In the absence of regulated waters around Oregon Islands NWR, information and education will be critical for the protection of refuge wildlife, and the OSMB licensing program and publications are an effective way to distribute information.

The USCG's activities near refuge rocks, reefs and islands (including patrol flights, aircraft and surface vessel search-and-rescue missions, and maintenance and administration of aids to navigation in marine waters) have the potential to cause significant levels of disturbance and impacts to seabirds and pinnipeds when conducted too close to refuge lands during the seabird and pinniped breeding season. While emergency search-and-rescue missions cannot be delayed, there are measures available to limit disturbance damage caused during these incidents through preplanning. Establishment of an MOU between USCG and the Complex will facilitate preplanning to reduce preventable disturbances as well as establish a formal arrangement for the Complex's use of USCG aircraft and surface vessels. In addition, some non-emergency activities can be altered in location or timing to reduce or eliminate disturbances. Preplanning will include delineating major seabird and pinniped use areas and the timing of use on USCG flight maps and surface vessel navigation charts, alerting USCG personnel to avoid these sensitive wildlife areas and/or providing route recommendations to avoid causing disturbance. The Complex will provide a training presentation for USCG pilots, to include information on wildlife resources, sensitivity of the wildlife to disturbance, impacts caused by disturbance, major wildlife use areas, and measures to avoid causing disturbance.

Most of Oregon's seabird colonies are physically isolated from the shoreline providing a measure of protection from human disturbance. However, some colonies are close enough to shore to be accessible to human intrusion during periods of low tides. These nearshore colonies are accessed from OPRD-managed beaches and other adjacent lands. The Complex staff will work with these public and private land managers to deter trespassing on refuge lands.

Overflights lower than 2,000 feet AGL or closer than one-quarter to one-half mile have a high potential for disrupting seabird and pinniped breeding and resting. The FAA's aeronautical charts currently voluntarily request a 2,000-foot AGL vertical distance over all NWRs and Wilderness Areas. This is only a request, not a regulation, and is regularly ignored or overlooked by many pilots. However, wildlife disturbances resulting from low-level aircraft overflights are enforceable under the federal Airborne Hunting Act, Marine Mammal Protection Act of 1972, Endangered Species Act of 1973 (e.g., endangered and threatened species), and Migratory Bird Treaty Act of 1918. With the exception of designated critical habitat for Steller sea lions, which includes a protective air zone that extends 3,000 feet above rookeries, there are no enforceable aircraft regulations, and wildlife disturbances are very difficult to adequately document. It is important for Complex staff members to work cooperatively with the FAA and Oregon Aeronautical Board, and to involve commercial air tour operators on an ongoing basis to educate pilots on the impacts to wildlife from low-level overflights, the legal consequences of disturbing wildlife on the Refuges, and to fully inform them of the imminent threat to pilot and passenger safety due to bird-strike collision over seabird colonies.

## 2.5.2 Goal 2: Maintain and protect native coastal habitats within the Crook Point Unit of Oregon Islands NWR for the benefit of rare plants, migratory birds, and other native wildlife.

### Objective 2.a South Coast Headland Prairie-Grassland - Oregon Islands NWR

Throughout the life of the CCP, maintain and protect approximately 15 acres of rare early successional south coast headland prairie-grassland habitat within the Crook Point Unit of Oregon Islands NWR for savannah sparrow (*Passerculus sandwichensis*), Roemer's fescue (*Festuca roemerii*), large-flowered goldfields (*Lasthenia macrantha*) and other plants and wildlife. Early successional south coast headland prairie-grassland habitat is characterized by:

- Windswept, gently to moderately sloping landscape.
- 60–70% cover of native grasses and forbs (e.g., red fescue [*Festuca rubra*], Roemer's fescue, beach strawberry [*Fragaria chiloensis*], field horsetail [*Equisetum arvense*], common yarrow [*Achillea millefolium*], selfheal [*Prunella vulgaris*], western brackenfern [*Pteridium aquilinum*], broadleaf lupine [*Lupinus latifolius*], and seaside daisy [*Erigeron glaucus*]).
- Minimal intrusion of woody species (e.g., Sitka spruce, shore pine [*Pinus contorta*], evergreen huckleberry [*Vaccinium ovatum*], and coyote bush [*Baccharis pilularis*]).
- Minimal presence of non-native invasive plants (e.g., tansy ragwort, Canada thistle [*Cirsium arvense*]).
- Minimal human disturbance.

#### Strategies Applied to Achieve Objective

- Mechanical removal of encroaching woody species.
- Use IPM strategies including mechanical, physical, biological, and chemical means to eradicate, control, or contain invasive plants (USFWS 2009).
- Continue to promote and protect an undisturbed natural environment by excluding public access.

- Conduct official boundary survey and post boundary of Refuge unit.
- Hire a PFT WG 5/7 Maintenance Worker for the south coast to perform habitat restoration, post boundaries, and maintain access roads and facilities.

**Rationale:** The Crook Point headland within the Refuge has some small but exceptional examples of coastal grasslands, representing rare and endemic vegetation types that have almost entirely vanished from the Oregon coast. At Crook Point these south coast headland prairie-grassland remnants are found in areas where harsh coastal weather conditions slow forest invasion; however, secondary succession, unimpeded by wildfires and frequent grazing, will eventually lead to forest dominating the entire site unless management action is taken to prevent this succession (Kagan 2002). During the period of 2005 through 2008, limited habitat management efforts have been initiated to control woody vegetation encroachment on grasslands. These efforts have included mechanical and manual removal of encroaching Sitka spruce, shore pine, evergreen huckleberry, coyote bush, and wax myrtle (*Myrica cerifera*).

Public access to the Crook Point Unit of Oregon Islands NWR will be extremely difficult to manage due to its remote and rugged location, limited access road, and lack of on-site staff to ensure the safety of visitors and protect habitats. Many of the habitats found on the headland are occupied by rare and fragile plants, making them susceptible to erosion and impacts from public-use foot traffic (Kagan 2002). Currently used management tools necessary for the long-term survival of these fragile plants and habitats, exposed cultural resources, and adjacent sensitive seabird breeding sites include management of the area as a closed biological reserve with no general public use, limited staff-guided tours, and well-posted access points to control unauthorized entry. Lack of funding and maintenance staff is curtailing habitat management efforts, additional boundary posting, and maintenance of access roads and facilities.

### Objective 2.b Habitat Complex on Crook Point Unit - Oregon Islands NWR

Throughout the life of the CCP, maintain and protect 134 acres of existing native habitats (classified below) on the Crook Point Unit of Oregon Islands NWR for the benefit of pocket gopher (*Geomys bursarius*), coastal cutthroat trout (*Oncorhynchus clarkia*), clouded salamander (*Aneides ferreus*), peregrine falcon, hermit warbler (*Dendroica occidentalis*), coastal sagewort (*Artemisia pycnocephala*), powdery dudleya (*Dudleya farinosa*), and other native plant and animal species.

The habitat complex is classified and characterized by the following:

- Headland riparian shrublands: Stream channel–associated riparian corridor with patches of dwarf Sitka spruce, red alder (*Alnus rubra*), and hooker willow (*Salix hookeriana*).
- South coast headland erosion forblands and dunes: Exposed, windswept marine terrace and partially stabilized sandstone, forbs, and low, isolated dunes.
- Steep rock cliffs: Very steep, largely unvegetated cliffs that are mostly serpentine rock or sandstone with patches of seaside daisy, Pacific sedum (*Sedum spathulifolium*) and coast eriogonum (*Eriogonum latifolium*).
- Steep coastal erosion bluffs: Steep, largely vegetated cliffs/bluffs above the ocean with a mixture of grasses and forbs.
- Minimal invasive plants (e.g., tansy ragwort, Canada thistle, ice plant, European beachgrass).
- Minimal human disturbance.

Strategies Applied to Achieve Objective
<ul style="list-style-type: none"> <li>• Allow natural processes to drive vegetative changes.</li> </ul>
<ul style="list-style-type: none"> <li>• Use IPM strategies including mechanical, physical, biological, and chemical means to eradicate, control, or contain invasive plants (USFWS 2009).</li> </ul>
<ul style="list-style-type: none"> <li>• Partner (where feasible) with adjacent landowners to maintain and enhance habitat quality on adjacent privately owned lands.</li> </ul>
<ul style="list-style-type: none"> <li>• Continue to promote an undisturbed natural environment by limiting public access.</li> </ul>
<ul style="list-style-type: none"> <li>• Update Fire Management Plan annually or as needed.</li> </ul>
<p><b>Rationale:</b> The Crook Point Unit contains rare and exceptional examples of habitat types of great conservation concern, including coastal headland grasslands, shrublands, and forblands. Many of the more common habitats found at Crook Point are neither late-successional nor unusual, but they comprise some of the largest remnants of undeveloped areas in southern Oregon (Kagan 2002). Due to the undeveloped nature of the area, wildlife is abundant and using habitats which have been lost in many areas due to encroaching human presence. Management actions including control of invasive plants and limiting public access are necessary to maintain this condition.</p> <p>Adjacent to the unit, private lands are currently managed as large forested parcels and grazed grasslands with residential homes interspersed along the scenic bluffs overlooking the majestic Mack Reef archipelago. Cooperative working relationships with adjacent landowners and managers are essential to curbing the threats of wildland fire, non-native invasive plants, feral and domestic animals (e.g. cows, sheep, goats, horses, dogs, and cats) and trespass on refuge lands and resources. Cooperative efforts through programs such as the Service’s Partners for Wildlife Program and forest management initiatives will assist adjacent private and public lands in the management of threats to the unit’s biodiversity and rare habitat types.</p>

**2.5.3 Goal 3: Protect rocks and islands within Oregon Islands NWR by maintaining a mainland buffer zone at Coquille Point Unit for the benefit of seabirds, shorebirds, waterfowl, other migratory birds, pinnipeds and native plants.**

Objective 3.a Rocks and Islands – Coquille Point Unit of Oregon Islands NWR
<p>Throughout the life of the CCP, protect the rocks and islands at the Coquille Point Unit of Oregon Islands NWR for the benefit of black oystercatcher, pelagic cormorant, Brandt’s cormorant, common murre, tufted puffin, pigeon guillemot, Aleutian cackling goose, brown pelican, and other native coastal wildlife and plants. These rocks and islands (Elephant, Middle Coquille Point, North Coquille Point, and Table Rocks) are characterized by the following:</p> <ul style="list-style-type: none"> <li>• Natural open space buffer on the headland.</li> <li>• Minimal human disturbance.</li> </ul>
Strategies Applied to Achieve Objective
<ul style="list-style-type: none"> <li>• Partner with the City of Bandon, OPRD, and adjacent private landowners to reduce negative impacts on refuge resources.</li> </ul>
<ul style="list-style-type: none"> <li>• Work with OPRD and City of Bandon to enforce laws prohibiting fireworks in areas adjacent to refuge lands.</li> </ul>

- Work with ODFW and OPRD to decrease wildlife disturbance on refuge lands and the adjacent beach by posting educational and regulatory signage.
- Work with OPRD and Bandon Rural Fire Department to post beach access points with “No Driftwood Fires” signage.
- Update Fire Management Plan annually or as needed.

**Rationale:** The Coquille Point Unit of Oregon Islands NWR has limited wildlife use, and its primary value to wildlife is providing a buffer zone between residential development within the City of Bandon and the nearshore rocks and islands that provide habitat to sensitive breeding and loafing wildlife (USFWS 1991). The unit is bordered to the east, north, and south by residential developments. The west boundary of the unit is ocean shoreline managed by OPRD, which receives regular public use. Immediately adjacent to the Refuge, illegal driftwood fires occur year-round and the use of illegal fireworks occurs during the Independence Day holiday, both of which have a high potential for igniting fires in vegetation on the Refuge and spreading it rapidly into adjacent residential and commercial properties. To reduce the threat of wildland fire, cooperative efforts by the Bandon Rural Fire Protection District and OPRD seasonally posted the area with “No Driftwood Fires” and “Fireworks Prohibited on All Beaches,” in addition the Refuge posts “Fireworks and Campfires Prohibited” signage at all beach access points.

One of the purposes for the Coquille Point Unit is to provide for the enjoyment of wildlands and wildlife by the public at one of the premier wildlife observation sites on the Oregon coast (USFWS 1991). The use of the unit’s open space buffer zone and interpretive public use facilities, adjacent to significant wildlife populations and habitat, provides the Refuge and OPRD an opportunity to reduce negative interactions between the public and wildlife.

### Objective 3.b Habitat Complex at Coquille Point

Throughout the life of the CCP, maintain, and where possible restore native vegetation and habitats on 18 acres at Coquille Point (classified below) for the benefit of savanna sparrow, killdeer (*Charadrius vociferous*), ensatina salamander (*Ensatina eschscholtzii oregonensis*), pink sand verbena (*Abronia umbellata*) and other native wildlife and plant species.

The habitat complex is classified and characterized by the following:

- South coast headland erosion forblands and dunes: Exposed, windswept marine terrace and partially stabilized sandstone, forbs, and low, isolated dunes.
- Steep coastal erosion bluffs: Steep, largely vegetated bluffs above the ocean with a mixture of native grasses and forbs.
- Early successional south coast headland grassland: Windswept, gently to moderately sloping with 60–70% cover of native grasses and forbs (e.g., native grasses, beach strawberry, field horsetail, common yarrow, selfheal, western brackenfern, broadleaf lupine, seaside daisy).
- Ground surface highly altered to facilitate development for public recreation (e.g., grading, top soil removal, building construction).
- Minimal presence of invasive plants (e.g., gorse, European beachgrass).

Strategies Applied to Achieve Objective
<ul style="list-style-type: none"> <li>• Use IPM strategies including mechanical, physical, biological, and chemical means to eradicate, control, or contain invasive plants (USFWS 2009).</li> </ul>
<ul style="list-style-type: none"> <li>• Partner with others to restore habitat types with transplanting, fertilizing, and maintenance of propagated seedlings or transplanted cuttings, divisions or plugs of select native plants that are fire resistant and/or produce low fuel loads.</li> </ul>
<ul style="list-style-type: none"> <li>• Conduct official boundary survey and post boundary.</li> </ul>
<p><b>Rationale:</b> One of the purposes for establishing the Coquille Point Unit was to protect and restore the steep coastal erosion bluff habitat for wildlife species dependent upon it (USFWS 1991). Prior to the acquisition of refuge lands in 1991 to 1994, non-native invasive plants (e.g., gorse, Scotch broom [<i>Cytisus scoparius</i>], and European beachgrass dominated all habitat types associated with the site's dunes, bluffs, and headland. Refuge management efforts in 1994 and 1995 established an interpretive trail and created a natural open space buffer through mechanical re-grading of the headland, importation of topsoil, and restoration of native plant species. Habitat management efforts from 1996 to present have involved mowing, fertilizing, and controlling non-native invasive plants. In addition to establishing public use facilities and restoring headland plants, the Refuge initiated invasive non-native gorse control measures using an IPM program of mechanical and chemical treatments. During 2004 through 2007 extensive infestations (approximately 5–10 acres) of gorse were removed mechanically and treated with herbicides through a Wildland Urban Interface Grant to reduce the threat of wildland fire and to re-establish displaced bluff native plant diversity. Continued efforts will be required to reduce the potential of wildland fire associated with highly flammable gorse and to re-establish low-fuel load native vegetation.</p> <p>The coastal dune habitat is dominated by non-native European beachgrass. This species displaces native dune vegetation, significantly altering the morphology of dune systems (Barbour and Johnson 1977). In 2006, the Refuge started a test beachgrass control effort on the northern boundary of the unit to investigate the potential of native plant re-establishment. Native dunes are important to a suite of dune community plants including pink sand verbena. This species is listed as endangered by the Oregon Department of Agriculture and is considered a Species of Concern by the Service. Restoration of dune habitat and reestablishment of native species at Coquille Point will provide habitat for wildlife and will provide an opportunity for the public to understand the ecology of coastal dunes and restoration techniques.</p>

#### **2.5.4 Goal 4: Collect scientific information (inventories, monitoring, feasibility studies, assessments, and research) to support adaptive management decisions (Goals 1–3) on Oregon Islands and Three Arch Rocks NWRs.**

Objective 4.a Inventories - Oregon Islands and Three Arch Rocks NWRs
<p>Throughout the life of the CCP, conduct inventory activities necessary to support adaptive management decisions (Goals 1–3) on Oregon Islands and Three Arch Rocks NWRs. A list of inventory activities for these Refuges follows.</p>
Strategies Applied to Achieve Objective
<ul style="list-style-type: none"> <li>• Hire an additional PFT Wildlife Biologist to meet the needs of the Complex's biological program.</li> </ul>

<ul style="list-style-type: none"> <li>• Annually review, compile and make available the results of bird, mammal, reptile, amphibian, invertebrate, and plant inventory efforts.</li> </ul>
<ul style="list-style-type: none"> <li>• Assist partners in the development of standardized inventory techniques for inventorying native burrow-, crevice- and surface-nesting seabird species.</li> </ul>
<ul style="list-style-type: none"> <li>• Research, design, and implement a GIS-based inventory and monitoring program for plant species at Crook Point Unit.</li> </ul>
<ul style="list-style-type: none"> <li>• Research, design, and implement a GIS-based inventory and monitoring program for plant species on vegetated offshore islands.</li> </ul>
<ul style="list-style-type: none"> <li>• Research, design, and implement an inventory program for mammals, reptiles, amphibians, and invertebrates on vegetated rocks and islands.</li> </ul>
<ul style="list-style-type: none"> <li>• Research, design, and implement an inventory program for mammals, reptiles, amphibians, fish, and invertebrates at Crook Point Unit.</li> </ul>
<ul style="list-style-type: none"> <li>• Design and implement an inventory program for migratory and resident birds at Crook Point Unit.</li> </ul>
<ul style="list-style-type: none"> <li>• Research, design, and implement a GIS-based inventory for plant species at Coquille Point Unit.</li> </ul>
<ul style="list-style-type: none"> <li>• Research, design, and implement an inventory program for mammals, reptiles, amphibians, and invertebrates at Coquille Point Unit.</li> </ul>
<ul style="list-style-type: none"> <li>• Design and implement an inventory program for migratory and resident birds at Coquille Point Unit.</li> </ul>
<p><b>Rationale:</b> Oregon Islands and Three Arch Rocks NWRs’ management actions affect sensitive seabird and pinniped populations and increasingly rare offshore and headland habitats. Such actions should be taken with highly trained personnel, up-to-date equipment, and an understanding of the biological rationale and consequences. Focused inventory and monitoring efforts with data collection and properly stored, retrievable results increase the probability that the Refuge will make sound and scientifically viable decisions (Service Policy 701 FW 2). Population inventories for seabirds (Naughton et al. 2007) and pinnipeds (Brown et al. 2005; NOAA 2007b) on refuge rocks, reefs, and islands have been conducted through cooperative efforts of the Refuge and other agencies. However, existing baseline data and inventory of other plant and animal species found on Oregon Islands and Three Arch Rocks NWRs’ habitats are currently inadequate for monitoring trends in these communities. The Service should provide staff to adequately address biological complexity of the Complex’s six refuges with the goal of one PFT biologist per staffed station (USFWS 1998). Currently, the Complex has only one PFT Wildlife Biologist.</p>

<p><b>Objective 4.b Monitoring - Oregon Islands and Three Arch Rocks NWRs</b></p>
<p>Throughout the life of the CCP, conduct monitoring activities necessary to support adaptive management decisions (Goals 1–3) on Oregon Islands and Three Arch Rocks NWRs. The following is a list of monitoring activities for these refuges.</p>
<p><b>Strategies Applied to Achieve Objective</b></p>
<ul style="list-style-type: none"> <li>• Monitor population trends and distribution of common murre and Brandt’s cormorants using aerial photographic surveys.</li> </ul>
<ul style="list-style-type: none"> <li>• Monitor population trend and distribution of pelagic cormorants near Newport using boat and land surveys. Establish monitoring sites on Oregon south coast.</li> </ul>

<ul style="list-style-type: none"> <li>• Work with partners to develop and implement standardized, non-intrusive techniques to determine population trends, distribution, and reproductive success of burrow-, crevice-, and surface-nesting seabirds.</li> </ul>
<ul style="list-style-type: none"> <li>• Monitor vegetated rock and island habitats for presence of invasive plants, and treat infestations with IPM techniques (USFWS 2009).</li> </ul>
<ul style="list-style-type: none"> <li>• Evaluate and monitor habitat response to IPM treatments.</li> </ul>
<ul style="list-style-type: none"> <li>• Meet annually with ODFW to discuss coastal and marine management issues of mutual interest and develop a strategy of timely notification of pertinent information.</li> </ul>
<ul style="list-style-type: none"> <li>• Assist NOAA and ODFW to determine reproductive success and population trends of Steller sea lions.</li> </ul>
<ul style="list-style-type: none"> <li>• Conduct joint wildlife surveys and/or support ODFW efforts to survey pinnipeds, seabirds, waterfowl, and other marine wildlife using the Refuges and the state Territorial Sea. Report survey results in publications and periodic reports and on the refuge web site.</li> </ul>
<ul style="list-style-type: none"> <li>• Obtain wildlife survey information and other data from ODFW on a regular and timely basis.</li> </ul>
<ul style="list-style-type: none"> <li>• Monitor seabird colonies for presence of mammalian predators.</li> </ul>
<ul style="list-style-type: none"> <li>• Monitor population trend and distribution of brown pelicans in the Pacific Northwest using aerial surveys.</li> </ul>
<ul style="list-style-type: none"> <li>• Continue to work cooperatively with ODFW/Service Migratory Bird Division to determine population trends and distribution of Aleutian cackling geese.</li> </ul>
<ul style="list-style-type: none"> <li>• Cooperate with private individuals, CoastWatch, Coastal Observation and Seabird Survey Team, Oregon Department of Health, ODFW, USGS, and NOAA to monitor baseline levels of seabird and pinniped mortality, wildlife disease levels, carcass deposition, and oiling.</li> </ul>
<ul style="list-style-type: none"> <li>• Work cooperatively with the Service’s Ecological Services Division and USGS to determine population trends and distribution of black oystercatchers.</li> </ul>
<ul style="list-style-type: none"> <li>• Work cooperatively with ODFW and OSU to determine peregrine falcon population trends and distribution.</li> </ul>
<ul style="list-style-type: none"> <li>• Monitor management efforts to determine responses of wildlife and habitat to invasive plant and predator controls. Apply adaptive management based upon monitoring results.</li> </ul>
<p><b>Rationale:</b> The goal of monitoring at the Complex is to evaluate, regulate, guide, or investigate the success of the Complex’s wildlife and land management actions, including wildlife surveys and invasive plant and animal control actions. To meet this goal, the Complex will need to standardize the data collected to facilitate monitoring success or failure of management actions and to assist the Refuge in determining how to improve management over time (adaptive management). The complexity, cost, and sample size requirements for these types of monitoring efforts, in many cases, often exceed the abilities of individual refuges (USGS 2007) and cooperative programs will be needed to implement these efforts.</p> <p>Monitoring emphasis at Oregon Islands and Three Arch Rocks NWRs will include species, groups of species or communities that are of importance due to federal or state listing as endangered, threatened or a species of concern, or cited in the Refuge’s enabling legislation, establishing documentation or contained in international, national, regional, state, or ecosystem conservation plans or acts (Service Policies 620 FW1, 701 FW2). NOAA National Marine Fisheries Service (NOAA Fisheries Service) and the Service share responsibility for implementing the Endangered Species Act of 1973. Generally, the Service manages land and freshwater species, while NOAA Fisheries Service manages marine and anadromous threatened and endangered species. In addition, NOAA Fisheries Service has jurisdiction over</p>

the four species of pinniped that occur on the Refuges (Steller and California sea lion, harbor and northern elephant seal) under the Marine Mammal Protection Act.

Thirteen species of seabird breed on Oregon Islands and Three Arch Rocks NWRs. Many of these species face an array of threats at sea (e.g., oil spills, fishery effects, pollution) and on their breeding grounds (e.g., predation, invasive plants, disease). Current and formerly listed state and federal threatened and endangered species, discussed above, are monitored largely in accordance with the Endangered Species Act or recovery plan recovery efforts. Monitoring of non-listed seabirds and their threats are prioritized and guided by the Service Pacific Regional Seabird Conservation Plan (USFWS 2005b) and U.S. Shorebird Conservation Plan (USFWS 2000), and the ODFW's Oregon Conservation Strategy (2005). The Service Seabird Conservation Plans rank species according to population size trends, extent of breeding and non-breeding distribution and threats during breeding and non-breeding seasons. Species of concern include: (1) High Concern: black oystercatcher, pelagic cormorant, Cassin's auklet (*Ptychoramphus aleuticus*) and rhinoceros auklet (*Cerorhinca monocerata*); and (2) Moderate Concern: Brandt's cormorant, common murre, pigeon guillemot, and tufted puffin. In the Oregon Conservation Strategy, species determined to be at risk or have populations that are low and declining include black oystercatcher, fork-tailed storm-petrel (*Oceanodroma furcata*), Leach's storm-petrel, and tufted puffin.

The Service has conducted seabird surveys along the coast of Oregon from 1966 to present (Naughton et al. 2007). Aerial and boat surveys have been standardized, both in technique and timing (Takekawa et al. 1990) since 1988 to more accurately census and monitor breeding seabirds. These efforts primarily focused on the pelagic and Brandt's cormorants and common murre due to the ability of staff to conduct distant aerial or boat observations and/or photography of surface nesters with little or no disturbance. As one of the important indicators of marine productivity, several colonies of pelagic cormorants near Newport have been monitored for nearly 20 years, primarily because of their proximity to Complex headquarters. Additional colony monitoring sites on the south coast should be established to provide a broader indicator of marine productivity. A discussion of the background and need for monitoring of each species identified as a strategy under this objective can be found in Chapter 4.

The ODFW's management responsibilities along the coast including lands and waters, fish and wildlife, threatened and endangered species, and other programs, frequently overlap with Service resources and responsibilities. Increased cooperation between ODFW and the Complex will assist both agencies in meeting their missions and mandates and provide a more systematic and accessible process for sharing information, expertise, and funding, as contained in the Oregon Conservation Strategy (ODFW 2006). The ODFW and the Complex share mutual interests in wildlife surveys, documenting and responding to seabird mortality events, developing joint research projects, education and outreach programs, species management and dissemination of data, results, and information to a wider audience. Working in concert with ODFW is consistent with the policies of Oregon Statewide Planning Goal 19-Ocean Resources and the Territorial Sea Plan. The Territorial Sea Plan (LCDC 1994) specifies that Oregon should seek co-management arrangements with federal agencies when appropriate to ensure that ocean resources are managed and protected and to cooperate with other states and governmental entities directly and through regional mechanisms to manage and protect ocean resources and uses.

The ODFW has been conducting surveys of pinniped populations using the Refuges for more than two decades. The Complex has supported this work by issuing Special Use Permits and reporting marked animals. Even though the Marine Mammal Protection Act transferred management jurisdiction for pinnipeds from state government to NOAA's Fisheries Service in 1972 leaving ODFW without management authority for these species, ODFW has been using limited state program funds along with funding support from NOAA to study and manage pinnipeds in Oregon. Complex staff members have been working closely with ODFW and NOAA Fisheries Service personnel on research associated with Steller sea lions that use refuge rocks and islands. The data collected by ODFW fulfills population monitoring data needs of the Complex; however, a greater effort in obtaining the data in a timely fashion is needed.

#### **Objective 4.c Research and Scientific Assessments – Oregon Islands and Three Arch Rocks NWRs**

Throughout the life of the CCP, encourage applied research and feasibility studies to support adaptive management decisions (Goals 1–3) on Oregon Islands and Three Arch Rocks NWRs. A list of research projects needed for these refuges follows.

##### **Strategies Applied to Achieve Objective**

- Work with USGS, universities, and others to establish a long-term seabird research program using seabirds as biological indicators of ocean conditions.
- Work with partners to research and monitor the effects of an increasing coastal bald eagle population on common murre and other seabird colonies.
- Work with universities, agencies, and organizations to research, assess, and monitor the interrelationship of climate change on physical and biological factors that are ecologically connected to refuge lands and resources.
- Pursue joint research opportunities with ODFW and other partners.
- Work cooperatively with BLM to develop monitoring and research projects of mutual interest to both agencies.
- In cooperation with ODFW and OSMB, re-examine the need for special management area designation/buffer zones at 33 areas within Oregon Islands and Three Arch Rocks NWR as described in the Oregon Territorial Sea Plan (LCDC 1994).
- Coordinate with the NOAA National Marine Mammal Lab to permit and support on-going Steller sea lion ecological research.
- Work cooperatively with the Service's Ecological Services Division and USGS to assess ecological factors affecting black oystercatcher survival and reproductive success.

**Rationale:** Oregon Islands and Three Arch Rocks NWR primary purposes are the protection and conservation of sea lions and colonial nesting seabirds (E.O. 4364 and 699). Seabird conservation and management at the Complex is based upon statistically viable scientific research combined with long-term monitoring. Seabirds using these refuges represent a group of species that use different foraging guilds in the marine food web (R. Suryan pers. com.) Long-term small scale or localized research using this suite of species as indicators of ocean conditions can be used to document change in the larger marine environment. The need to change or regulate human induced threats to refuge resources will be driven by an understanding of marine ecological parameters that is directly influenced by anthropogenic actions. The Refuge's role in increasing this knowledge is key to making informed management decisions with the best scientific data possible. Research should be focused on understanding

the cause of reduced or declining seabird populations and developing tools and techniques to aid recovery of threatened or endangered species (USFWS 2005b).

The Steller sea lion is a federally and state listed species that is monitored by the State of Oregon, Marine Resources Program and NOAA's National Marine Mammal Laboratory, California Current Ecosystems Program (CCEP). In addition to stock assessment monitoring, CCEP is performing research to determine vital rate parameters for this species. The survival rate data collected from this effort provides species-specific ecological data from the southernmost major rookery sites (e.g., St. George and Rogue Reef) and allows comparisons to other rookeries range wide. The goals of this research are to assess survival rates, age of female recruitment, and distribution and dispersal of marked pups and juveniles (NOAA 2007c).

The Complex assists NOAA in meeting the requirements of the Marine Mammal Protection Act by providing disturbance-free habitat for these species and assisting in recovery research. Even though the Marine Mammal Protection Act transferred management jurisdiction for pinnipeds from state government to NOAA Fisheries Service in 1972 leaving ODFW without management authority for these species, ODFW has been using limited state program funds and funding support from NOAA Fisheries Service to study and manage pinnipeds in Oregon. The Complex has supported this work by issuing Special Use Permits and reporting marked animals.

The black oystercatcher is a species of concern due to a variety of natural and human induced disturbances. The Oregon coast is undergoing increased development and use as people relocate, retire and recreate on the coast. This species is restricted to the narrow rocky coastline and is directly in the path of a concentrated beach user group. Population declines from increased disturbance and associated nest abandonment may lead to local extirpation on the Oregon coast (Tessler et al. 2007). To assess the importance of demographic parameters, USGS with the Service and a suite of other public agencies have developed a research assessment study to understand the ecology of the species in the southern portion of its range and to determine if increased management (e.g., public education, regulations, predator control) is needed for its conservation (Tessler et al. 2007).

Bald eagles have been increasing in Oregon steadily since the 1970s. The net increase in the Oregon population was 8.9% in 2007, with an average annual increase of 6.9% from 1995 to 2004 (Isaacs and Anthony 2008), while the Oregon coast breeding population increased 17% from 2003 to 2007. Bald eagles nesting near seabird colonies prey predominantly on seabirds for food (Sherrod et al. 1976; Degange and Nelson 1982). Since 1994, the increasing numbers of bald eagles on the Oregon north and central coast have in turn increased disturbance at common murre and Brandt's cormorant colonies, resulting in colony abandonment, population declines, and redistribution (R. Lowe pers. com.; Naughton et al. 2007). This successfully recovered eagle population is expected to continue its positive growth in Oregon and it is unknown what level of influence this increasing population of predators will have on seabird populations and demography. Cooperative research efforts with the Service, OSU, and Oregon Sea Grant to quantify the effects of bald eagles on common murre reproductive output at YHONA were started in 2007. Preliminary results indicate that eagle foraging disturbance was high prior to incubation initiation by the murre (OSU unpublished data). Continuation of this research and expansion to other colony sites is needed to determine if changes in seabird populations are affected by direct mortality and disturbance, secondary predators (e.g., gulls, ravens) during eagle disturbance events, or immature eagle foraging and loafing patterns.

One of the greatest challenges currently facing the National Wildlife Refuge System and wildlife populations in the twenty-first century is rapid climate change brought about by global warming (Defenders of Wildlife 2006). Oregon's climate is warmer than it was 20 years ago and this trend is likely to continue into the next century. Climate change is a global issue that has and will continue to affect refuge resources in the future. The potential impacts of climate change on the Pacific Ocean and nearshore environment include increase in sea-level and sea-surface temperatures, changes in salinity, alkalinity, wave and ocean circulation patterns and upwelling, and loss of coastal marshes, estuaries and ocean beaches (Glick et al. 2007). The consequence of these changes and losses in Oregon's marine environment include direct loss of habitat through coastal inundation and flooding, changes in species biogeography, including species of marine wildlife (e.g., phytoplankton, krill, forage fish, seabirds, and pinnipeds) and invasive species (e.g., animals, plants, microbes, and pathogens). Although there can be no certainty regarding the precise nature and rate of change to Oregon's marine environment, it is clear that changes in the environment have the potential to have negative social, economic and environmental impacts. The monitoring and research of impacts of climate change on refuge species and habitats is complex and difficult, and will require cooperation from numerous public and private organizations to combine all the factors that could affect the region's wildlife and habitat.

The ODFW's management responsibilities along the coast including lands and waters, fish and wildlife, threatened and endangered species and other programs frequently overlap with Service resources and responsibilities. Increased cooperation between ODFW and the Complex will assist both agencies in meeting their missions and mandates and provide a more systematic and accessible process for, sharing information, expertise and funding, as contained in the Oregon Conservation Strategy (ODFW 2006). The ODFW and the Complex share mutual interests in developing joint research projects, species management and dissemination of data, results, and information to a wider audience. Working in concert with ODFW is consistent with the policies of Oregon Statewide Planning Goal 19 - Ocean Resources and the Territorial Sea Plan. The Territorial Sea Plan specifies that Oregon should seek co-management arrangements with federal agencies when appropriate to ensure that ocean resources are managed and protected and to cooperate with other states and governmental entities directly and through regional mechanisms to manage and protect ocean resources and uses (LCDC 1994).

ODFW has been conducting surveys of pinniped populations using the Refuges for more than two decades. The Complex has supported this work by issuing Special Use Permits and reporting marked animals. The data collected by ODFW fulfills population monitoring data needs of the Complex; however, a greater effort in obtaining the data in a timely fashion is needed. The Refuge has been working closely with ODFW and NOAA Fisheries Service on research associated with Steller sea lions within Oregon Islands NWR. The research is investigating population dynamics, recruitment, survivorship and dispersal of young of this threatened species. Annual meetings or conference calls are held to discuss results of previous work and proposed future work. All work is done in accordance with provisions of Special Use Permits issued to ODFW and NOAA Fisheries Service, and Complex Staff participates in fieldwork.

The Service and BLM have worked cooperatively since the early 1980s to protect the wildlife resources of YHONA and the adjacent rocks within Oregon Islands NWR. Large populations of nesting seabirds in close proximity to the mainland provides an opportunity to conduct monitoring and research on these species including reproductive success, food habitats, response to predators, and response to oceanic events and upwelling. While neither BLM nor the Complex currently have staff available to conduct these studies they will work cooperatively with others entities such as universities to encourage on-site monitoring and research and data sharing. In recent years, a reduction in the number of seabirds nesting at some mainland sites has been noted by Complex staff and may be due, in part, to predation by feral cats, raccoons and weasels. The BLM and Complex should work cooperatively to document occurrence of and impacts from mammalian predators, and implement a plan to remove the predators.

**2.5.5 Goal 5: Oregon Islands NWR: Promote protection, stewardship and enjoyment of Oregon’s seabirds and pinnipeds and their wilderness habitats by providing opportunities for wildlife observation, photography, interpretation and environmental education on appropriate mainland areas.**

**Objective 5.a Partnerships for Offsite Wildlife Viewing and Photography**

Throughout the life of the CCP and in partnership with others provide information and offsite facilities for visitors to view and photograph wildlife using coastal rocks and islands.

**Strategies Applied to Achieve Objective**

- In cooperation with OPRD ensure maintenance of refuge-constructed Simpson Reef Overlook viewing deck, parking lot and interpretative features at Shore Acres State Park.
- Develop MOU between Shore Acres State Park and the Complex regarding management of Simpson Reef Overlook viewing deck public use facilities.
- In partnership with OPRD, design and build wildlife viewing decks at Harris Beach, Ecola and Otter Crest Headland State Parks.
- Partner with the BLM and the Oregon Coast Aquarium to obtain funding to acquire and install a wildlife viewing camera at YHONA with live video feed to the BLM Visitor Center, the Aquarium and the Complex’s web site.
- Distribute a brochure of the seabirds of the Pacific Northwest.

**Rationale:** In accordance with the National Wildlife Refuge System Administration Act of 1996, as amended, refuges are encouraged to provide wildlife observation and photography opportunities wherever they are appropriate and compatible. The Oregon Coast is one of the most popular tourist destinations in the State with 22 million visitor-use days each year, and wildlife observation is the most popular public use that visitors engage in at Oregon Islands NWR. The Pacific Coast Scenic Byway (U.S. Highway 101) runs the length of the Oregon Coast, as does Oregon Islands NWR, making it difficult for Complex Staff to appropriately provide both wildlife protection and wildlife dependent public use. Therefore, the Refuge must work as much as possible with federal, state, local and private partners to provide a variety of both onsite and offsite wildlife viewing and photographic opportunities and facilities for visitors. Each partnership between the Complex and another private or public group will be formalized in an MOU to ensure the goals and objectives of both the cooperator and the Refuge are delineated and that the roles and responsibilities of each agency or group are clear.

Wildlife enthusiasts from all over the world visit the Oregon Coast to view, photograph and learn about its abundant wildlife. The Refuge gets regular requests for an informational brochure about the seabirds breeding on coastal rocks and islands of the Refuge. Continued distribution of the Complex-developed “Seabirds of the Pacific Northwest” brochure will enhance their visit and provide the Refuge with a venue to discuss the sensitivity of these species to human disturbance.

**Objective 5.b Partnership with OPRD for Interpretation and Education**

Work with OPRD to protect refuge wildlife, plants and habitats and to promote conservation of these resources through interpretation and education from state lands adjacent to Oregon Islands NWR throughout the life of the CCP.

**Strategies Applied to Achieve Objective**

- Establish a coast wide MOU with OPRD to assist the Complex in the protecting refuge resources and to promote interpretation and education from OPRD lands adjacent to or overlooking refuge lands.
- Formalize a coast wide volunteer interpretive program to inform visitors of coastal and marine resource issues and needs.
- Collaborate with OPRD to prevent impacts to refuge resources from uses occurring on beaches such as fireworks, beach fires, commercial filming activities, and trespass on refuge lands.
- Map all refuge-constructed and/or maintained visitor facilities on OPRD lands.

**Rationale:** The OPRD manages Oregon beaches, numerous State Parks and other designated lands along the entire Oregon coast. Many of these OPRD-managed lands are immediately adjacent to large segments of Oregon Islands NWR. The OPRD’s management responsibilities, including lands, facilities, and interpretive and educational programs, frequently overlap with the Complex’s goals and responsibilities for public outreach and education. Because of the public use of OPRD-managed lands in immediate proximity to refuge lands careful coordination and cooperation is necessary to protect refuge wildlife and habitats from direct impacts (trespass) and indirect impacts (disturbance). Because OPRD manages numerous sites along the coast that provide optimal opportunities for viewing and interpreting refuge resources and lands, it is imperative to work closely with them on interpretive and educational programs that benefit both agencies programs. Establishment of a coastwide MOU between the Complex and OPRD will clarify and delineate roles and responsibilities regarding mutual interests and formalize and acknowledge programs already underway. The MOU will assist both agencies by providing a more accessible and systematic process for sharing information, funding, staffing, and expertise. Mutual interests include but are not limited to maintaining visitor use facilities, developing new facilities, collaborating on interpretive panel messages, developing joint educational and interpretive programs and utilizing staff and volunteers.

### Objective 5.c Partnerships with Friends Groups and Volunteers for Interpretation and Education

Throughout the life of the CCP partner with Friends Groups, volunteers and interns to increase interpretation and environmental education programs for visitors and community members.

#### Strategies Applied to Achieve Objective

- Develop and implement an environmental education program on seabirds for K-12 students. Seek grant opportunities to cover intern educators and program expenses.
- Increase refuge volunteer presence at key interpretive sites along coast to include coverage seven days per week from May 1 to September 15.
- Provide leadership and resources to manage and train volunteers. Develop evaluation system for volunteer program to maintain a quality program and volunteer experience.
- Expand volunteer wildlife interpretation program to include volunteer presence at additional locations along the coast.
- Hire a PFT GS-7/9 Volunteer Coordinator.
- In cooperation with OPRD and BLM, maintain volunteer presence at offsite locations to interpret wildlife resources.
- Work with BLM staff at YHONA to improve and replace interpretive panels overlooking seabird colonies.
- Maintain and expand cooperative program with OPRD to provide RV hookup sites for refuge volunteers.
- Hire a PFT GS-7/9 Environmental Education Specialist.
- Develop and loan out a seabird education module box to coastal schools.

**Rationale:** Each spring and summer the Complex, along with state and federal partners, stations volunteer wildlife interpreters on mainland sites overlooking Oregon Islands. Volunteer wildlife interpreters are on duty a minimum of four days per week to orient visitors, make them aware of the wildlife resources using the rocks and islands, and educate them as to how they can reduce negative wildlife/human interactions. Current sites with volunteer interpreters include Cape Meares Scenic Viewpoint, Heceta Head State Scenic Area, Haystack Rock at Cannon Beach, YHONA, Coquille Point Unit, Simpson Reef Overlook at Shore Acres State Park, and Harris Beach State Park. Having volunteers interact with visitors has been well-received by the visitors, staff from OPRD and BLM, and Refuge Friends Groups. In many of these partnerships OPRD provides the volunteers with a full hook-up site for a recreational vehicle (RV) at a nearby state park campground and in return the Complex recruits, trains, and provides uniforms for the volunteers.

Due to an increase in the number of visitors to the Oregon coast there is a need to expand the interpretation program to have volunteers available seven days/week and to include additional locations to station volunteers. New sites that have been identified include Ecola State Park, Otter Crest Headland, Port Orford, and Myers Creek Rocks. The Complex volunteer program is growing and there is need to formalize the program around available funding, recruitment, training, and evaluation. Formalizing the program will ensure volunteers are consistently equipped and trained, and share the same wildlife conservation message with visitors regarding the National Wildlife Refuge System and its mission. A formal program will also reduce the amount of staff time spent on the process of recruiting and training volunteers by standardizing recruitment announcements, training and evaluation. With a growing volunteer program comes

more work on an already limited staff. Therefore, a full-time volunteer coordinator is needed to manage this growing program that annually utilizes volunteers to control invasive species, maintain public use facilities, lead environmental education field trips, and conduct wildlife interpretation, and more.

When volunteers are not available or locations are not appropriate for volunteers, a series of interpretive panels, located on private, city, county, state and federal lands, offer information about Oregon Islands NWR through a self-guided experience. The Refuge already has panels at some locations but many of these are damaged or dated and need to be revised and installed. Environmental education plays a key role in encouraging current and future generations to engage in environmentally responsible behavior like supporting the protection of habitat for wildlife through the National Wildlife Refuge System. With limited staff time available the only way the Refuge can offer a high-quality EE program is to hire a full-time environmental educator and temporary staff through work study programs like AmeriCorps and Student Conservation Association to write curriculum and conduct EE.

**Objective 5.d Partnerships with Schools for Environmental Education**

Coordinate and cooperate with school districts and the Northwest Service Academy to protect Complex resources and develop within students an understanding and appreciation for the resource through environmental education programs.

**Strategies Applied to Achieve Objective**

- Develop an MOU with school districts to implement environmental education along the Oregon coast.
- Annually review and revise the formal agreement with the Northwest Service Academy to support environmental education AmeriCorps positions at the Complex.
- Secure long-term funding for AmeriCorps positions.
- Hire PFT Environmental Education Specialist for the Complex.

Rationale: The Complex administers refuge lands in five coastal counties. Within these counties there are eight school districts that have schools near one of the three marine Refuges. Many of these schools have participated in refuge EE programs, and it is in the interest of the Complex to formalize the relationship with each district through development of an MOU. An MOU will help advance EE in schools by strengthening and sustaining an EE program for targeted grades focusing on seabirds. The MOU will further serve to clarify each party’s role in ensuring a generation of environmentally conscious students especially in the area of marine and estuarine conservation. It is vital to secure long-term funding to assist schools with the cost of bus transportation to get students to the Refuges or refuge overlooks. The lack of bus transportation funds is a limiting factor for schools on the Oregon coast and without this funding many school cannot participate.

With limited staff time available the only way the Complex can offer a high quality EE program coast wide is to hire a PFT Environmental Education Specialist and temporary staff through work-study programs like AmeriCorps. An EE Specialist is needed to establish and maintain relationships and programs with school districts. The Specialist will be responsible for designing, coordinating and implementing wildlife based EE programs to schools, conducting teacher workshops, and developing and managing a seabird education module. The Complex

has successfully hosted AmeriCorps members for more than six years and the people serving in these positions have educated tens of thousands of students, residents and visitors on the importance and function of coastal headlands, rocks, reefs, and islands and the sensitive wildlife that depend on these habitats for survival. Each year, the Complex will continue to review and revise the formal agreement with the Northwest Service Academy to support AmeriCorps positions at the Complex.

**Objective 5.e Outreach to Visitors, Communities and Media**

Provide high-quality outreach to visitors, community members, local media and chambers of commerce on the refuge policies, habitat and wildlife resources of Oregon Islands throughout the life of the CCP.

**Strategies Applied to Achieve Objective**

- Complex Staff or volunteers attend local festivals and/or special events that have a high potential to deliver refuge messages to key audiences.
- Conduct regular updates of refuge website.
- Distribute, update and maintain refuge brochure.
- Identify existing publications and produce new publications when necessary to reduce and eliminate wildlife disturbance resulting from watercraft use and operation in waters adjacent to the Refuges.
- Maintain PFT Visitor Services position for the Complex.
- Develop written guidelines for commercial and other non-wildlife related interests including filming movies and product commercials. Coordinate with the Oregon Film Board and direct filming interests away from sensitive sites or sensitive times of year. Work with OPRD on coordination of issuing permits.
- Seek funding to design and construct informational panels at all appropriate major coastal access points along the Oregon coast to alert the public to the presence of the Refuge and the measures that should follow to prevent disturbance to marine wildlife.
- Maintain interpretive and regulatory panels already in place on offsite locations of Silver Point Wayfinding Point, Devil’s Lake Wayside, Battle Rock Wayfinding Point, and Brookings State Rest Area.
- Upgrade and replace two existing but outdated and damaged interpretive panels at Ecola State Park.
- Work with Oregon Coast Aquarium to update information on interpretive panels in their aviary regarding the habitat provided by Oregon Islands NWR for nesting seabirds and pinnipeds.
- Maintain website for the Oregon Coast Birding Trail.

**Rationale:** With so many agencies and conservation organizations owning and managing lands on the Oregon coast there is often confusion on the part of both community members and visitors about what the Refuges are, the agency jurisdiction they are under, and how the resources are managed. Outreach is crucial to distinguishing the Service’s National Wildlife Refuge System from other wildlife management agencies or parks. When the public knows and understands the role of the Service and the Refuge System it improves their awareness of refuge regulations and policies, the reasons behind them, and reduces violations necessitating L.E.

The Complex will continue to provide city, county, state, and federal land managers along the coast, conservation organizations, and the media with the most up-to-date information regarding the Refuge through a variety of avenues including a web site, news releases, refuge brochures, and attendance at local festivals or special events. Having Complex staff members or volunteers attend community festivals, coastal sportsman shows, boat shows, kayak demonstrations, air shows, fly-ins, and sport dive outings gives the Refuge an opportunity to deliver refuge wildlife protection messages to key audiences.

The Complex has a website for the purpose of refuge-related information dissemination and communication. Maintaining this website into the future is important as it provides a convenient location for anyone to quickly get information about refuges, wildlife, habitat, wildlife regulations, current events, and much more. The site is a powerful communication tool and saves the Service money by reducing the need to generate more printed materials and brochures to correspond with the general public.

In partnership with the Oregon Coast Visitors Association, the Complex currently is in charge of maintaining a website for the Oregon Coast Birding Trail. The Birding Trail is a self-guided driving itinerary highlighting the premier locations for observing birds along the entire Oregon coast and the Refuge is included in many sites within the guide. Birdwatching is one of the fastest growing outdoor recreational activities in the country, and in March 2007 the Service recognized the importance of refuges to future generations of birds and birders by launching a National Wildlife Refuge System Birding Initiative. The goal of this initiative is to strengthen the relationship between the birding community and the Refuge System and to increase opportunities for quality bird watching on refuges. The Complex believes that providing quality wildlife watching experiences can develop a “sense of wonder” for the natural world and a passion for protecting and restoring wildlife populations and their habitat for future generations. Therefore, the Complex will continue to update and maintain the website for the Oregon Coast Birding Trail as it serves as an excellent guide to connecting visitors with wildlife viewing experiences at our National Wildlife Refuges.

The Complex has designed and installed interpretive and regulatory panels at offsite locations with a dual purpose of providing the natural history of the wildlife living on the rocks and islands and communicating to visitors the regulations protecting these species. The Complex will maintain existing panels located at Silver Point Wayfinding Point, Devil’s Lake Wayside, Battle Rock Wayfinding Point, and Brookings State Rest Area. Due to an increase in coastal tourism the Complex has determined it is important to develop a new interpretive panel focusing on the wildlife resources of Oregon Islands and how people can protect them to be placed at new and high priority public access sites along the coast. The purpose of the panel will be to increase people’s awareness of the vulnerability of marine wildlife to human disturbance and remind them that all rocks, reefs and islands are closed to the public.

**Objective 5.f Promote Cooperative Strategies to Minimize Disturbance by Residents, Visitors and Ocean Users**

Throughout the life of the CCP, the Complex will implement strategies to promote compliance by residents, visitors, and boat and aircraft operators of refuge rules and recommendations that minimize human disturbance of wildlife on coastal rocks and islands.

<b>Strategies Applied to Achieve Objective</b>
<ul style="list-style-type: none"> <li>• Increase LE presence and boundary signing, where appropriate, to eliminate illegal trespass into closed refuge areas.</li> </ul>
<ul style="list-style-type: none"> <li>• Partner with State and local agencies to ensure accuracy about refuge and wildlife regulations in their publications and on their websites.</li> </ul>
<ul style="list-style-type: none"> <li>• Develop a joint study with BLM at YHONA to document and control wildlife resource impacts associated with current or potential future public use at YHONA.</li> </ul>
<ul style="list-style-type: none"> <li>• Work with FAA to advocate a 2,000-foot minimum AGL altitude conservation recommendation for aircraft over refuge rocks, reefs and islands and have the recommendation printed on all aeronautical charts.</li> </ul>
<ul style="list-style-type: none"> <li>• Develop written guidelines for commercial and other non-wildlife related interests including filming movies and product commercials. Coordinate with the Oregon Film Board and direct filming interests away from sensitive sites or sensitive times of year. Coordinate with OPRD on issuing permits.</li> </ul>
<ul style="list-style-type: none"> <li>• Develop a presentation and accompanying materials to be delivered annually to pilots regarding the potential for, results of, and ways to reduce aerial disturbance to marine wildlife present on coastal islands.</li> </ul>
<ul style="list-style-type: none"> <li>• Develop and distribute a public service announcement to local media on how boat and aircraft operators can prevent wildlife disturbance.</li> </ul>
<ul style="list-style-type: none"> <li>• Work with ODFW to have the Oregon Islands recommended 500-foot seasonal buffer zone for all coastal rocks and islands included in annual sport and commercial fishing regulations.</li> </ul>
<ul style="list-style-type: none"> <li>• Develop informational signage and pilot tear-sheets to be placed at small airports or airport fueling stations on the recommendations for preventing disturbance to breeding and resting wildlife.</li> </ul>
<ul style="list-style-type: none"> <li>• Maintain Tenyo Maru-funded interpretive panels at twelve watercraft launching sites.</li> </ul>
<ul style="list-style-type: none"> <li>• Develop a presentation to be given as annual training to USCG pilots and flight crews at air stations in Astoria, Newport, and North Bend to prevent disturbance to marine wildlife.</li> </ul>
<ul style="list-style-type: none"> <li>• Work with the OSMB to identify existing publications and produce new publications when necessary to reduce and eliminate wildlife disturbance resulting from watercraft use and operation in waters adjacent to the Refuges.</li> </ul>
<ul style="list-style-type: none"> <li>• Give presentation to Board Members of the OSMB regarding refuge issues/concerns for wildlife disturbance caused by watercraft.</li> </ul>
<ul style="list-style-type: none"> <li>• Provide information and educational materials on refuges and refuge wildlife to be distributed through the state watercraft licensing program and other means.</li> </ul>
<p><b>Rationale:</b> Seabirds, pinnipeds and their habitats are extremely sensitive to human disturbance. Therefore, the coastal rocks and islands of Oregon Islands and Three Arch Rocks NWRs are closed to public use to protect wildlife and habitat. Although not allowed as a public use and considered trespass on the Refuge, tidepoolers, photographers, rock climbers, anglers, and recreational kayakers and boaters are frequently found on rocks and islands. It is likely that this pressure will increase over the life of the CCP as the Oregon coast resident population and seasonal visitation increases. Many coastal rocks and islands are accessible to people at low tide so it is necessary to post coastal access sites, where possible, as closed to reduce or eliminate trespass into wildlife use areas.</p> <p>The headquarters for the Complex is located in the center of the coast and the staff size is limited making it impossible for Complex staff to be near any sites and react in a timely manner to disturbance of wildlife. In addition, because there are limited LE personnel available, illegal</p>

activities such as climbing on rocks and general trespass continue to cause disturbance to seabirds and pinnipeds. Therefore, the Complex relies on refuge volunteers, OPRD staff, BLM staff, Friends Group members, other LE agencies and local residents to report wildlife disturbance events by boaters, aircraft, and people on foot, but also to share the message of disturbance prevention. By necessity the Refuge has come to rely on informal arrangements and coordination with the USCG, NMFS Enforcement, OPRD, and Oregon State Police to help with trespass and disturbance. Because there is only one LE officer for the Complex, coordination will continue to be critical. Furthermore, the Complex needs to develop a standard educational presentation to be delivered annually to pilots including commercial, Air National Guard, and USCG regarding the potential for, results of, and ways to reduce aerial disturbance to marine wildlife present on coastal rocks, reefs, and islands.

Because refuge boundaries stop at the mean high tide line, ODFW and other state agencies are in a unique position to greatly assist the Complex in protecting sensitive seabirds and pinnipeds from human disturbance in close proximity to the Refuges though management actions as described in the Rocky Shores Management Strategy of the Territorial Sea Plan (LCDC 1994).

The Service and BLM have been working cooperatively since the early 1980s to protect the wildlife resources of YHONA and the adjacent rocks within Oregon Islands NWR. The existing MOU for Yaquina Head signed in 1985, is a three-party agreement among the Service, BLM, and USCG. At the time of MOU establishment, USCG managed the lighthouse and 10 acres of the site. With the exception of a dilapidated stairway to the Cobble Beach, BLM did not have any structures or facilities on the headland and only one seasonal employee was present during the spring and summer months. At this time the public was accessing many of the cliff edges and rocks within the Refuge, frequently disturbing harbor seals and preventing seabird nesting in these areas. Since establishment of the MOU, BLM has developed the headland for wildlife viewing, photography, interpretation and environmental education. In addition, BLM has added permanent staff on site as well as seasonal employees and volunteers. Complex staff members have worked with BLM employees and their volunteers to conduct annual training to teach them life history information on seabirds and harbor seals to share with the visiting public and also how to identify and prevent human disturbance to wildlife. In recent years, the Complex has begun stationing refuge volunteers at YHONA in spring and summer to assist BLM in interpreting the natural resources of the headland and adjacent refuge rocks. Working in concert with Complex staff, BLM has restricted and enforced where the public is allowed to go on the headland to protect wildlife and visitors.

Working in close cooperation with BLM over the past two decades has resulted in the protection of existing seabird colonies and the harbor seal haulout site and provided for dramatic population increases in nesting seabirds and the colonization of new sites on the mainland and refuge rocks. The common murre population at YHONA has grown from one colony supporting 23,604 birds in 1988 to six colonies supporting 92,368 birds (R. Lowe pers. com.; USFWS unpublished data). Public use of YHONA exceeds 350,000 visitors annually and this site is now one of the premier seabird viewing locations in the country and provides opportunities for wildlife resource interpretation and environmental education. There is a need for continued close coordination between Service and BLM to share data and ensure that adaptive management of public use and wildlife protection continues to prevent impacts to wildlife using the Refuge rocks directly adjacent to YHONA.

Low-flying aircraft causes serious disturbance to seabird colonies. The FAA aeronautical charts depict the presence of the Oregon Islands NWR, but the minimum aircraft 2,000-foot AGL altitude is strictly a conservation request and may be ignored by pilots. To help eliminate disturbance to seabirds and pinnipeds the Complex should work with the FAA toward establishing an official minimum 2,000-foot AGL flight restriction zone for all aircraft above refuge rocks and islands. The Complex will work with ODFW and the OSMB to determine the need for additional 500-foot watercraft buffer zones around refuge seabird colonies and pinniped use sites along the Oregon coast to prevent disturbance events.

Strategically placed interpretive media including information panels, fliers and posters are currently used by the Complex and will continue to be developed and used as an educational tool to reduce wildlife disturbance events caused by boats and aircraft. A series of interpretive panels aimed at educating recreational boaters about their impacts on seabirds and pinnipeds were designed and installed at 12 watercraft launch sites on the coast. These panels will be maintained, upgraded, and replaced, as needed, by the Complex. Other interpretive media developed by the Complex includes two posters aimed at educating boaters and pilots about their impacts on coastal wildlife and how they can reduce the chance of a disturbance event. The Complex will continue to distribute these posters to appropriate businesses, outfitters, and visitor facilities on the coast. In addition, the Complex recently completed the Seabirds of the Pacific Northwest brochure funded by the Nestucca Oil Spill Trustees. This educational tool describes measures to protect seabirds, shorebirds and pinnipeds and will be distributed in Oregon, Washington, and California.

In addition to the regulated seasonal closure at Three Arch Rocks NWR, the Complex requests that all watercraft remain at least 500 feet away from rocks, reefs and islands within Oregon Islands NWR inhabited by seabirds and pinnipeds; however, this is an unenforceable request only, unless vessel operators disturb wildlife. Watercraft venturing closer risk disturbing wildlife on the Refuge and enforcement actions can be taken under refuge regulation within the CFR. Complex staff will make a presentation(s) to the Board Members and senior staff of OSMB to inform and educate them on the Refuges and sensitive wildlife resources. The presentation will include measures on how the OSMB can continue to assist in conserving and protecting refuge resources and educating the boating public. Through the watercraft licensing program administered by the OSMB, the Complex could reach all boat operators in the state and provide them conservation information and watercraft operation methods to prevent them from impacting refuge wildlife. In the absence of regulated waters around Oregon Islands NWR, information and education is critical for the protection of refuge wildlife and the OSMB licensing program and publications are an effective way to distribute information.

**Objective 5.g Partnership - Friends of Southern Oregon Coastal Refuges**

Throughout the life of the CCP strengthen the partnership with the Friends of the Southern Oregon Coastal Refuges (also known as Shoreline Education for Awareness, Inc., or SEA).

**Strategies Applied to Achieve Objective**

- Support SEA and provide technical support to Friends regarding refuge regulations and policy.
- Provide SEA with office and storage space at the South Coast Refuge office.

<ul style="list-style-type: none"> <li>• Every five years, review and if necessary revise the MOA between the Service and SEA.</li> </ul>
<ul style="list-style-type: none"> <li>• Work with SEA and OPRD to equip, train, and utilize refuge volunteers at Simpson Reef Overlook, Harris Beach State Park, and Coquille Point Unit every spring and summer to interpret wildlife resources.</li> </ul>
<ul style="list-style-type: none"> <li>• Work to expand SEA’s role in communicating with visitors about refuge policies and wildlife resources.</li> </ul>
<ul style="list-style-type: none"> <li>• Contribute news and information about refuge wildlife and habitat to be published in SEA’s newsletter.</li> </ul>
<ul style="list-style-type: none"> <li>• Dedicate a Complex staff member as the liaison between SEA and the Refuge, including attendance of staff member at board meetings and key events.</li> </ul>
<ul style="list-style-type: none"> <li>• Support SEA by having Complex staff and/or volunteers assist with interpretation on busy holidays and weekends.</li> </ul>
<ul style="list-style-type: none"> <li>• Provide refuge LE support during busy weekends and holidays, and technical support at all times.</li> </ul>
<ul style="list-style-type: none"> <li>• Update refuge website to include refuge Friends Groups.</li> </ul>
<p><b>Rationale:</b> Due to severe budget constraints the National Wildlife Refuge System faces a growing shortage of staff, and in many cases funding for key conservation programs has been reduced. In the past 10 years a network of groups, called Friends, have essentially adopted individual Refuges or Complexes and have begun to advocate for the needs of the Refuges by providing both financial and volunteer support. SEA was founded in Bandon, Oregon, in 1990, and it has been an all-volunteer organization supported by membership dues and donations received while interpreting the marine environment for visitors. In 2005, SEA entered into an MOA with the Complex to make them an official refuge Friends Group known as the Friends of the Southern Oregon Coast Refuges. The MOU formalized the relationship between the Complex and SEA and facilitated open communication between both. It is important for the Complex to continue to support this Friends Group as its members play a critical role in providing volunteer interpretive support for the Refuge and are an advocate for protecting refuge wildlife and habitat. The Complex will start regularly contributing to the Friends newsletter through a column focusing on the news and/or natural history of the Refuge’s wildlife with the purpose of providing members of the Friends Group with more in-depth information about wildlife and/or current refuge issues that need their advocacy and support.</p>

**Objective 5.h Partnership – Friends of Haystack Rock/ Haystack Rock Awareness Program at Cannon Beach**

Throughout the life of the CCP strengthen the partnership with the Friends of Haystack Rock and the Haystack Rock Awareness Program (HRAP).

**Strategies Applied to Achieve Objective**

- Continue to support the Friends of Haystack Rock by having Complex staff and/or volunteers present to assist with interpretation on busy holidays and weekends.
- Develop an MOU between the Complex and the Friends of Haystack Rock.
- Work with HRAP and the Friends to place a volunteer on site to conduct wildlife interpretation from May 1 to September 15.
- Ensure that visitors are aware of refuge closure at Haystack Rock by maintaining up-to-date signage and information brochures and through volunteers and staff on site.

- Work to expand the Friends’ role in communicating with visitors about refuge policies and wildlife resources and provide regular contributions to the Friends’ quarterly newsletter.

**Rationale:** The Friends of Haystack Rock formed in 2005 and have a mission to support HRAP in cooperation with the City of Cannon Beach and a goal of encouraging the preservation and protection of natural resources, and promote living in harmony with the natural world. HRAP was founded in 1985 and is a stewardship and environmental education program with a mission to increase the awareness of the fragile environment in the Haystack Rock Marine Garden and adjacent Oregon Islands NWR. The HRAP is a professionally staffed and volunteer-driven program that receives funding from the City of Cannon Beach and private donations. Haystack Rock is closed to public access but is frequently climbed on by visitors at low tide. Because it contains large colonies of nesting seabirds, the Complex provides extra support in the form of technical assistance, on-site staff and volunteer interpretation, and enforcement during busy weekends and holidays to reduce disturbance to wildlife and habitat. It is in the interest of the Complex to formalize the relationship with the Friends of Haystack Rock, through development of an MOU, and broaden their mission to include the Refuge, as they are in a good position to be advocates for this popular wildlife refuge. An MOU will facilitate improved communication and serve to expand the role of the friends group in supporting wildlife conservation and appropriate public use on the beach adjacent to Haystack Rock. The Complex will further look to start regularly contributing to the Friends newsletter through a column focusing on the news and/or natural history of the Refuge’s wildlife with the purpose of providing members of the Friends Group with more in-depth information about wildlife and/or current refuge issues that need their support.

**Objective 5.i Wildlife-Dependent Recreation - Coquille Point Unit**

Throughout the life of the CCP continue to welcome and orient visitors to Coquille Point Unit and provide high-quality self-guided interpretation and facilities for visitors to observe and photograph wildlife in a safe manner.

**Strategies Applied to Achieve Objective**

- Maintain two sets of stairs that allow visitors access to beach from the north and south part of headland.
- Maintain paved accessible interpretive trail on headland.
- Maintain, upgrade, and replace, as needed, interpretive panels, orientation kiosk, and benches on headland.
- Work with OPRD to address activities that are disturbing to wildlife on the beach adjacent to Refuge.
- Construct secure bicycle parking area.
- Work with local conservation organizations and the Friends Group and recruit refuge volunteers to lead guided naturalist/wildlife walks.
- Re-design and upgrade the parking lot to allow more parking, add spaces, and fence the east boundary.
- Work with the City of Bandon to install wind- and wildlife-proof trash and recycling receptacles and a pet clean-up station.
- Hire a PFT WG maintenance position for the south coast.

**Rationale:** The Coquille Point Unit was established to create a buffer zone to protect wildlife on the adjacent rocks and islands from encroaching residential development and to provide a site for wildlife-dependent recreation. Public use facilities include an orientation kiosk, interpretive panels, a self-guided paved interpretive trail, two sets of stairways to the beach, benches, a sidewalk and parking lot, and unfenced viewing areas. The Complex will continue to maintain, upgrade, and replace all existing public use facilities. Furthermore, all public uses will be designed to increase the visiting public’s understanding and appreciation of refuge resources. By increasing public understanding and appreciation of these resources, the Complex expects increased public support for protecting and enhancing refuge lands; and thereby achieving the overall wildlife goal of protection and stewardship of marine wildlife.

Coquille Point receives over 300,000 visitors annually and this number is growing. Current wildlife-dependent public uses include wildlife observation, photography, interpretation, and environmental education. Unsanctioned non-wildlife-dependent activities occurring on refuge lands as a result of the site and trail’s location within the community include bicycle riding, geocaching, dog walking, and kite and model airplane flying. The Complex will review all appropriate activities for compatibility and work with adjacent landowners, including OPRD and the City of Bandon, to address activities occurring on Refuge lands disturbing to wildlife.

With so many visitors, it is necessary for the Refuge to reduce user conflicts. Thus, the Refuge needs to add a secure bicycle rack adjacent to the parking lot to encourage cyclists to park their bicycles before walking along the headland trail instead of riding along it creating safety concerns for wildlife watchers that are on foot. Because the Coquille Point Unit is located next to a residential neighborhood, there are people who use the headland trail to walk their pets on a daily basis. Defecation along the trail by pets has become a nuisance making it necessary to post signs in the area indicating that owners need to pick up after their pets. To further encourage pet owners to take responsibility for cleaning up after their dogs, the Refuge recommends adding two pet poop clean-up stations that provide complimentary plastic bags and a waste basket. The Refuge needs a full-time permanent maintenance worker for the south coast to perform trail, trash and habitat maintenance onsite at Coquille Point.

**Objective 5.j Guided Access – Crook Point Unit**

Throughout the life of the CCP provide limited and infrequent guided access to the Crook Point Unit in keeping with the goal of protecting the unique biological and cultural resources.

**Strategies Applied to Achieve Objective**

- Periodically provide guided tours that focus on the topics of rare plants, coastal rocks, wildlife, and cultural resources of the headland.
- Conduct regular updates of the Complex’s website.
- Recruit, train, and utilize a resident refuge volunteer.
- Develop an RV hook-up site for resident volunteers at Crook Point and remove existing dilapidated structure.
- In cooperation with OPRD delineate and post the State Park and Refuge boundaries.
- Maintain entrance road and facilities.

**Rationale:** The Crook Point Unit is closed to public use to protect significant cultural resources, unique geologic formations, and rare and sensitive plants, and to prevent disturbance

to nearby islands that harbor loafing pinnipeds and tens of thousands of colonial burrow-nesting seabirds. Due to the sensitive nature of the site, public use is restricted to a small number of staff-led tours of the headland annually. By offering this limited public access to Crook Point, the Complex has the opportunity to increase the public’s appreciation and understanding of the sensitivity of the site’s resources while at the same time maintaining protection of the resources.

A resident volunteer needs to be stationed onsite to protect sensitive resources, conduct refuge grounds maintenance, report trespass violations to Service LE agents and to assist with occasional guided tours of the headland. In order to facilitate recruitment and retention of volunteers, the main entrance road needs upgrading and continuous maintenance, and an RV pad with full hook-up for electricity, water, and septic system needs to be developed to replace an existing dilapidated and unlivable house, using the disturbed site as the footprint. These facilities, access road, and human presence are not in areas where habitation and maintenance activity will be a disturbance to wildlife or habitat. We also recognize a need to work with SEA and other local conservation organizations, to potentially help lead tours of the site as needed. Many of these organizations have members that are knowledgeable about coastal geology, plants, cultural resources, and wildlife and are sensitive to the fragile nature of Crook Point.

**2.5.6 Goal 6: Three Arch Rocks NWR: Promote protection, stewardship and enjoyment of Oregon’s seabirds and pinnipeds and their wilderness habitats, and the historical significance of the Refuge to marine wildlife conservation.**

**Objective 6.a Cooperative Strategies to Enforce Seasonal Buffer Zone–Three Arch Rocks NWR**

Throughout the life of the CCP, the Complex will implement strategies to encourage residents, visitors, and boat and aircraft operators to comply with refuge rules and recommendations that minimize human disturbance to wildlife around Three Arch Rocks NWR.

**Strategies Applied to Achieve Objective**

- Develop a public service announcement on prevention of wildlife disturbance by boaters, and place it in local media.
- Provide LE presence at Three Arch Rocks from May to September to ensure compliance with watercraft closure zone.
- Develop an updated interpretive panel delineating the seasonal 500-foot closure zone around Three Arch Rocks and install it at boat launches in Tillamook and Netarts Bays.
- Ensure refuge regulations regarding the 500-foot seasonal closure are available to the public by maintaining an up-to-date refuge brochure and website.

**Rationale:** Because the Complex’s headquarters is located approximately 70 miles south of Three Arch Rocks NWR, it is extremely difficult for Complex staff to be near the Refuge to interact with visitors, residents, and the USCG on issues of wildlife disturbance. Therefore, staff members rely on refuge volunteers, OPRD staff, Friends of Cape Meares Lighthouse and Wildlife Refuge members, and local residents to report wildlife disturbance events by boaters and aircraft, but also to share the message of disturbance prevention. The Complex will use strategically placed and up-to-date interpretive media including brochures and websites to seek compliance with boating and aircraft regulations and to ensure regulations are clear and available to the public.

**Objective 6.b Provide Offsite Information to Visitors about Three Arch Rocks NWR**

Within 10 years of the CCP approval, visitors overlooking the Refuge from public viewpoints will have access to information on the wildlife of Three Arch Rocks and the history of the establishment of this refuge.

**Strategies Applied to Achieve Objective**

- Upgrade and replace four interpretive panels at Cape Meares State Scenic Viewpoint.
- Update and maintain interpretive panel at Oceanside Beach State Recreation Area.
- In coordination with the Service's National Conservation and Training Center, make Finley and Bohlman's historical photography available to interested citizens through DVDs and the refuge website.
- Add a section on the history of the Refuge to the volunteer handbook. Refuge volunteers will share this story with visitors.
- Partner with OPRD to host refuge volunteers at Cape Meares State Scenic Viewpoint every spring/summer to interpret refuge history and wildlife resources.
- Increase refuge volunteer presence at Cape Meares to include coverage from May 1 to September 15.
- Construct an accessible viewing deck and two interpretive panels at Oceanside Beach.
- Offer biannual presentations by Complex staff or a local historian on the natural and human history of the Refuge.
- Complex staff or volunteers attend appropriate local festivals, special events, or community meetings that provide a venue for distributing refuge material.
- Work to bring out-of-print children's book *Sanctuary* by Mary Ann Fraser back into circulation.
- Create a one-page flyer with information on what residents should do if they witness boats or aircraft disturbing wildlife.
- Encourage Friends of Cape Meares Lighthouse and Wildlife Refuge to expand their support to Three Arch Rocks NWR.
- In cooperation with OPRD, ensure the Refuge-constructed Three Arch Rocks viewing deck and interpretive panels are maintained.

**Rationale:** This 15-acre refuge and wilderness area is closed to the public to protect breeding seabirds and marine mammals from human disturbance. Interpretation and wildlife observation occur off-site from Cape Meares State Scenic Viewpoint and from Oceanside Beach State Recreation Area. The protection of Three Arch Rocks and its establishment as the oldest refuge west of the Mississippi River are due to the efforts of two early twentieth century conservationists, William L. Finley and Herman Bohlman. The story is important to share with visitors because their efforts were significant to wildlife conservation on the Pacific coast and are echoed today as protection of these islands continues under increasing pressure by recreationists and low-flying aircraft. By sharing this story with visitors they will understand how the perseverance of two individuals in documenting the exploitation of wildlife resulted in the creation of a refuge that ensured the survival of seabird and pinniped populations.

It is also important that local residents and visitors receive the message that they play an important role in further protecting the Refuge's wildlife from human disturbance today. Their support and assistance is needed to help enforce the OSMB closure of waters within 500 feet of the Refuge to all watercraft from May 1 through September 15. This message can be delivered

through refuge volunteers stationed at Cape Meares State Scenic Viewpoint on a seasonal basis, an informational flyer, and interpretive panels. To further facilitate this understanding and awareness, Complex staff will attend local festivals, special events, or community meetings. The Complex will begin to regularly contribute to the Friends’ newsletter through a column focusing on the news and/or natural history of the Refuge’s wildlife with the purpose of providing members of the Friends Group with more in-depth information about wildlife and/or current refuge issues that need their support.

**2.5.7 Goal 7: Preserve and protect the wilderness character of Oregon Islands Wilderness and Three Arch Rocks Wilderness including the areas’ untrammelled nature, naturalness, and undeveloped condition.**

**Note:** Some of the objectives found under other goals in this CCP also apply to wilderness lands. They are listed here, and additional details can be found under their respective goals.

- 1.a No invasive plants or mammalian predators
- 1.b Reduce damage from oil spills
- 1.c Minimize human disturbance through law enforcement
- 4.a Conduct inventories
- 4.b Conduct monitoring
- 4.c Conduct research and scientific assessments
- 5.f Minimize disturbance through cooperative strategies to promote compliance
- 6.a Cooperative strategies to enforce seasonal buffer zone around Three Arch Rocks

<b>Objective 7.a Wilderness Character – Maintain Undeveloped Quality</b>
Continue to promote and preserve the undeveloped quality of Oregon Islands Wilderness and Three Arch Rocks Wilderness by avoiding visually intrusive alterations.
<b>Strategies Applied to Achieve Objective</b>
<ul style="list-style-type: none"> <li>• Develop and install interpretive panels and regulatory signage on the adjacent mainland and at ports along the Oregon coast to identify designated wilderness and prohibit access.</li> <li>• Install boundary and regulatory signs within and/or adjacent to the wilderness areas at locations where trespass is a serious and frequent issue. Ensure that signs are essential and not visually intrusive.</li> <li>• Ensure that temporary structures used for wildlife management, monitoring or research purposes, and signs to prevent trespass, are the minimum tools necessary to accomplish the work and are visually unobtrusive. Follow “leave no trace principles” when removing structures.</li> <li>• Complete the Minimum Requirements Decision Guide process prior to engaging in management actions inside wilderness.</li> </ul>
<b>Rationale:</b> The Wilderness Act defines wilderness as “an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation.” Under Wilderness Act implementation guidance, the presence of structures, installations, habitations, and other evidence of modern human presence or occupation degrades this quality, as does the use of motorized equipment or mechanical transport.

The undeveloped refuge rocks, reefs, and islands within Oregon Islands Wilderness and Three Arch Rocks Wilderness provide a dramatic natural setting along the Oregon coast. Millions of annual visitors to the Oregon coast appreciate the scenic natural beauty and the ecological values associated with the abundant marine wildlife populations these wilderness areas protect. All of Oregon Islands Wilderness and Three Arch Rocks Wilderness are closed to public access at all times to prevent disturbance to sensitive seabirds and pinnipeds and to prevent destruction of native plants and habitats. Many of the rocks, reefs and islands are accessible from land during low tides; therefore, trespass is an issue throughout the Oregon coast. Informational, regulatory, and interpretive signs, informing the public that these areas are closed to public access to protect native habitat and wildlife sensitive to human disturbance, have been installed and will be maintained at a variety of off-site locations adjacent to wilderness, such as headlands, state parks, ports, and trailheads. At some locations trespass is a serious and recurring problem, necessitating the placement of boundary and regulatory signs just above the intertidal zone at accessible sites on the rocks and islands. Installation of these signs is an action that carries the potential for degradation of the undeveloped quality of the wilderness at the particular location.

In some cases, refuge management or research activities may require temporary structures or equipment necessary to prevent impacts to the wildlife and habitat while conducting the activities. For example, following Minimum Requirements Analyses, a temporary boardwalk was installed on Saddle Rock to provide a platform for researchers to work from while conducting population studies on burrow-nesting Leach’s storm-petrels. The boardwalks are temporary and will be completely removed when the research project is completed. Failure to construct the temporary boardwalk would have prevented the work from occurring, as researchers working from the ground would crush numerous burrows, killing birds inside and significantly altering the habitat.

Helicopter transport to certain rocks and islands for refuge and wildlife management purposes is occasionally determined to be necessary as it is the only safe and effective means of accessing certain steep-sided and otherwise inaccessible rocks and islands to accomplish mission-critical work. Because helicopter access is considered a non-emergency use of mechanical transport, it has only been utilized on rare occasions when it is determined through a Minimum Tool/Minimum Requirements Analysis to be the minimum tool necessary to achieve refuge purposes and purposes of the Wilderness Act.

**Objective 7.b Wilderness Character – Maintain Untrammeled Quality**

Initiate management actions to control, and where possible eliminate, invasive species to protect native wildlife populations and habitats on islands with the highest potential to sustain irreversible damage to wilderness character from invasive species.

**Strategies Applied to Achieve Objective**

- Use IPM strategies including mechanical, physical, biological, and chemical to eradicate, control, or contain invasive plants.
- In 2009 initiate measures to eliminate sea fig (ice plant) from rocks and islands in Curry County.

- In cooperation with the USDA’s Wildlife Services, utilize results of mammalian predator surveys on rocks and islands to develop annual work plans and implement predator removal.
- Complete the Minimum Requirements Decision Guide process prior to engaging in any invasive species control actions.

**Rationale:** Under Wilderness Act implementation guidance, “untrammeled” quality refers to modern human actions that intentionally control or manipulate the components or processes of ecological systems inside the wilderness. The Refuge System’s policy defines “untrammeled” as: “. . .refers to the freedom of a landscape from human intent to permanently intervene, alter, control, or manipulate natural conditions or processes.”

The Oregon Islands and Three Arch Rocks Wilderness values include supporting more than one million nesting seabirds and tens of thousands of pinnipeds, and functioning as a botanical reserve for native plants. Protecting the untrammeled character of these wilderness areas requires protecting the flora and fauna found within them, and the ecological system in which these species and communities exist. Complex staff members have concluded that maintenance of the untrammeled quality should include removal of selected plants and animals when it is determined that their presence is negatively impacting the wilderness ecological system and processes in a manner that will cause irreversible harm to the native species.

General observations in the Crook Point area of Curry County indicate that invasive sea fig (or ice plant) is present on the mainland, Saddle Rock, and other nearby rocks and is spreading. This introduced plant species poses serious ecological problems, forming vast monospecific zones, lowering biodiversity, outcompeting native plants, and eliminating habitat for burrow-nesting seabird species. Other invasive plants have the potential to cause similar devastation if not controlled.

Invasive red foxes have been documented on rocks at Coquille Point in Coos County, damaging and destroying nesting seabird colonies. Red foxes have spread to Curry County and may eventually be found in all coastal counties in Oregon, and have the potential for devastating impacts to nesting seabirds within Oregon Islands Wilderness. Other predators may be present as well such as mice, rats, and feral cats, but no comprehensive survey has been conducted. A Predator Management Plan (USFWS 2005a) details criteria and methods for addressing control of mammalian predators on wilderness rocks and islands as well as adjacent mainland units (addressed in Objective 1a).

**Objective 7.c Wilderness Character – Maintain Natural Quality**

Maintain wilderness quality of naturalness through inventorying ecological systems (plant and animal species and communities) and evaluating impacts from internal and external forces on these systems.

**Strategies Applied to Achieve Objective**

- Work with city, county, state, and federal agencies and planning departments, as well as residents and developers, to prevent light and noise intrusion into the wilderness caused by new construction and operation of facilities.
- Work with OPRD to locate commercial fireworks displays away from wilderness areas.

- Work with the Oregon Aeronautical Board and FAA to eliminate low-level aircraft flights over the wilderness areas.
- By 2012, complete a botanical survey of at least six of the Oregon Islands and Three Arch Rocks Wilderness areas' vegetated rocks and islands that are accessible by boat, and document the occurrence and distribution of native and invasive plants.
- In cooperation with USDA's Wildlife Services, conduct a survey of mammalian predators on wilderness rocks and islands accessible by foot, and determine impacts to native fauna.

**Rationale:** Under Wilderness Act implementation guidance, "natural" quality means that wilderness ecological systems are substantially free from the effects of modern civilization. Many of the rocks and islands within Oregon Islands Wilderness are located immediately adjacent to the shoreline, an area receiving ever-increasing development pressure for residential housing and commercial development for restaurants, hotels and resorts. Private residences and commercial properties often install and operate large lighting systems that are directed toward the beach and nearshore, unnaturally illuminating the area at night. In some cases, rocks and islands within the wilderness are completely illuminated by the lights. In addition, loud noise from these areas can easily carry into the wilderness. The light and noise destroys the wilderness solitude and impairs the natural condition. In addition, ecological values can be severely impacted, as nesting seabirds may abandon or avoid lighted areas and then be subjected to increased predation by nocturnal predators. In adverse weather, seabirds and other migratory birds may become disoriented or attracted to the lights resulting in grounding and mortality.

Complex staff members plan to continue making specific suggestions to planning and development entities which will result in reducing and/or preventing harmful light intrusion into the wilderness. These suggestions include measures such as light shielding; reduced light intensity; use of blue lights (rather than red or white lights that operate in the visual spectrum usually linked with bird mortality); restricting use of lights to a limited number of hours immediately after dusk rather than continuous illumination throughout the night; and eliminating the light source during foggy or low-ceiling environmental conditions.

Most cities along the Oregon coast have large commercial aerial fireworks displays on July 4th and on a few other occasions. When aerial fireworks are ignited in close proximity to the Refuges' wilderness areas, it temporarily trammels the wilderness character and impairs natural conditions with intense light and noise. This also impacts ecological processes by causing seabirds and pinnipeds to flee the safety of the wilderness rocks and islands and can result in the loss of eggs or young. Noise from low-flying aircraft causes seabirds and pinnipeds to flee the wilderness rocks, reefs, and islands and can cause mortality.

The wilderness quality of "naturalness" also refers to the abundance, distribution, or number of invasive non-indigenous species. A botanical survey has never been attempted for either Oregon Islands or Three Arch Rocks Wilderness. A single-day botanical survey of Goat Island was conducted on July 17, 1984, and 65 plant species were recorded present, of which 20 are classified as invasive species. None of the remaining 1,863 rocks, reefs and islands have been surveyed. This lack of baseline data severely hampers the Complex's ability to monitor the natural quality of these wilderness areas with respect to invasive species. Invasive mammals, including red fox, have been documented on several rocks on the south coast and may eventually be found in all coastal counties in Oregon. These invasive predators as well as others such as mice, rats, and feral cats, have the potential for devastating impacts to nesting seabirds within

Oregon Islands Wilderness. A comprehensive survey has not been conducted so it is unknown how many and which islands and rocks may be infested by these predators.

**Objective 7.d Foster Public Appreciation of the Importance of Wilderness**

Foster the public’s understanding and appreciation of the importance of wilderness designation in protecting the natural resources of Oregon Islands and Three Arch Rocks NWRs.

**Strategies Applied to Achieve Objective**

- Integrate wilderness information and education in all refuge outreach programs when appropriate.
- Incorporate wilderness themes and messages in new or updated pamphlets, brochures, and interpretive panels.
- Include wilderness information and education in all interagency, volunteer, and Friends Group training.

**Rationale:** Oregon Islands Wilderness and Three Arch Rocks Wilderness are two of only 10 wilderness areas in the country closed to public access, yet the dramatic scenery these areas provide is highly visible to residents and visitors of the Oregon coast. Like the natural resource values and benefits of these refuges, wilderness values and benefits can also be enjoyed and appreciated from a distance without actually entering the areas. The scenic wilderness attributes and the important wildlife resources using these refuges can be viewed and enjoyed from headlands, beaches and other areas along the highly accessible coastline of Oregon. Integrating wilderness information into written material such as brochures, pamphlets, and interpretive panels along with verbal communication in presentations by staff, volunteers, Friends Group members, and other agencies will reach hundreds of thousands of people annually helping them to better understand and appreciate wilderness areas and the National Wilderness Preservation System.

**Objective 7.e Monitor Wilderness Character**

Annually monitor the wilderness characteristics (as defined in Objectives 7.a–7.c) of Oregon Islands and Three Arch Rocks NWRs to determine if stewardship actions are needed to reduce or prevent impacts to and maintain wilderness characteristics.

**Strategies Applied to Achieve Objective**

- Monitor number of regulatory signs placed on or adjacent to wilderness boundaries. Continue to evaluate existing and proposed new signs for visual intrusiveness and determine if current signs need to be relocated. (Objective 7a)
- Evaluate and monitor habitat response to IPM treatments on rocks and islands that have been treated for invasive plants, and implement additional IPM treatments as needed. (Objective 7b)
- Monitor presence/absence of invasive plants on vegetated rock and island habitats which have been visited by refuge staff in a given year. (Objective 7c)

- Monitor number of coastline development proposals reviewed for potential noise and light intrusion into the wilderness areas. Determine level of success in preventing this intrusion and document successful solutions. (Objective 7c)
- Monitor number of fireworks displays permitted by OPRD near wilderness areas. (Objective 7c)
- Develop protocol to allow monitoring of the number of low level flights documented over wilderness areas. (Objective 7c)
- Annually monitor outreach programs, interpretive materials, and training presented by Complex staff for inclusion of wilderness-oriented themes and messages. (Objective 7d)

**Rationale:** Monitoring of wilderness character is required by Service policy (610 FW 3) to determine if wilderness stewardship objectives are being met. Monitoring strategies should identify indicators of change in resource conditions, standards for measuring that change; and conditions or thresholds that will trigger management actions to reduce or prevent impacts on the wilderness. Information from monitoring is needed to assess whether stewardship actions for an individual wilderness are fulfilling the mandate to “preserve wilderness character” (Landres et al. 2008).

Monitoring of the “undeveloped” quality tracks trends in the number and development level of structures, installations, or other developments inside wilderness, as well as trends in mechanization inside wilderness. The “untrammelled” quality is monitored for trends in actions that control or manipulate the “earth and its community of life inside wilderness.” Monitoring of the “natural” quality refers to the intentional and unintentional effects from actions taken inside wilderness as well as from external forces on these systems including anthropogenic effects on natural conditions.

### **2.5.8 Goal 8: At Cape Meares NWR, protect and maintain coastal habitats characteristic of Pacific Northwest old-growth Sitka spruce forest to allow natural succession to occur consistent with Research Natural Area designation, for the benefit of these habitat types and plant and animal species associated with them.**

#### **Objective 8.a Sitka Spruce/Salal Forest - Cape Meares NWR**

Maintain and protect 110 acres of old-growth and late-successional Sitka spruce/salal (*Gaultheria shallon*) forest and interspersed riparian habitat, at Cape Meares NWR, with the following habitat attributes:

- Old-growth Sitka spruce forest in various stages of decay, including large, hollow snags greater than 82 feet (25 m) tall with greater than or equal to 60% canopy closure.
- Late seral-stage Sitka spruce forest with tree/snag densities greater than 18 per hectare (ha) with a diameter breast height (dbh) greater than 18 inches (46 cm) and an understory dominated by salal.
- Late-successional Sitka spruce/salal-salmonberry forest including old-growth Sitka Spruce with an understory of salal and salmonberry (*Rubus spectabilis*) exhibiting the following characteristics: mature forest with greater than 70% canopy closure, high stem density, multiple tree layers, relatively open low understory and forest floor with much soft, loose debris, decomposing woody material and berry-producing shrubs.
- Large snags and defective live trees with greater than 70% canopy closure providing greater than or equal to five nest snags per 10 ha (two per 10 acres).

- Stream and riparian zone habitat including streams with medium to steep gradient, step-pool morphologies and basalt parent geology, and canopy dominated by early-successional red alder.
- No English ivy (*Hedera helix*)

#### Strategies Applied to Achieve Objective

- Allow natural processes to drive vegetation succession.
- Work cooperatively with OPRD to develop and install signs and other deterrents to maintain closed areas of Refuge.
- Conduct official boundary survey and post boundary of Refuge/RNA.
- Increase cooperative LE efforts with state and federal agencies.
- Enforce and document refuge trespass regulations (CFR 50, part 26.21) by Service personnel.
- Partner (where feasible) with adjacent landowners to maintain and enhance habitat quality on adjacent privately-owned lands.
- Use IPM strategies including mechanical, physical, biological, and chemical means to eradicate, control, or contain invasive plants (USFWS 2009).
- Review Fire Management Plan annually or as needed to update contact information.

**Rationale:** Most of Cape Meares NWR is covered by old-growth Sitka spruce/western hemlock forest, with intermittent open areas of forest wind-throw and an understory dominated by salal. Surveys and observations on the Refuge have revealed the presence of a diversity of wildlife species including bald eagle, threatened marbled murrelet, peregrine falcon, Roosevelt elk (*Cervus canadensis roosevelti*), black bear (*Ursus americanus*), and numerous migratory songbirds. The majority of the Refuge is closed to the public; however, a segment of the Oregon Coast Trail passes through the northeast portion of the Refuge. In 1987, the entire Refuge, with the exception of the Trail, was designated an RNA. In RNAs, natural processes are allowed to predominate without human intervention. However, under certain circumstances such as invasion by non-native plant species, deliberate manipulation may be used to maintain the unique features for which the RNA was established. Because of the Refuge's purpose and the RNA restrictions, management of Cape Meares NWR and RNA will focus on protection, preservation, inventory, monitoring and research, and detection and control of invasive species.

Illegal activities such as rock climbing, mushroom collection, and general trespass have the potential to cause disturbance to wildlife and introduce invasive plant species into closed areas of the Refuge. Service LE capability is currently very limited, with only one full-time officer for the Complex. Boundary survey and posting are necessary to delineate where certain public use activities are permitted and to reduce or eliminate accidental logging or other trespass on refuge lands, and are most critical along the boundary of the refuge/RNA tract on the east side of Three Capes Scenic Route and on the northeastern portion of the Refuge adjacent to private and county forest lands. The Fire Management Plan needs to be reviewed annually or as needed to ensure that contact information is up-to-date and the responding agencies are familiar with allowable suppression techniques and sensitive areas within the Refuge/RNA.

There are potentially direct negative impacts from nonfederal forest management on species that move between federal and nonfederal forest habitats during the year, or during their life cycle. A review of the cumulative effects analysis of spotted owl habitat management alternatives, highlighting the role of nonfederal lands in maintenance of old-growth-dependent amphibian and bird species and their habitats, emphasizes the desirability of partnering with

adjacent landowners to maintain and enhance habitat quality on adjacent privately owned forest lands (USFS and BLM 1994). Maintenance and improvement of habitat on adjacent forest land will also provide a protective buffer from high winds and secondary effects of timber harvest.

**Objective 8.b Steep Rock Cliffs and Steep Coastal Erosion Bluffs-Cape Meares NWR**

Throughout the life of the CCP, maintain and protect approximately 28 acres of habitats classified as steep rock cliffs and steep coastal erosion bluffs at Cape Meares NWR, with the following habitat attributes:

- Very steep or vertical basalt rock faces extending in elevation from mean high tide to higher than 200 feet above sea level.
- Vegetated and unvegetated ledges, pockets of vegetated soil, stunted trees and shrubs and seeps.
- No invasive plants present.

**Strategies Applied to Achieve Objective**

- Use IPM strategies including mechanical, physical, biological, and chemical means to eradicate, control, or contain invasive plants. (USFWS 2009)
- Allow natural processes to occur and drive successional vegetative changes.

**Rationale:** The vertical sea cliffs of Cape Meares NWR provide nesting habitat for peregrine falcons, pelagic and Brandt’s cormorants, common murres, tufted puffins, rhinoceros auklets, pigeon guillemots, western gulls (*Larus occidentalis*), and black oystercatchers. Cape Meares NWR and RNA is managed to protect and preserve the existing cliff habitat and the old-growth forest in an “unaltered, natural condition” to support migratory bird and other wildlife populations. Because of the inaccessibility of this habitat type and the susceptibility of nesting seabirds to disturbance, it is necessary to implement a hands-off management approach to this habitat type. The Complex will monitor to ensure that the conditions that determine its importance to nesting seabirds and peregrine falcons are maintained including removal of invasive species. Control of invasive species, both plant and animal, is a priority for national wildlife refuges as mandated by E.O. 13112 (1999).

**2.5.9 Goal 9: Collect scientific information (inventories, monitoring, feasibility studies, assessments, and research) to support adaptive management decisions (Goal 8) on Cape Meares NWR and RNA.**

**Objective 9.a Inventory and Monitoring – Cape Meares NWR and RNA**

Throughout the life of the CCP, conduct inventories, and if appropriate, monitoring of old-growth and late-successional Sitka spruce/salal forest and interspersed riparian habitat, Steep rock cliffs, and steep coastal erosion bluffs within the Cape Meares NWR, to support adaptive management decisions.

**Strategies Applied to Achieve Objective**

- Research, design, and implement a GIS-based inventory of forest and riparian habitats and plant species.

<ul style="list-style-type: none"> <li>• Research, design, and implement a monitoring program for certain plant species within forest and riparian habitats.</li> </ul>
<ul style="list-style-type: none"> <li>• Establish a plant herbarium and digital photographic library of plant habitats and species inventoried.</li> </ul>
<ul style="list-style-type: none"> <li>• Annually review and report the results of forest and riparian habitat inventory and monitoring efforts.</li> </ul>
<ul style="list-style-type: none"> <li>• Develop a web interface to disseminate habitat inventory and monitoring results.</li> </ul>
<ul style="list-style-type: none"> <li>• Monitor for invasive plant species and evaluate efficacy of IPM treatments.</li> </ul>
<ul style="list-style-type: none"> <li>• Hire an additional PFT Wildlife Biologist for the Complex.</li> </ul>
<p><b>Rationale:</b> Designing and implementing a comprehensive inventory and monitoring program for the distinct habitat types at Cape Meares NWR will assist in determining management actions and responding effectively to resource impacts. Focused inventory and monitoring efforts which include data collection and properly stored and retrievable results, including a plant herbarium and digital photographic library of plant habitats and species inventoried, should be undertaken with highly trained personnel, up-to-date equipment, and an understanding of the biological rationale and consequences. Such actions increase the probability that the Refuge will make sound and scientifically viable decisions (Service Policy 701 FW 2). This will also allow the Refuge to use adaptive management to evaluate the effectiveness of its management practices and to identify research needs. Other than the basic habitat information used to nominate and approve the RNA designation of Cape Meares, existing baseline data and inventory of plants and wildlife species found within Cape Meares NWR habitats are currently nonexistent or inadequate for monitoring trends in these communities, and the current biological staff of one is insufficient to collect and analyze this baseline information.</p> <p>Through development of GIS technology, the Refuge’s capability to address priority management recommendations will be greatly enhanced. Specifically, new imagery resources and on site procedures (e.g., GPS mapping surveys) can be used to produce comprehensive maps of Cape Meares NWR habitats and plant associations, if determined useful for future conservation and management of these refuge habitats. These GIS inventory maps will provide foundations for monitoring long-term change in biodiversity and for investigation of wildlife-habitat relationships.</p>

<p><b>Objective 9.b Monitoring – Terrestrial Species – Cape Meares NWR</b></p>
<p>Throughout the life of the CCP, conduct inventories, and if appropriate, monitoring of terrestrial/aquatic mammals, amphibians, and invertebrates using late-successional and old-growth forest, coastal riparian, rock cliff, and erosion bluff habitats within Cape Meares NWR, to support adaptive management decisions.</p>
<p><b>Strategies Applied to Achieve Objective</b></p>
<ul style="list-style-type: none"> <li>• Research, design, fund, and implement an inventory program for mammals, amphibians, and invertebrates.</li> </ul>
<ul style="list-style-type: none"> <li>• Research, design, fund and implement a monitoring program for certain mammals, amphibians, and invertebrates.</li> </ul>
<ul style="list-style-type: none"> <li>• Establish a digital photographic library of wildlife and invertebrate species inventoried.</li> </ul>

- Annually review and report the results of mammal, amphibian, and invertebrate inventory and monitoring efforts.
- Hire an additional PFT Wildlife Biologist for the Complex.

**Rationale:** Baseline surveys of many species including mammals, reptiles, amphibians, and invertebrates are lacking due to insufficient staffing and funding. The only wildlife inventory that has been conducted in this habitat type at Cape Meares NWR is a 1996 study of small mammal and amphibian abundance conducted under contract by the Oregon Cooperative Wildlife Research Unit at OSU (Gomez et al. 1997).

Designing and implementing a comprehensive inventory and monitoring program for terrestrial and aquatic mammals, amphibians, and invertebrates at Cape Meares NWR will assist the Refuge in using adaptive management to respond effectively to resource impacts and to identify research needs. Focused inventory and monitoring efforts with data collection and properly stored and retrievable results should be undertaken using highly trained personnel, up-to-date equipment, and an understanding of the biological rationale and consequences. Such actions increase the probability that the Refuge will make sound and scientifically viable decisions (Service policy 701 FW 2). Existing baseline data and inventory of wildlife species found on the Refuge are currently nonexistent or inadequate for monitoring trends in these communities.

**Objective 9.c Monitoring – Focal Avian Species – Cape Meares NWR**

Throughout the life of the CCP, inventory, and if appropriate, monitor focal avian species using late-successional and old-growth forest, coastal riparian, rock cliff, and erosion bluff habitats within Cape Meares NWR to support adaptive management decisions.

Old-growth species: Marbled murrelet, Vaux’s swift (*Chaetura vauxi*)

Late-successional Sitka spruce species: Brown creeper, Red crossbill, Pileated woodpecker, Varied thrush

Steep rock cliffs and steep coastal erosion bluff species: Pelagic cormorant, Black oystercatcher, Peregrine falcon

**Strategies Applied to Achieve Objective**

- Conduct systematic annual boat and land-based surveys for pelagic cormorants to monitor nesting population trends.
- Work cooperatively with the Service’s Ecological Services Division and USGS to monitor population trends of black oystercatchers.
- Promote research efforts by universities and other partners to determine use of Refuge habitat (inventory) by migratory and resident focal bird species including brown creeper, red crossbill, pileated woodpecker, varied thrush, and potentially other late-successional forest species.
- Work cooperatively with others to monitor peregrine falcon reproductive success at Cape Meares.
- Promote research by universities and other partners to determine refuge habitat use (inventory) by threatened marbled murrelets and other old-growth-dependent avian species.

- Develop a web interface to disseminate avian inventory and monitoring results.

**Rationale:** Cape Meares NWR provides permanent protection of one of the few remaining old-growth Sitka spruce and late-successional forest habitats on the Oregon coast. Baseline surveys of focal avian species and their associated habitats are lacking due to insufficient staffing and funding. Although habitat manipulation within the RNA is not envisioned, an inventory of focal avian species that encompasses the broad range of habitat conditions used by the forest songbird community could be used to assess the relative condition of refuge forest habitats within Cape Meares NWR in terms of providing the necessary “coarse-filter” habitat requirements for the songbird community (Rempel 2007). Designing and implementing a comprehensive inventory and monitoring program for focal avian species will assist us in responding effectively to resource impacts, and will allow for the use of adaptive management to evaluate the effectiveness of management practices and to identify research needs.

Cape Meares NWR was established primarily to protect seabirds. The Complex has conducted seabird surveys along the coast of Oregon from 1966 to present (Naughton et al. 2007). Aerial and boat surveys have been standardized, both in technique and timing (Takekawa et al. 1990) since 1988 to more accurately census and monitor breeding seabirds. Pelagic cormorants have been and will continue to be one of the focal birds for these surveys due to the ability of staff to conduct distant aerial or boat observations and/or photography of surface nesters with little or no disturbance. This survey needs to be completed annually.

The black oystercatcher is one of the Service’s Focal Species for priority conservation efforts due to its restricted population size and range, susceptibility to human-caused disturbances, and lack of baseline natural history and ecological data to assess management actions and conservation status (Tessler et al. 2007). The black oystercatcher is also listed as a species of high concern within the national, state, and regional shorebird conservation plans. As an obligate rocky shore species and keystone species the Complex has monitored it along the central Oregon coast, including below Cape Meares, since 1997. Reproductive output during this period has shown a stable population with interannual variability and no significant trend over the study period (USFWS unpublished data). Because of this species’ status as a species of concern, the Complex will continue to assist Ecological Services and USGS with monitoring.

The American peregrine falcon is a recovered species that was removed from the federal threatened and endangered species list in August 1999 and the state list in 2006. The peregrine falcon breeds, loafs and forages on the coastal habitat found on Cape Meares NWRs. The Complex initiated reproductive success monitoring efforts in 1993 at peregrine eyries at Three Arch Rocks and Cape Meares NWRs. In 2004, the monitoring effort was expanded with the inclusion of 15 newly re-occupied south and north coast eyries (USFWS unpublished data). This coast wide nesting success data is combined with state and nationwide efforts to monitor population trends in a national post-delisting monitoring program that was initiated in 2002 (Isaacs 2007; USFWS 2003a). Monitoring surveys will be conducted on the Refuge every three years and will be added to the national effort that will review the status of the species in 2015.

**Objective 9.d Research and Scientific Assessments – Cape Meares NWR and RNA**

Conduct or encourage research, feasibility studies, and scientific assessments to support adaptive management decisions (Goal 8) on Cape Meares NWR. A list of research-related activities for this refuge follows.

**Strategies Applied to Achieve Objective**

- Promote research efforts by universities and other partners to determine role of downed wood in nutrient cycling and habitat success in Pacific Northwest old-growth Sitka spruce wind-throw forest areas.
- Promote research efforts by universities and other partners to document life history parameters and needs for refuge birds, mammals, amphibians and invertebrates.

**Rationale:** In *Fulfilling the Promise* (USFWS 1999), the Service acknowledged the need for each refuge to identify management oriented research needs based on Refuge System, ecosystem, and refuge goals. Because of the Refuge’s purpose and the RNA restrictions, management of Cape Meares NWR and RNA will focus on protection, preservation, inventory, monitoring, and research. Complex staff members need to identify and prioritize the research needs for Cape Meares NWR, as well as resources and partners required to accomplish this targeted high priority research.

Cape Meares NWR and RNA provide permanent protection to one of the few remaining old-growth Sitka spruce and late-successional forest habitats on the Oregon coast. The 20-acre unit east of the Three Capes Scenic Route is an early seral-stage forest resulting from an almost complete wind-throw of the old-growth forest during a 1981 storm event. This area is one of very few coastal locations in the Pacific Northwest where timber salvaging of old-growth was not conducted following a blowdown event, and natural forest regeneration was allowed to occur. The unique resources and conditions of Cape Meares present many opportunities for research, all of which will contribute greatly to the available scientific knowledge of Pacific Northwest old-growth forest processes.

**2.5.10 Goal 10: In cooperation with OPRD, provide on-site and off-site opportunities for visitors to enjoy wildlife observation, photography, environmental education and interpretation while limiting disturbance to wildlife. Visitors will be able to gain an understanding of the basic ecological concepts of the Coastal Cliffs and old-growth Sitka spruce and western hemlock forests of Cape Meares, and appreciate wildlife and wildlands which are being protected.**

**Objective 10.a Provide Information and Facilities for Visitors at Cape Meares**

Throughout the life of the CCP, provide information and facilities both on site and off site for visitors of Cape Meares to observe and photograph wildlife.

**Strategies Applied to Achieve Objective**

- Cooperatively maintain elevated viewing decks for wildlife observation at Cape Meares State Scenic Viewpoint.
- Develop a checklist of the wildlife of Cape Meares and make it available to the public in hard copy and web format.

- Work with local conservation organizations and recruit refuge volunteers to lead guided naturalist/wildlife walks.
- Cooperatively maintain refuge-constructed visitor use facilities on OPRD property.
- Cooperatively maintain portion of Oregon Coast Trail that goes through refuge lands and continue to allow hiking and wildlife observation.
- Construct secure bicycle parking area on OPRD property.

**Rationale:** Cape Meares NWR surrounds Cape Meares State Scenic Viewpoint managed by OPRD. Almost all public use at Cape Meares is concentrated on OPRD lands, except for a portion of the Oregon Coast Trail which runs through the Refuge. Many of the existing public use facilities on OPRD lands were constructed or enhanced using Federal funds (i.e. Refuge Roads, Watchable Wildlife). The Service has used its own funds to enhance visitor facilities on OPRD lands because Three Arch Rocks NWR, Oregon Islands NWR and most of Cape Meares NWR are closed to all public use to protect breeding wildlife species. By concentrating public use facilities on the Cape Meares headland, visitors get an opportunity to watch and photograph wildlife using these refuges without disturbing them. Cape Meares currently offers excellent wildlife viewing and photography opportunities, especially in the spring and summer, from two accessible viewing decks. A walk along the paved headland trail provides visitors with spectacular panoramic views of the Pacific Ocean, Three Arch Rocks NWR, and Oregon Islands NWR making it the only viewpoint in Oregon, and perhaps in the nation, where three NWRs can be seen from a single location. Hiking enthusiasts use the Oregon Coast Trail that winds through the headland and old-growth forest to learn about this rare habitat.

Most of the public use facilities at Cape Meares are in excellent to good condition and the Complex is dedicated to maintaining these facilities with the help of OPRD. Facilities include a welcoming kiosk, two accessible viewing decks, accessible sidewalks, a parking lot, interpretive panels, and three benches for resting. Cyclists riding along the Oregon Coast are frequent visitors to Cape Meares; however, those who want to walk the trail have no place to secure their bicycles. Adding a bicycle rack next to the main parking lot will alleviate this problem and serve to reduce user conflicts between hikers and cyclists on the Oregon Coast Trail and OPRD trails. Birdwatchers and wildlife enthusiasts from all over the United States visit Cape Meares to see the cliff-nesting pair of peregrine falcons, seabirds, and birds in old-growth forest. The Refuge gets regular requests from visitors for a wildlife checklist. Development of a checklist of birds, mammals, reptiles and amphibians will provide visitors with information on the presence/absence and seasonal habitat use of Cape Meares old-growth forest and freshwater streams by these species.

**Objective 10.b Provide Both On-site and Off-site Interpretation and Environmental Education at Cape Meares**

Throughout the life of the CCP expand wildlife interpretation opportunities and initiate EE programs both onsite and offsite for visitors and community members.

**Strategies Applied to Achieve Objective**

- Work with OPRD and Friends of Cape Meares to develop and implement an EE program and an evening campground program at adjacent Cape Lookout State Park. Seek grant opportunities to cover program expenses.

- Increase refuge wildlife interpretation volunteer presence at Cape Meares to include coverage seven days/week from May 1 to September 15.
- Continue to partner with OPRD to station refuge volunteers at Cape Meares State Scenic Viewpoint every spring/summer to interpret wildlife resources.
- Provide leadership and resources to manage and train volunteers. Develop an evaluation system for the volunteer program to maintain a high quality program and volunteer experience.
- Upgrade and replace all interpretive panels as needed at Cape Meares State Scenic Viewpoint.
- Hire a PFT GS-7/9 Volunteer Coordinator.

**Rationale:** Cape Meares currently receives over 400,000 visitors annually. To engage visitors and teach them about the wildlife of the area, OPRD and the Complex have been training and using volunteers as wildlife interpreters four days per week during the peak tourism season (May–July). Stationing wildlife interpretation volunteers on site to interact with visitors has been well-received by OPRD staff, visitors, and the Friends Group alike to the point where the program needs to be expanded to have interpretive volunteers available seven days per week when wildlife is most abundant (May–September) and tourists are plentiful. Furthermore, the volunteer program at the Complex is growing, and volunteer recruitment, training, and evaluation need to be formalized. Formalizing the program will ensure volunteers are equally and properly equipped and trained and that they all share the same message about the National Wildlife Refuge System and its mission with visitors. A formal program will also reduce the amount of staff time spent on recruiting and training volunteers by standardizing recruitment fliers, training, and evaluation. To provide volunteers on site at Cape Meares, the Complex has partnered with OPRD. Through this partnership, OPRD provides the volunteer with a full hook-up site for an RV at Cape Lookout State Park (located 20 minutes south of Cape Meares), two spotting scopes, wildlife field guides, and binoculars. In return, the Complex recruits, trains, and provides uniforms for volunteers. When the current MOA between the Complex and OPRD is updated the volunteer partnership will be added.

When volunteers are not available, a series of self-guided interpretive panels along the headland trail tell the story of the wildlife using the rocks, islands and old-growth forest of Cape Meares, Oregon Islands and Three Arch Rocks. All but four of the interpretive panels at Cape Meares were recently updated and replaced; the last four will be revised and installed to complete the phase of upgrading self-guided interpretation at Cape Meares.

Environmental education plays a key role in encouraging current and future generations to engage in environmentally responsible behavior such as supporting habitat protection for wildlife through the National Wildlife Refuge System. With the development of a quality environmental education program to introduce the ancient forest and steep sea cliff habitats of Cape Meares, children and adults can understand the ecology of this habitat and the importance of how their actions can protect its native wildlife and plants.

**Objective 10.c Outreach to Visitors, Community and Media – Cape Meares NWR**

Provide high-quality outreach to visitors, community members, local media and chambers of commerce on the wildlife and habitat resources of Cape Meares throughout the life of the CCP.

<b>Strategies Applied to Achieve Objective</b>
<ul style="list-style-type: none"> <li>• Complex staff members or volunteers maintain presence at local festivals, community events and/or special events that have a high potential to deliver refuge messages to key audiences.</li> </ul>
<ul style="list-style-type: none"> <li>• Conduct regular updates of Complex website.</li> </ul>
<ul style="list-style-type: none"> <li>• Update and maintain refuge brochure.</li> </ul>
<ul style="list-style-type: none"> <li>• Cooperatively maintain orientation/interpretive kiosk on offsite OPRD location.</li> </ul>
<ul style="list-style-type: none"> <li>• Contribute news and information about refuge wildlife and habitat to be published in Friends newsletter.</li> </ul>
<p><b>Rationale:</b> Outreach is two-way communication between the Service and the public to establish mutual understanding, promote involvement, and influence attitudes and actions, with the goal of improving joint stewardship of our refuge resources. With so many agencies and conservation organizations owning and managing lands on the Oregon coast there is often confusion on the part of both community members and visitors about what the Refuge is, whose jurisdiction it is and how the resources are managed. Outreach is crucial to distinguishing the Service from other wildlife management agencies or parks. When the public knows and understands the role of the Service and the Refuge System it improves their awareness of refuge regulations and policies and the reasons behind them, and helps reduce violations and the need for LE actions. The Complex will provide OPRD, the Friends Group, local media and others with the most up-to-date information regarding the Refuge through a variety of media including a website, news releases, the Complex brochure, and attendance at local festivals, community events, or special events. The Complex will start regularly contributing to the Friends newsletter through a column focusing on the news and/or natural history of the Refuge's wildlife with the purpose of providing members of the friends group with more in-depth information about wildlife and current refuge issues that need their support.</p>

<b>Objective 10.d Refuge Regulations – Cape Meares NWR</b>
<p>Throughout the life of the CCP, make refuge and wildlife regulations clear and available to visitors.</p>
<b>Strategies Applied to Achieve Objective</b>
<ul style="list-style-type: none"> <li>• Survey and post refuge boundary to eliminate illegal trespass into closed refuge areas.</li> </ul>
<ul style="list-style-type: none"> <li>• Maintain gate on entrance road to protect both Complex and OPRD assets and facilities.</li> </ul>
<ul style="list-style-type: none"> <li>• Delineate public use area and ensure public use is confined to open area.</li> </ul>
<ul style="list-style-type: none"> <li>• Partner with State and local LE agencies to ensure accuracy about refuge and wildlife regulations in their publications.</li> </ul>
<p><b>Rationale:</b> Public use (over 400,000 annual visitors), limited refuge LE capacity, spotty coverage by other LE agencies, and an unsurveyed boundary, all pose potential threats to the plants and wildlife of Cape Meares NWR. An official boundary survey and subsequent posting is needed to make it clear to the visiting public, OPRD, adjacent landowners and other refuge partners where refuge lands begin and end. The Complex is committed to working with OPRD to keep public use at Cape Meares confined to areas where visitor use facilities have been constructed and to keep visitors out of areas where wildlife are sensitive to human disturbance. The Complex LE Officer will work to improve communication with other agencies to ensure refuge and wildlife laws are being enforced, to eliminate illegal trespass into closed areas of</p>

refuge and encroachment by adjacent landowners, and reduce impacts on sensitive wildlife and habitat. The Complex will continue to work with OPRD to determine how to best meet increasing public use while safeguarding the habitat, wildlife, and facilities it is mandated to protect. A locked entrance gate is one way visitor use facilities have been protected in the past; however, OPRD funds to maintain and staff the gate are not an annual certainty, potentially leaving visitor use facilities exposed to potential theft and vandalism, and wildlife to poaching. The Complex will work with OPRD to secure funds to once again maintain and staff the entrance gate.

**Objective 10.e Partnership with OPRD and Friends of Cape Meares**

Throughout the life of the CCP, strengthen the partnership with OPRD and the Friends of Cape Meares Lighthouse and Wildlife Refuge to help protect refuge natural resources.

**Strategies Applied to Achieve Objective**

- Develop an MOU between the Service and the Friends of Cape Meares Lighthouse and Wildlife Refuge.
- Update and revise the MOU between the Service and OPRD.
- Work to expand the Friends role in communicating with visitors about refuge policies and wildlife resources.
- Expand refuge involvement in the Friends of Cape Meares by sending a staff member to board meetings.

**Rationale:** Public use facilities that enhance visitor enjoyment of refuge wildlife resources are managed cooperatively by the Complex and OPRD under an MOU dated February 21, 1986. On-site management of public use facilities by OPRD, as well as recruitment and supervision of volunteers providing interpretation of refuge resources to visitors, necessitates frequent coordination between OPRD and Complex staff. These responsibilities tend to be undocumented or unclear and should be formalized. The current MOU is for “the Use of Cape Meares National Wildlife Refuge for State Park Purposes.” Under the MOU, OPRD is required to provide public use opportunities at Cape Meares State Scenic Viewpoint, and to maintain a trail and trailhead, parking lot, signs, and other necessary public access and facilities. A revised and updated MOU will ensure the goals and objectives of both the Refuge and OPRD are met and that the roles and responsibilities of each agency are clear. The Friends of Cape Meares Lighthouse and Wildlife Refuge have played a significant role in supporting the development of public use facilities at Cape Meares. Continued support of the Friends Group is very important to the Complex and needs to be formalized in an MOU, which will facilitate improved communication and serve to expand the role of the Friends Group in supporting wildlife conservation as well as compatible and appropriate public use at Cape Meares NWR.

**2.5.11 Goal 11: Promote conservation of cultural resources on refuge lands through effective coordination and cooperation with Tribes having adjoining ownership or management responsibilities.**

<b>Objective 11.a Work With Tribes to Protect Cultural Resources on Refuges</b>
Working with Native American Tribes, locate, characterize and protect cultural resource sites on refuge lands and maintain secrecy and security of sites.
<b>Strategies Applied to Achieve Objective</b>
<ul style="list-style-type: none"> <li>• Comply with Section 106 of the National Historic Protection Act of 1966 when conducting ground-disturbing activities.</li> <li>• Coordinate with Native American Tribes in preplanning stage for projects involving significant ground-disturbing activities.</li> <li>• Identify and characterize significant archaeological sites and plan for their protection in accordance with provisions the Archaeological Resource Protection Act of 1979.</li> <li>• Develop a refuge GIS layer for archaeological sites, burial sites and sacred areas that contains “constraint for use” conditions to protect sensitive information.</li> <li>• In accordance with the Native American Graves Protection and Repatriation Act of 1990, establish Refuge Complex protocol and procedures for handling inadvertent discoveries of human remains, burial objects, sacred objects, and objects of cultural patrimony.</li> </ul>
<p><b>Rationale:</b> Archaeological resources and sites are irreplaceable parts of American heritage. Federal laws, including the Archaeological Resource Protection Act of 1979, National Historic Protection Act of 1966, and the Native American Graves Protection and Repatriation Act of 1990, mandate protection of these sites on refuge lands. The Complex has good working relationships with Native American Tribes and consults them regularly on proposed ground disturbance events, discovery and preservation of resources and sites, public education, interpretation, and investigation/research of sites. Information regarding archaeological sites on these refuges is very limited. Some investigation has occurred at known sites on the rocks, reefs, islands, and headlands, but many suspected sites have not been surveyed or investigated. The Complex should develop a strategy with the Tribes to identify and document all significant archaeological resource sites in order to protect and preserve them. It is also important to continue and to expand regular communication and consultation with coastal Tribes in Oregon.</p>

**2.6 Partnerships**

Partnerships are an extremely important component of the implementation of this CCP and are reflected in the goals, objectives, and strategies identified in Chapter 2. Partnership efforts will focus on fish, wildlife and plant inventories and monitoring; habitat restoration; environmental education; outreach; and quality wildlife-dependent recreation.

The Oregon Coast NWR Complex already enjoys significant positive relationships with numerous partners including state and federal agencies, Tribes, volunteers, Friends Groups, schools, conservation organizations, municipalities, and individuals. Refuge Complex staff will work to strengthen existing partnerships and will actively look for new partnerships to assist in achieving the goals, objectives, and strategies set forth in this CCP/WSP.

### **2.6.1 Oregon Department of Fish and Wildlife (ODFW)**

The ODFW's management responsibilities along the coast, including lands and waters, fish and wildlife, threatened and endangered species, and other programs, frequently overlap with Service resources and responsibilities. Because refuge boundaries stop at the mean high tide line, ODFW and other state agencies are in a unique position to greatly assist the Complex in protecting sensitive seabirds and pinnipeds from human disturbance in close proximity to the Refuges. ODFW and the Complex share mutual interests in wildlife surveys, documenting and responding to seabird mortality events, developing joint research projects, education and outreach programs, species management and dissemination of data, results, and information to a wider audience. ODFW has been closely involved with Complex staff in waterfowl surveys, predator management, and restoration project permits. Increased cooperation between ODFW and the Complex will assist both agencies in meeting their missions and mandates, and provide a more systematic and accessible process for sharing information, expertise and funding.

The ODFW has been conducting surveys of pinniped populations using the Refuges for more than two decades. The Complex has supported this work through the issuance of Special Use Permits and reporting of marked animals. Although the Marine Mammal Protection Act transferred management jurisdiction for pinnipeds from state government to NOAA Fisheries Service in 1972, leaving ODFW without management authority for these species, ODFW has been using limited state program funds along with funding support from NOAA Fisheries Service to study and manage pinnipeds in Oregon. Complex staff members have been working closely with ODFW and NOAA Fisheries Service personnel on research associated with Steller sea lions that use refuge rocks and islands.

### **2.6.2 Oregon Parks and Recreation Department (OPRD)**

The OPRD manages Oregon beaches, numerous coastal State Parks, and State Scenic Viewpoints, many of which are immediately adjacent to large segments of Oregon Islands and Cape Meares NWR's, and provide optimal opportunities for viewing and interpreting refuge resources and lands. The OPRD's management responsibilities, including lands, facilities, and interpretive and educational programs, frequently overlap with Complex goals and responsibilities for public outreach and education. The Complex works closely with OPRD to maintain visitor use facilities, develop new facilities, collaborate on interpretive panel messages, develop joint educational and interpretive programs and utilize shared volunteers. The Complex plans to establish a coastwide MOU with OPRD to formalize and expand the cooperative volunteer interpreter program. The MOU will also clarify roles and responsibilities with regard to stationing Service volunteers on OPRD lands and facilities, training OPRD interpretive docents by Complex staff, and maintenance of Service-funded facilities on OPRD lands.

### **2.6.3 Bureau of Land Management (BLM) at Yaquina Head Outstanding Natural Area (YHONA)**

The Complex and BLM have been working cooperatively since the early 1980s to protect the wildlife resources of YHONA and the adjacent rocks within Oregon Islands NWR. Complex staff members work with BLM employees and their volunteers to conduct annual training to assist BLM in interpreting the natural resources of the headland and adjacent refuge rocks, and a Service volunteer is stationed here during the summer. Working in close cooperation with BLM over the past two decades to define and restrict visitor access has resulted in the protection of

existing seabird colonies and the harbor seal haul-out site, and provided for dramatic population increases in nesting seabirds and the colonization of new sites on the mainland and refuge rocks. The Complex also works with BLM and OSU researchers to monitor common murre populations at YHONA. There is a need for continued close coordination between the Service and BLM to share data and ensure that adaptive management of public use and wildlife protection continues to prevent impacts to wildlife using the refuge rocks directly adjacent to YHONA. The Complex plans to develop a new MOU with BLM that will clarify roles and responsibilities with regard to LE jurisdictions, research and management activities, use of volunteers, and interpretive messages and programs.

#### **2.6.4 Law enforcement entities**

Oregon Islands NWR spans six counties and 320 miles of the coastline. Oregon Islands and Three Arch Rocks NWRs protect major seabird nesting colonies, pinniped rookeries, threatened and endangered species use areas, as well as sensitive cultural resource sites. In addition, there are numerous public use facilities overlooking these refuges. Many of these sites are in remote locations while others are adjacent to coastal communities and are very susceptible to human-caused disturbance, vandalism, theft and other crimes. Until late 2008 the Complex had no LE capability on staff, and enforcement coverage by necessity relied on informal arrangements and inconsistent coordination with the USCG, NMFS Enforcement, city police, county sheriff departments, and Oregon State Police. The Complex's LE officer will work to establish and maintain cooperative LE programs with the Oregon State Police, NOAA Fisheries Service special agents, county sheriffs, local police departments, and the USCG. Specific LE tasks include: (1) Clarifying jurisdictions of Service and all other enforcement agencies regarding refuge regulations, determine the extent of proprietary state law authority on Federal lands, and enable joint enforcement of wildlife protection and refuge trespass laws and regulations; and (2) Developing LE assistance agreements with OSP; county sheriffs and associated Marine Patrol officers; city police departments in cities where refuge lands are located; USCG; and NOAA for enforcement of wildlife and refuge regulations including joint enforcement of Marine Mammal Protection Act regulations.

#### **2.6.5 Friends of Cape Meares Lighthouse and Wildlife Refuge**

The Friends of Cape Meares Lighthouse and Wildlife Refuge have played a significant role in supporting the development of public use facilities at Cape Meares NWR. The mission of this Friends Group is to (1) Promote and interpret the natural and historical qualities of Cape Meares State Park and Wildlife Refuge, and (2) Assist in the development and implementation of improvements and educational programs at Cape Meares State Scenic Viewpoint and Wildlife Refuge. The Complex plans to formalize the relationship with this Friends Group through development of an MOU, which will facilitate improved communication and expand the Friends Group's role to include direct support of marine wildlife conservation and advocacy.

#### **2.6.6 Friends of Southern Oregon Refuges/SEA**

SEA was founded in Bandon, Oregon, in 1990, and it has been an all-volunteer organization supported by membership dues and donations received while interpreting the marine environment for visitors. In 2005, SEA entered into an MOU with the Complex to make the organization an official Refuge Friends Group known as the Friends of the Southern Oregon Coast Refuges. This Friends Group plays a critical role in training and recruiting seasonal

volunteer wildlife interpreters to serve at a variety of locations on the south coast of Oregon. The SEA is also an active advocate for protecting refuge wildlife and habitat.

### **2.6.7 Haystack Rock Awareness Program and Friends of Haystack Rock**

HRAP was founded in 1985 and is a stewardship and environmental education program whose mission is to increase the awareness of the fragile environment in the Haystack Rock Marine Garden and adjacent Oregon Islands NWR. Since its beginning, HRAP has educated and inspired tens of thousands of adults and children to learn about the natural resources not only at Haystack Rock but also in their own backyards and other special places. The Friends of Haystack Rock (FHR) formed in 2005 in support of the HRAP and in cooperation with the City of Cannon Beach. They promote the preservation and protection of the intertidal life and birds that inhabit the Marine Garden and the Oregon Islands NWR at Haystack Rock. The Complex plans to formalize the relationship with HRAP/FHR through development of an MOU which will facilitate improved communication and serve to expand the Friends Group's role to include direct support of marine wildlife conservation and advocacy.

### **2.6.8 Volunteers**

Each spring and summer, the Complex and state and federal partners station volunteer wildlife interpreters on mainland sites overlooking Oregon Islands NWR. Volunteer wildlife interpreters are on duty a minimum of four days per week to orient visitors, make them aware of the wildlife resources using the rocks, reefs, and islands, and educate them as to how they can help reduce negative wildlife/human interactions. Having volunteers interact with visitors has been well-received by the visitors, staff from OPRD and BLM, and Refuge Friends Groups. Volunteers are extremely important in helping reduce wildlife disturbance, educating the public, and disseminating information on the mission of the National Wildlife Refuge System.

### **2.6.9 U.S. Coast Guard**

The USCG conducts daily activities near refuge rocks, reefs and islands. These activities, which have high potential for negative impacts to refuge wildlife, include routine patrol flights, aircraft and surface vessel search-and-rescue missions, oil spill response missions, and maintenance and administration of Aids to Navigation in marine waters. Because of the occasional need for refuge staff to access rocks and islands, and the frequent flights and boat patrols conducted in these areas by USCG, a close partnership between the Service and USCG has developed to allow Complex staff to utilize USCG aircraft and surface vessels during non-emergency missions. In return, the Complex has provided information and training to reduce preventable disturbances by USCG and plans to formalize and expand this partnership. The Complex plans to establish an MOU with USCG to document this arrangement, as well as to build the cooperative LE program which will formalize the USCG supporting role in reporting wildlife protection violations by recreational /commercial sources and in conducting enforcement of Service regulations.

### **2.6.10 Oregon State Marine Board (OSMB)**

The OSMB has established an enforceable 500-foot watercraft buffer (closure) zone around Three Arch Rocks NWR from May 1 to September 15 annually, to minimize wildlife disturbance by boaters. This is the first and only marine waters closure in the state of Oregon. The Complex plans to develop an MOU with OSMB to formalize specific collaborative actions to protect wildlife using Oregon Islands as well as Three Arch Rocks NWRs.

### 2.6.11 School districts

Within the five coastal counties where the Complex administers refuge lands, there are eight school districts that have schools near one of the three marine Refuges. Many of these schools have participated in refuge EE programs, and it is in the interest of the Complex to formalize the relationship with each district through development of an MOU. An MOU will help advance EE in schools by strengthening and sustaining an EE program for targeted grades focusing on seabirds. The MOU will further serve to clarify each party's role in ensuring a generation of environmentally conscious students especially in the area of marine and estuarine conservation.

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