

# Chapter 1 Introduction and Background



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# Chapter 1. Introduction and Background

## 1.1 Introduction

Siletz Bay National Wildlife Refuge (NWR or Refuge) is managed by the U.S. Fish and Wildlife Service (USFWS or Service) as part of the National Wildlife Refuge System (NWRS or System). The Oregon Coast National Wildlife Refuge Complex (Complex) comprises six individual national wildlife refuges that span most of the coast of Oregon and support a rich diversity of wildlife habitats including coastal rocks, reefs, and islands; forested and grass-covered headlands; estuaries; and freshwater marshes. The six national wildlife refuges include Cape Meares, Oregon Islands, Three Arch Rocks, Bandon Marsh, Nestucca Bay, and Siletz Bay (Figure 1-1). This Comprehensive Conservation Plan (CCP) applies only to Siletz Bay NWR. CCPs for Bandon Marsh and Nestucca Bay NWRs are being developed concurrently, and the CCPs for the Complex's other three NWRs have been completed under a previous planning effort.

Siletz Bay NWR, established in 1991, is located near Lincoln City on the central coast of Oregon (Figure 1-2). The Service originally proposed to establish the Refuge in 1989 by initially accepting a donation of 46 acres of muted salt marsh, further seeking to acquire partial or whole interest in up to 830 acres of land, and cooperatively managing 1,060 acres of tidelands with the State of Oregon. The approved refuge acquisition boundary (defined as the area within which the Service may acquire lands from willing sellers) totals 1,936 acres and encompasses the northern tip of the Siletz Spit, vegetated and unvegetated tidelands of the bay, a portion of the diked former tidelands of the Siletz River floodplain, and forested headlands near the mouth of Schooner Creek and Drift Creek. Approximately 1,060 acres within the authorized boundary are state-owned tidelands. Currently, refuge lands (defined as lands managed and owned or under easement by the USFWS) total 568 acres. The focus of this Refuge is to protect the remaining coastal wetlands and uplands adjacent to Siletz Bay from rapidly encroaching development, and to enhance and restore wetland and upland habitats for a variety of estuarine-dependent fish and wildlife species.

At the time of refuge establishment, commercial and residential encroachments onto coastal wetlands had increased over the past years resulting in lost habitat, increased pollution and human activity, and lower water quality. In view of the decline in Pacific Flyway migratory birds, use by threatened and endangered species, and high wildlife values, most of the unprotected coastal wetland habitats needed to be protected and in some cases restored in order to maintain healthy fish and wildlife populations. The Service's Concept Plan for Waterfowl Habitat Protection – Middle Upper Pacific Coast (USFWS 1989) identified the diked tidelands within the Siletz estuary as a high priority for protection.

Vegetation communities within the approved refuge boundary include estuary; open bay and mudflats; salt marshes and diked freshwater marshes; forested wetland; upland riparian; mixed woodland; and a shore/beach/dune system. The tip of the spit was included in the approved boundary at the recommendation of the State of Oregon because it is a historic snowy plover use area; however, it is part of the lands owned by the homeowners association and is unlikely to become refuge or to be restored to plover habitat. Refuge parcels are not contiguous but rather are spread out over a 6 square mile area around U.S. Highway 101, Millport Slough, the Kernville Highway (Oregon Route 229), Siletz Keys, Drift Creek, and Schooner Creek. On the west side of Highway 101, refuge parcels are for the most part surrounded by or composed of mudflat and/or tidal marsh.

## 1.2 Significance of the Refuge

Refuge lands consist primarily of tidal marsh, diked former tidal marsh in varying stages of muted tidal action, and several smaller forested parcels both upland and wetland. Salt (or tidal) marshes are vegetated lands which are alternately flooded and exposed by estuary waters; diked marshes are former salt marshes which have been cut off or greatly restricted from tidal action by the construction of levees and water control structures but remain as freshwater wetlands. Tidal marsh plant communities provide highly productive habitat for many species of special concern such as salmonids and other anadromous fish, and juveniles of pelagic and nearshore fishes; however, diking and ditching have altered many tidal marsh plant communities and the food webs they support. Diked tidal marsh generally subsides due to long-term lack of tidal inundation and sediment accretion, and oxidation associated with exposure to the atmosphere, which changes the plant communities and the species that depend on them. Such alterations have directly reduced fish access to habitat and have radically changed the functions of the remaining habitat for all species. The physical structure of intact tidal marsh provides a wider variety of niches for macroinvertebrates and insects than diked marsh. The Siletz Bay and river system supports large runs of anadromous fish including Chinook and threatened coho salmon (Oregon Coast Evolutionarily Significant Unit), coastal cutthroat trout, and steelhead.

Large numbers of migratory birds use the marshes and tidal slough areas. Annual mid-winter waterfowl surveys are conducted in this area and in 2009 over 1,200 waterfowl were counted in the Siletz Bay area (USFWS unpublished data). Waterfowl species such as mallard, northern pintail, American wigeon, green-winged teal, bufflehead, red-breasted merganser, hooded merganser, and Canada geese feed and rest on the marshes. Eelgrass, which grows in dense stands in shallow areas on mud, gravel, or sand, is rare along the Oregon coast. It provides very valuable habitat including attachment surfaces for clinging invertebrates, spawning areas for many fish species, and a highly sought-after food item for black brant and several species of diving ducks. The largest concentrations of eelgrass occupy the southern end of Siletz Bay, with small patches occurring at the mouth of the bay, mouth of Schooner Creek, and the southern end of Snag Alley.

Great blue herons and other wading birds use the bay and there is a small breeding colony of great blue herons on the Refuge. Thousands of gulls and shorebirds including whimbrel, western and least sandpipers, dunlin, greater yellowlegs, semipalmated plover, long-billed dowitchers, and black-bellied plovers use Siletz Bay as stop-over habitat. Virginia rails and sora make use of the freshwater/brackish wetlands and tidal marsh/meadow-nesting species such as savannah sparrow, marsh wren and common yellowthroat are abundant. The marsh and mudflats along lower Drift Creek adjacent to the refuge bunkhouse contain a known mineral spring used by band-tailed pigeons. A diversity of raptors, such as osprey, northern harrier, bald eagle, peregrine falcon, and red-tailed hawk are commonly observed hunting prey within the marshes and mudflats. At present, there are two known bald eagle nests adjacent to Siletz Bay with one of them occurring on refuge lands. A pair of osprey nest annually on an artificial nesting platform near the Refuge on the Siletz River. The recently delisted California brown pelican uses the lower bay for foraging and the spit as a roost site. Aquatic mammals such as marsh shrews, Oregon voles, muskrat, river otter, beaver, and raccoon are common. Harbor seals forage and rest over tide flats with their primary haulout located on the spit. Black-tailed deer and Roosevelt elk forage in the meadows and tidal marshes.

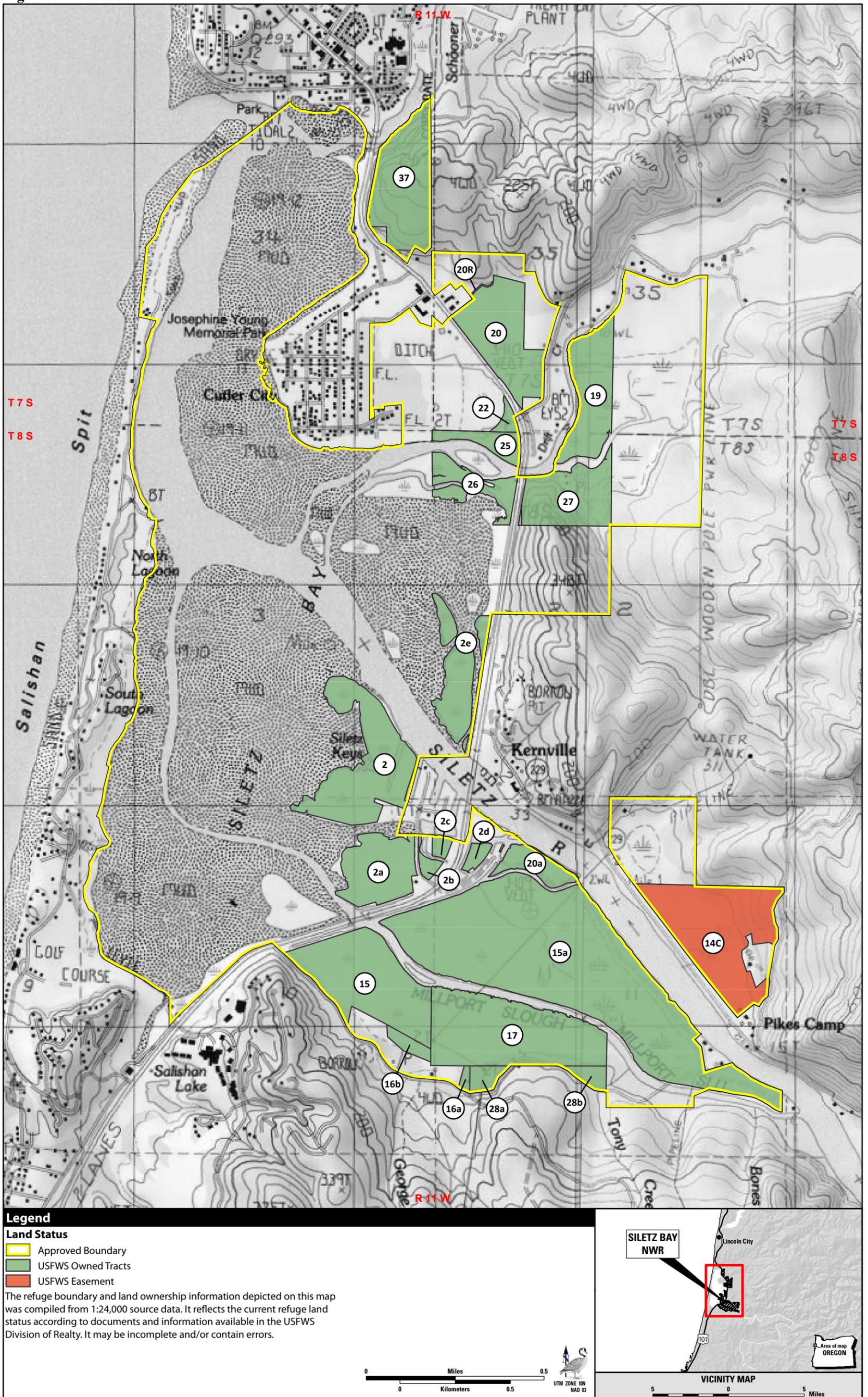
Figure 1-1. Regional context.



Data Sources: Highways, State and Country Boundaries from ESRI; Cities from USGS; USFWS Ecoregions and Refuge Boundaries from USFWS/R1

**The back sides of maps are blank to improve readability.**

Figure 1-2. Land status.



Data Sources: Refuge Boundaries from USFWS/R1; 1:24,000 scale Topographic Map from USGS

**The back sides of maps are blank to improve readability.**

The forested areas of the Refuge provide important wildlife habitat. Young riparian alder and understory vegetation in coniferous forests provides browse for deer and elk. Wetland forest and woody riparian habitat support mammals such as beaver, mink, river otter, muskrat, and raccoon as well as numerous small mammals such as deer mice and a variety of species of voles, moles, and shrews. Many amphibians and reptiles such as long-toed and western red-backed salamanders, rough-skinned newts, Pacific tree and red-legged frogs, northern alligator lizards, and garter snakes are also dependent upon these habitats. The forests are used by neo-tropical songbirds including Wilson's and Townsend's, orange-crowned, black-throated gray and yellow-rumped warblers; hermit, Swainson's, and varied thrushes. Chestnut-backed chickadees, Pacific wren, Steller's jay, wren, and song sparrows are found year-round in the forest.

### **1.3 Proposed Action**

We, the U.S. Fish and Wildlife Service (Service), manage wildlife refuges as part of the National Wildlife Refuge System. This document is the Refuge's Comprehensive Conservation Plan (CCP). A CCP sets forth management guidance for a Refuge for a period of 15 years, as required by the National Wildlife Refuge System Administration Act (16 U.S.C. 688dd-688ee, et seq.) (Refuge Administration Act), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Public Law 105-57). The Refuge Administration Act requires CCPs to identify and describe:

- The purposes of the refuge;
- The fish, wildlife, and plant populations, their habitats, and the archaeological and cultural values found on the refuge;
- Significant problems that may adversely affect wildlife populations and habitats and ways to correct or mitigate those problems;
- Areas suitable for administrative sites or visitor facilities and opportunities for fish and wildlife-dependent recreation.

The Service developed and examined alternatives for future management of Siletz Bay National Wildlife Refuge through the CCP process. These were presented in the Draft Comprehensive Conservation Plan and Environmental Assessment (USFWS 2012a). We developed and evaluated three alternatives for the CCP and selected Alternative C as the preferred alternative.

The goals, objectives, and strategies under the preferred alternative best achieve the purpose and need for the CCP while maintaining balance among the varied management needs and programs. Thus, the preferred alternative represents the most balanced approach for achieving the Refuge's purposes, vision, and goals; contributing to the Refuge System's mission; addressing relevant issues and mandates; and managing the Refuge consistently with sound principles of fish and wildlife management. The preferred alternative was slightly modified between the draft and final documents based upon comments received from the public or other agencies and organizations (see Appendix K). The Service's Regional Director for the Pacific Region made the final decision about the alternative to be implemented. For details on the specific components of management direction for the Refuge over the next 15 years, see Chapter 2

### **1.4 Purpose and Need for Action**

The purpose of developing the CCP is to provide the refuge manager with a 15-year management plan for the conservation of fish, wildlife, and plant resources and their related habitats, while

providing opportunities for compatible, wildlife-dependent recreational uses. The CCP, when fully implemented, should achieve refuge purposes; help fulfill the Refuge System mission; maintain and, where appropriate, restore the ecological integrity of each refuge and the Refuge System; help achieve the goals of the National Wilderness Preservation System; and meet other mandates. The CCP must be specific to the planning unit and identify the overarching wildlife, public use, or management needs for the Refuge (602 FW 3.4C1d).

The need for the CCP is to provide reasonable, scientifically grounded guidance for ensuring that over a period of 15 years, Siletz Bay NWR will achieve the following purposes:

- Enhance, maintain, and protect refuge habitats (including upland forests; forested wetlands; and estuarine and stream-riparian habitats) and other lands for the benefit of migratory birds and other wildlife.
- Gather sufficient scientific information to guide responsible adaptive management decisions.
- Provide visitors compatible wildlife-dependent public use opportunities that foster an appreciation and understanding of the Refuge’s fish, wildlife, plants, and their habitats, and have limited impacts to wildlife.
- Initiate and nurture relationships and develop cooperative opportunities to promote the importance of the Refuge’s wildlife habitat, and support refuge stewardship.
- Protect and manage the Refuge’s cultural resources, and identify new ways to gain an understanding of the Refuge’s history and cultural resources.

## **1.5 Legal and Policy Guidance**

### **1.5.1 The U.S. Fish and Wildlife Service**

All refuges are managed by the Service, an agency within the Department of the Interior. The Service is the principal Federal agency responsible for conserving, protecting, and enhancing the Nation’s fish and wildlife populations and their habitats.

The mission of the Service is “working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.” Although we share this responsibility with other Federal, state, tribal, local, and private entities, the Service has specific trust responsibilities for migratory birds, endangered and threatened species, and certain anadromous fish and marine mammals. The Service has similar trust responsibilities for the lands and waters we administer to support the conservation and enhancement of fish, wildlife, plants, and their habitats. The Service also enforces Federal wildlife laws and international treaties for importing and exporting wildlife, assists with state fish and wildlife programs, and helps other countries develop wildlife conservation programs.

### **1.5.2 National Wildlife Refuge System**

A refuge is managed as part of the National Wildlife Refuge System within a framework provided by legal and policy guidelines. The Refuge System is the world’s largest network of public lands and waters set aside specifically for conserving wildlife and protecting ecosystems.

The needs of wildlife and their habitats come first on refuges, in contrast to other public lands that are managed for multiple uses. Refuges are guided by various Federal laws and executive orders,

Service policies, and international treaties. Fundamental are the mission and goals of the Refuge System and the designated purposes of the refuge unit as described in establishing legislation, executive orders, or other documents establishing, authorizing, or expanding a refuge.

### **National Wildlife Refuge System Mission and Goals**

The mission of the Refuge System is “to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” (National Wildlife Refuge System Administration Act of 1966, as amended) (16 U.S.C. 668dd et seq.)

The goals of the Refuge System, as articulated in the Mission Goals and Purposes policy (601 FW1) are:

- Conserve a diversity of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered.
- Develop and maintain a network of habitats for migratory birds, anadromous and inter-jurisdictional fish, and marine mammal populations that is strategically distributed and carefully managed to meet important life history needs of these species across their ranges.
- Conserve those ecosystems, plant communities, wetlands of national or international significance, and landscapes and seascapes that are unique, rare, declining, or underrepresented in existing protection efforts.
- Provide and enhance opportunities to participate in compatible wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, and environmental education and interpretation).
- Foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats.

### **Law and Policy Pertaining to the Refuge System**

Refuges are guided by various Federal laws and executive orders, Service policies, and international treaties. Fundamental to the management of every refuge are the mission and goals of the Refuge System and the designated purposes of the refuge unit as described in establishing legislation, executive orders, or other documents establishing, authorizing, or expanding a refuge.

Key concepts and guidance of the Refuge System derive from the National Wildlife Refuge System Administration Act of 1966 (Administration Act) as amended (16 U.S.C. 668dd-668ee); the Refuge Recreation Act of 1962 as amended (16 U.S.C. 460k-460k-4); Title 50 of the Code of Federal Regulations; and the Service Manual. The Administration Act is implemented through regulations covering the Refuge System, published in Title 50, subchapter C of the Code of Federal Regulations and policies contained in the Service Manual. These regulations and policies govern general administration of units of the Refuge System.

Many other laws apply to the U.S. Fish and Wildlife Service and management of Refuge System lands. Examples include the Endangered Species Act of 1973, as amended, and the National Historic Preservation Act of 1966, as amended. Brief descriptions of laws pertinent to Siletz Bay Refuge are included in this chapter. A complete list of laws pertaining to the Service and the Refuge System can be found at <http://laws.fws.gov>.

**Refuge Recreation Act of 1962** (16 U.S.C. 460k-460k-4). The Refuge Recreation Act authorized the Secretary of the Interior to administer refuges, hatcheries, and other conservation areas for recreational use, when such uses do not interfere with the area's primary purposes. It provided for public use fees and permits, and penalties for violating regulations. It also authorized the acceptance of donated funds and real and personal property, to assist in carrying out its purposes. Enforcement provisions were amended in 1978 and 1984 to make violations misdemeanors in accordance with the uniform sentencing provisions of 18 U.S.C. 3551-3586.

**National Wildlife Refuge System Administration Act** (16 U.S.C. 668dd et seq.) as amended by the National Wildlife Refuge System Improvement Act (Public Law 105-57). Of all the laws governing activities on national wildlife refuges, the Refuge Administration Act exerts the greatest influence. The National Wildlife Refuge System Improvement Act of 1997 (Refuge Improvement Act) amended the Administration Act by defining a unifying mission for all refuges, including a new process for determining compatible uses on refuges, and requiring that each refuge be managed under a comprehensive conservation plan. Key provisions of the Refuge Administration Act follow.

- Comprehensive conservation planning. A CCP must be completed for each refuge by the year 2012, as is required by the Refuge Administration Act. Each CCP will be revised every 15 years or earlier if monitoring and evaluation determine that changes are needed to achieve the refuge's purposes, vision, goals, or objectives. The Refuge Administration Act also requires that CCPs be developed with the participation of the public. Public comments, issues, and concerns are considered during the development of a CCP, and together, with the formal guidance, can play a role in selecting the preferred alternative. Information on public involvement can be found in Appendix J. The CCP provides guidance in the form of goals, objectives, and strategies for refuge programs, but may lack some of the specifics needed for implementation. Therefore, step-down management plans will be developed for individual program areas as needed, following completion of the CCP. The step-down plans are founded on management goals, objectives and strategies outlined in a CCP, and require appropriate NEPA compliance.
- Wildlife conservation; biological diversity, integrity and environmental health. The Refuge Administration Act expressly states that the conservation of fish, wildlife and plants, and their habitats is the priority of Refuge System lands, and that the Secretary of the Interior shall ensure that the biological integrity, diversity, and environmental health of refuge lands are maintained. House Report 105-106 accompanying the Improvement Act states "... the fundamental mission of our System is wildlife conservation: wildlife and wildlife conservation must come first."
- Refuge purposes. Each refuge must be managed to fulfill the Refuge System mission and the specific purpose(s) for which the refuge was established. The purposes of a refuge are specified in or derived from the law, proclamation, executive order, agreement, public land order, donation document, or administrative memorandum establishing, authorizing, or expanding a refuge, refuge unit, or refuge subunit. When a conflict exists between the Refuge System mission and the purpose of an individual refuge, the refuge purpose may supersede the mission.
- Priority public uses on refuges. The Administration Act superseded some key provisions of the Refuge Recreation Act regarding compatibility, and also provided significant additional guidance regarding recreational and other public uses on units of the Refuge System. The Refuge Administration Act identifies six priority wildlife-dependent recreational uses. These uses are hunting, fishing, wildlife observation and photography, and environmental education

and interpretation. The Service is to grant these six wildlife-dependent public uses special consideration during planning for, management of, and establishment and expansion of units of the Refuge System. When determined compatible on a refuge-specific basis, these six uses assume priority status among all uses of the refuge in question. The Service is to make extra efforts to facilitate priority wildlife-dependent public use opportunities.

**Compatibility and Appropriate Refuge Uses Policies** (603 FW 2 and 1). With few exceptions, lands and waters within the Refuge System are different from multiple-use public lands in that they are closed to all public access and use unless specifically and legally opened. No refuge use may be allowed or continued unless it is determined to be appropriate and compatible. Generally, an appropriate use is one that contributes to fulfilling the refuge purpose(s), the Refuge System mission, or goals or objectives described in a refuge management plan. A compatible use is a use that in the sound professional judgment of the refuge manager will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge.

The six wildlife-dependent recreational uses described in the Refuge Administration Act (hunting, fishing, wildlife observation and photography, and environmental education and interpretation) are defined as appropriate. When determined to be compatible, they receive priority consideration over other public uses in planning and management. Other non-wildlife-dependent uses on a refuge are reviewed by the refuge manager to determine if the uses are appropriate. If a use is determined appropriate, then a compatibility determination is completed.

When preparing a CCP, refuge managers must re-evaluate all general public, recreational, and economic uses (even those occurring to further refuge habitat management goals) occurring or proposed on a refuge for appropriateness and compatibility. Updated appropriate use and compatibility determinations for existing and planned uses for Siletz Bay NWR are in Appendices A (Appropriateness) and B (Compatibility) of this CCP.

**Biological Integrity, Diversity, and Environmental Health Policy** (601 FW 3). The Refuge Administration Act directs the Service to “ensure that the biological integrity, diversity, and environmental health of the National Wildlife Refuge System are maintained for the benefit of present and future generations of Americans...” The policy is an additional directive for refuge managers to follow while achieving refuge purpose(s) and the Refuge System mission. It provides for the consideration and protection of a broad spectrum of native fish, wildlife, and habitat resources found on refuges and associated ecosystems. When evaluating the appropriate management direction for refuges (e.g., in compatibility determinations), refuge managers will use sound professional judgment to determine their refuge’s contribution to biological integrity, diversity, and environmental health at multiple landscape scales. Sound professional judgment incorporates field experience, knowledge of refuge resources, an understanding of the refuge’s role within an ecosystem, applicable laws, and best available science, including consultation with others both inside and outside the Service. The policy states that “the highest measure of biological integrity, diversity, and environmental health is viewed as those intact and self-sustaining habitats and wildlife populations that existed during historic conditions.”

**Wildlife-dependent Recreation Policies** (605 FW 1-7). The Refuge Administration Act states that “compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the System.” A series of recreation policies provide additional guidance and requirements to consider after a recreational use has been determined to be compatible. These policies also establish a quality standard for visitor services on national wildlife refuges. Through these policies, we are to

simultaneously enhance wildlife-dependent recreational opportunities, provide access to quality visitor experiences, and manage refuge resources to conserve fish, wildlife, plants, and their habitats. New and ongoing recreational uses should help visitors focus on wildlife and other natural resources, and provide an opportunity to display resource issues, management plans, and how the refuge contributes to the Refuge System and the Service's mission. The policies also require development of a visitor services plan.

### **1.5.3 Other Laws and Mandates**

Many other Federal laws, executive orders, Service policies, and international treaties govern the Service and Refuge System lands. Examples include the Migratory Bird Treaty Act of 1918, Refuge Recreation Act of 1962, National Historic Preservation Act of 1966, and the Endangered Species Act of 1973. For additional information on laws and other mandates, a list and brief description of Federal laws of interest to the Service can be found in the Laws Digest at <http://www.fws.gov/laws/Lawsdigest.html>.

In addition, over the last few years, the Service has developed or revised numerous policies and Director's Orders to reflect the mandates and intent of the Refuge Administration Act. Some of these key policies include the Biological Integrity, Diversity, and Environmental Health Policy (601 FW 3); the Compatibility Policy (603 FW 2); the Comprehensive Conservation Planning Policy (602 FW 3); Mission, Goals, and Purposes (601 FW 1), Appropriate Refuge Uses (603 FW 1); Wildlife-Dependent Public Uses (605 FW 1); wilderness-related policies (610 FW 1-5) and the Director's Order for Coordination and Cooperative Work with State Fish and Wildlife Agency Representatives on Management of the National Wildlife Refuge System. These policies and others in draft or under development can be found at <http://refuges.fws.gov/policymakers/nwrpolicies.html>.

In developing a CCP, refuges must consider these broader laws and policies as well as Refuge System and ecosystem goals and visions. The CCP must be consistent with these and also with the refuge purpose.

## **1.6 Refuge Establishment and Purposes**

### **1.6.1 Legal Significance of the Refuge Purpose**

The purpose for which a refuge was established or acquired is of key importance in refuge planning. Purposes must form the foundation for management decisions. The refuge purposes are the driving force in the development of the refuge vision statements, goals, objectives, and strategies in a CCP and are critical to determining the compatibility of existing and planned refuge uses.

The purposes of a refuge are specified in or derived from the law, proclamation, executive order, agreement, public land order, donation document, or administrative memorandum establishing, authorizing, or expanding a refuge, refuge unit, or refuge subunit.

Unless the establishing law, order, or other document indicates otherwise, purposes dealing with the conservation, management, and restoration of fish, wildlife, plants, and the habitats on which they depend, take precedence over other purposes in the management and administration of any unit. Where a refuge has multiple purposes related to fish, wildlife, and plant conservation, the more specific purpose will take precedence in instances of conflict. When an additional unit is acquired

under an authority different from the authority used to establish the original unit, the addition takes on the purpose(s) of the original unit, but the original unit does not take on the purpose(s) of the newer addition. When a conflict exists between the Refuge System mission and the purpose of an individual refuge, the refuge purpose may supersede the mission of the System.

### **1.6.2 Purpose and History of Refuge Establishment**

Siletz Bay NWR was established in 1991 under the authority of the Fish and Wildlife Act of 1956 “for the development, advancement, management, conservation, and protection of fish and wildlife resources” [U.S.C. 742f(a)(4)] and “for the benefit of the United States Fish and Wildlife Service, in performing its activities and services” [16 U.S.C. 742f(b)(1)]. Additional establishment authorities include the Emergency Wetlands Resources Act of 1986 [16 U.S.C. 39 100 Stat 3583], with the purpose of acquisition for “the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to fulfill international obligations contained in various migratory bird treaties and conventions”; and the Endangered Species Act of 1973[16 U.S.C. 1534], with the purpose “to conserve (a) fish or wildlife which are listed as endangered species or threatened species...or (b) plants.” Funding was authorized by the Land and Water Conservation Fund of 1965.

The original acquisition and funding authorities and their accompanying purposes apply to all the tracts within Siletz Bay NWR, with the exceptions of funding authorities for the Gray Tract (15) and Sanders Tract (22), which were acquired through donations; the Meriwether Tract (28 a, b), which was acquired in exchange for Tract 17a; and the Schoen Tract (20a) and Kangas Tract (20/20R), which were acquired under the Federal Land Transaction Facilitation Act (FLTFA). The FLTFA authorizes the Department of Interior and the U.S. Forest Service to use proceeds from sales of Bureau of Land Management lands to acquire inholdings in federally designated areas, such as NWRS.

### **1.6.3 Land Status and Ownership**

Following the identification of the Siletz Bay estuary and associated diked former tidelands as important habitats for waterfowl (USFWS 1989), the Service was offered the donation of 40 acres of muted tidal marsh as the first refuge parcel (Tract 15). Additional tracts nearby were added over the next 5 years. This portion of the Refuge is now bordered by U.S. Highway 101 on the west, Siletz River on the north and east, and Millport Slough Road and Immonen Road on the south, and is bisected by Millport Slough. The marsh to the north of Millport Slough is a relatively undisturbed tidal prairie with diverse plant communities dominated by tufted hairgrass (Tract 15a). These plant communities are typical of undisturbed high marsh and reflect the range of tidal salinities within this area. Evidence of intact tidal hydrology is provided by the condition of tidal channels on the site. Millport Slough South is a tidal wetland that was diked and managed as pasture for many decades until dike failures occurred in the 1980s and 1990s (Tracts 15, 16a, 16b, 17, 28a, and 28b). The western half had been subjected to muted tidal influence since water control structure failure in 1981. A restoration project, completed in fall 2003, included removing as much of the dike system as possible and placing large woody debris in the restoration area as well as in the natural marsh in Millport Slough North.

The Schooner Creek Tract (37), acquired in 1993, is a 38-acre tract on the east side of Highway 101 at the north end of the Refuge. SE 54th Drive, which leads to the Lincoln City waste treatment plant, bisects the northern portion of the tract. It consists primarily of mixed upland forest with red alder, Sitka spruce, and western hemlock. There are a number of large second-growth trees on the tract, but

the presence of several very large and decayed stumps are evidence of past logging. The large trees in the west central portion of the forest overlooking the bay are the preferred perching sites of a pair of resident bald eagles, and their nest and a great blue heron rookery are located on the southern end of this tract.

West of Highway 101 and adjacent to the Siletz River entrance into Siletz Bay, refuge ownership consists of high and low saltmarsh, intertidal mudflats, tidal sloughs and small forested wetlands comprised primarily of Sitka spruce (Tracts 2, 2a, 2b, 2c, and 2e). Along the west side of the marsh extending west into the mudflats are numerous large drift trees and logs that have accumulated, which provide aquatic habitat diversity as well as perching sites for raptors and wading birds. The state-owned mudflats and bay to the north and west of this tract, and particularly the western edge of the tract, are popular for waterfowl hunting. The refuge wetlands west of the Siletz Keys residential development are in good ecological condition and support a diverse native tidal prairie which is a rare habitat type in Siletz Bay. Several old dikes occur on the southern portion of this parcel (Tract 2) that inhibit natural tidal hydrology, and it is desirable to remove the old dikes and allow natural tidal action. The tidal wetland rises to an upland area that was created in the 1970s when the Keys were being constructed. The two smaller tracts closest to Highway 101 are comprised of high saltmarsh with tidal sloughs, and are hydrologically connected via a culvert under the highway (Tracts 2c and 2d).

Refuge lands in the Drift Creek area of the Refuge are located on the east and west side of U.S. Highway 101 at Drift Creek. East of the highway, the tracts are primarily muted tidal wetlands dominated by Lyngby's sedge and slough sedge. Historically, these areas were comprised of tidal marsh; floodplain overflow areas were dominated by Sitka spruce. These parcels were diked and drained and converted to pastureland for grazing of livestock. A severe flood event in the late 1990s resulted in the complete loss of the water control structure on private land located adjacent to the southeast corner of the Shaffer Tract (19). The loss of this water control structure, along with subsequent breaches in the dikes adjacent to Drift Slough and along Drift Creek, now allow significant but muted tidal flows on the property. Grazing is no longer allowed on the refuge property and a seasonal electric fence is installed in the late-spring through fall along the east boundary to prevent cattle from entering from the adjoining property although some trespass grazing occurs when the fence fails. The portion of the refuge tract located south of the Drift Slough tidal channel and east of the refuge residence is also a diked tidal marsh with muted tidal flow (Tract 27). A tidegated culvert formerly existed at the northwest corner of the site. Upon failure, limited tidal flow restricted by beaver dams now enters the site.

West of Highway 101 on the south bank of Drift Creek is the Kromer Tract, which was formerly the site of a fish buying station and dock prior to 1940 and a cedar shake and shingle lumber mill from 1952 through the 1970s (Tract 26). This parcel contains a band-tailed pigeon mineral spring on the south side. The refuge bunkhouse is located on this parcel. West of Highway 101 on the north bank of Drift Creek is the Schnuelle Tract on which the Service breached the dikes in four places in 2000 to restore tidal flows into the marsh (Tract 25). Adjacent to the Schnuelle Tract is the Sanders Tract (22), which is a muted tidal wetland with tidal flows coming through a tidegate located on private property that failed in the late 1990s and was never repaired.

A fairly recent refuge acquisition is the former Kangas Tract that is bound to the west by U.S. Highway 101; on the north by SE 64th Street; and on the east by S. Drift Creek Road (Tract 20). Private lands within the authorized refuge boundary occur along the north, northeast, and south ends. This tract is considered part of the Drift Creek area of the Refuge, and the majority of the tract is

classified as freshwater wetlands. Historically, this entire lowland area was intertidal wetlands providing habitat to a host of migratory birds, salmonids, and other estuarine-dependent fish and wildlife species. The area is now diked, ditched, and drained and until the late 1990s was heavily grazed and hayed for cattle forage. When it was grazed and hayed, this action maintained a short-grass condition and provided habitat for a variety of waterfowl, shorebirds, and wading birds. Large numbers of birds are attracted to the area following heavy rainfall when the fields are flooded with freshwater runoff. Upon termination of grazing by the landowner, vegetation has grown in considerably and sedges now occur over much of the site; however, invasive vegetation such as reed canarygrass and Scotch broom is also present. The ditches on the property receive muted tidal flows originating from a failed tidegate on private property west of Highway 101. An undersized and damaged culvert under the highway formerly restricted flows into and out of the Kangas Tract; however, in 2012, the Oregon Department of Transportation completed replacement of the undersized culvert with a 12' box culvert which allows for greater flow into and out of this tract. Prior to the construction of the new box culvert, the Refuge documented use of the ditches by juvenile coho salmon.

In 2008 the Refuge acquired the 10-acre Schoen Tract, located on an island on the south bank of the Siletz River as it empties into Siletz Bay just east of U.S. Highway 101 (Tract 20a). It is bounded to the south and east by refuge lands, to the west by the old abandoned Highway 101, and to the north by the Siletz River. Immediately south of the parcel is a large area of undisturbed intertidal marsh within the Refuge. This tract contains a dike running around the perimeter of the property. The upland portion of the property was used as a dredged spoil site for the Siletz Keys in 1998 and the dredge spoils were approved through permits by the Army Corps of Engineers (ACOE) and Oregon Department of Environmental Quality (ODEQ). This dredge spoil area is currently comprised of a young red alder forest, although invasive blackberry and Scotch broom are present but are being treated. The lower portion of the property serves as marsh habitat that receives some tidal flows during extreme high tides. Riparian forest occurs on the perimeter dike. The property was zoned to allow for marina development prior to acquisition by the Refuge in 2008. Since acquisition, the Service has renamed this tract Alder Island. Under the CCP's management direction, the Service will restore the wetlands to tidal flow by breaching the dike and placing footbridges over the breaches to develop a trail to allow limited public use on the site.

Siletz Bay NWR includes one 57-acre tract which is under a perpetual Conservation Easement (Tract 14c). This tract is located along the Kernville Highway (Oregon Route 229) and consists of formerly diked tidal marsh and forested upland. This tract is bordered on the west by a tract of private land that is also a former tidal marsh and contains the tidegated culvert under the highway that drains this area. In fall 2000, the tidegate was only partly functional and as a result, a brackish-water tolerant Lyngby's sedge community has become established in the west end of the wetland near the culvert (Brophy 2002). The remainder of the wetland is occupied by freshwater slough sedge, soft rush, and reed canarygrass wetland communities. A strong pattern of remnant tidal channels exists on this wetland, particularly in the southeast third of the site. The eastern portion of this tract grades up into forest land and the boundary, with the exception of two inholdings, parallels South Drift Creek Road. The major tidegate on this unit is located on the adjoining private property on the west boundary.

## **1.7 Relationship to Other Planning Efforts**

When developing a CCP, the Service considers the goals and objectives of existing national, regional, state, and ecosystem plans and/or assessments. The CCP is expected to be consistent, as

much as possible, with existing plans and assist in meeting their conservation goals and objectives (602 FW 3). This section summarizes some of the key plans reviewed by members of the core team while developing the CCP.

### **1.7.1 Refuge Plans**

Key plans utilized for the Siletz Bay NWR include the Environmental Assessment for the proposed Siletz Bay National Wildlife Refuge, produced in 1990 by the Service (USFWS 1990). This plan includes a history of the area and its various ownerships, the rationale for proposing its inclusion into the Refuge System, a description of historical and current uses and threats, detailed descriptions of wildlife and habitats included in the proposed refuge, and an evaluation of the biological, social, and economic effects of establishing this Refuge.

Information useful for the Physical Environment (Chapter 3), Biological Environment (Chapter 4), and Socioeconomic Environment (Chapter 5) was found in the Wildland Fire Management Plan (USFWS 2004). The Fire Plan contains climate data, plant and wildlife species and community descriptions, refuge facilities and infrastructure information updated through 2004, information on wildfire risk and suppression options, and identification of sensitive habitats to be considered in planning for fire risk reduction and suppression actions.

### **1.7.2 Other Plans and Assessments**

When developing a CCP, the Service considers the goals, objectives, strategies, and other information available in existing national, regional, and ecosystem plans, state fish and wildlife conservation plans, and other landscape-scale plans developed for the same watershed or ecosystem in which the refuges are located. To the extent possible, the CCP is expected to be consistent with the existing plans and assist in meeting their conservation goals and objectives. The following list identifies some of the key plans and assessments that were reviewed by members of the core team while developing the CCP.

- Birds of Conservation Concern (USFWS 2008a)
- Birds of Management Concern (BMC) – Region 1 (USFWS 2005)
- Siletz Estuary Plant Community Mapping (Brophy 2001)
- Siletz Bay NWR and Nestucca Bay NWR Tidal Marsh Restoration and Reference Sites: Baseline Plant Community Monitoring and Mapping (Brophy 2002)
- Development of a Salt Marsh Assessment Tool to Monitor System Integrity and Provide Management Priorities for Wildlife Conservation in Response to a Hierarchy of Threats: Global Change, Invasive Species and Local Stressors (Guntenspergen et al. 2009)
- Rising to the Challenge: Strategic Plan for Responding to Accelerating Climate Change (USFWS 2010a)
- Strategic Plan for Inventories and Monitoring on National Wildlife Refuges: Adapting to Environmental Change (USFWS 2010b)
- Important Fish and Wildlife Habitats in Oregon (USFWS 1980)
- Plant Communities and Succession in Oregon Coastal Salt Marshes (Jefferson 1975)
- Coastal Coho Habitat Factors for Decline and Protective Efforts in Oregon (National Marine Fisheries Service [NMFS] 1997b)
- Endangered and Threatened Species: Final Threatened Listing Determination, Final Protective Regulations, and Final Designation of Critical Habitat for the Oregon Coast

Evolutionarily Significant Unit of Coho Salmon (National Oceanic and Atmospheric Administration [NOAA] 2008)

- North American Waterfowl Management Plan (NAWMP Plan Committee 2004)
- North American Waterbird Conservation Plan (Kushlan et al. 2002)
- Northern Pacific Coast Regional Shorebird Management Plan (Drut and Buchanan 2000)
- Oregon's Salt Marshes (Oberrecht 1997)
- Oregon Biodiversity Information Center (ORBIC 2010)
- Partners In Flight Species Assessment Database (PIF 2010)
- State of Oregon Conservation Strategy (ODFW 2006)
- Threatened, Endangered, and Candidate Fish and Wildlife Species in Oregon (ODFW 2012a)
- Identifying Resources of Concern and Management Priorities for a Refuge: A Handbook (USFWS 2008b)

## **1.8 Special Designation Lands**

### **1.8.1 Important Bird Areas (IBA)**

The Important Bird Areas (IBA) program is a global effort to identify the most important areas for maintaining bird populations and focusing conservation efforts on protecting these sites. Within the U.S., the program has been promoted and maintained by the American Bird Conservancy (ABC) and the National Audubon Society (NAS). The ABC is coordinating the identification of nationally significant IBAs while NAS is working to identify sites in individual states. NAS is working within each state to identify a network of sites across the U.S. that provide critical habitat for birds. This effort recognizes that habitat loss and fragmentation are the most serious threats to birds across North America and around the world. By working through partnerships, principally the North American Bird Conservation Initiative, to identify those places that are critical to birds during some part of their life cycle (breeding, wintering, feeding, migrating), the intent is to minimize the effects that habitat loss and degradation have on bird populations. The IBA program has become a key component of many bird conservation efforts. More information is available at <http://www.audubon.org/bird/iba/index.html>.

The goals of the IBA program are to identify the sites that are the most essential for long-term conservation of birds and to take action to ensure the conservation of these sites (Cullinan 2001). An IBA is a site that provides essential habitat for one or more species of birds. The IBA selection process examines sites based on the presence and abundance of birds and/or the condition and quality of habitat. IBAs are chosen using standard biological criteria and expert ornithologists' review. All sites nominated as potential IBAs are rigorously evaluated to determine whether they meet the necessary qualifications. IBAs represent discrete sites, both aquatic and terrestrial, that are critically important to birds during their annual life cycle (e.g., breeding, migration, and/or wintering periods).

The mudflats and lower salt marshes of Siletz Bay NWR are included within the 1,186-acre Siletz Bay Important Bird Area. This IBA also contains other habitats, including submerged areas and sandflats, within the larger bay. Bird numbers at this site regularly surpass, in season, more than 100 California brown pelicans and thousands of waterfowl (in marine estuarine habitats) and shorebirds. Occasionally, usually due to large schools of anchovy entering the bay, huge pulses of gulls, pelicans, and other species swarm into the bay to make use of the bountiful resources.

## 1.9 Planning Process and Issue Identification

### 1.9.1 Planning Process

**Planning Team:** The core planning team for Siletz Bay NWR consists of the project leader, deputy project leader, refuge manager, visitor services manager, wildlife biologist, and natural resource planner. An extended team consisting of biologists; cultural resource, public use, and realty specialists; economists; and law enforcement officers from the Regional Office, other Federal agencies, State agencies, the Confederated Tribes of Siletz Indians, and a private environmental consultant assisted in the development of this CCP, particularly in providing comments at key milestones. The full list of core and extended team members and their roles is provided in Appendix I.

**Resources of Concern:** The planning process began when the planning team reviewed refuge purposes and considered other plans and reports, and sought input from Oregon State conservation agencies, non-governmental organizations and tidal marsh experts. The planning team then identified the top priority species, groups, and communities for the Refuge. A comprehensive list of potential resources of concern was compiled based upon review of the plans referenced above, many of which highlight priority species or habitats for conservation. From this list, those species and habitats that are most representative of refuge purposes and habitats, BIDEH, as well as other FWS and ecosystem priorities, were chosen as priority resources of concern (habitat types) and focal resources (plant and animal species). This list was then provided to participants in the Wildlife and Habitat Review, which was held on the Refuge on March 18, 2010, and included the extended team, Oregon Department of Fish and Wildlife biologists, Department of State Lands representatives, and several tidal wetland restoration specialists. The participants raised important issues and provided feedback that was used to refine the Priority Resources of Concern table. This table includes focal species, also called conservation targets, which were selected as representatives or indicators for the overall condition of important refuge habitats. Most of the biological emphasis of the CCP is focused on protecting and restoring these species. See Appendix E for the Comprehensive Resources of Concern and Priority Resources of Concern.

**Public Use Planning:** Public use planning centered on developing goals, objectives, and strategies around the six wildlife-dependent recreational uses that are defined in Service policy as priority, appropriate public uses for refuge lands. A Visitor Services Review for Siletz Bay NWR was held on the Refuge on April 15, 2010, with representatives from the extended team and public use specialists from USGS and one other national wildlife refuge. A background document including existing uses and visitor facilities was provided to participants prior to the Visitor Services Review. The participants' input was used by the planning team to assess past, current, and future management issues surrounding public use while developing objectives and strategies during the Comprehensive Conservation Plan process. In addition, the Service hired a contractor to conduct a Facilities Review, which provided insight and conceptual plans for the future of administrative and visitor facilities at Siletz Bay NWR. This information was also incorporated into the alternatives, and some ideas were included as strategies to achieve broader goals for future management of this Refuge.

**Public Involvement:** Public scoping began in November 2010 with a notice in the Federal Register [November 29, 2010, Volume 75, Number 228] and a public meeting November 29, 2010 in Lincoln City. Public input was also solicited through distribution of planning updates to our mailing list and meetings with key stakeholder groups. The comments and suggestions made through this process

helped further develop and refine the management alternatives for the CCP, including the preferred alternative. A second planning update containing preliminary draft alternatives was distributed in November 2011 and another public open house meeting was held on November 10, 2011 in Lincoln City to explain the alternatives and take comments. The Siletz Bay National Wildlife Refuge Draft Comprehensive Conservation Plan and Environmental Assessment (DCCP/EA) was issued for public review and comment on September 17, 2012. The availability of the plan was announced through a notice in the Federal Register [September 17, 2012, Volume 77, Number 180] and via direct contact with approximately 600 people on our mailing list. The plan was made available for downloading on the Oregon Coast National Wildlife Refuge Complex Planning website and was made available upon request in CD or printed format. Printed copies of the DCCP/EA were available at local public libraries, and upon request. All changes made as a result of public and agency comments were documented. A summary of public involvement is included in Appendix J; public comments on the DCCP/EA and the Service's responses to comments are included in Appendix K.

### 1.9.2 Key Issues Addressed in the CCP

The core planning team evaluated the issues and concerns raised during public scoping. The Service defines an issue as "Any unsettled matter that requires a management decision, e.g., an initiative, opportunity, resource management problem, threat to the resources of the unit, conflict in uses, public concern, or the presence of an undesirable resource condition (602 FW 1 1.6 K)." Issues are important to the planning process because they identify topics to be addressed in the CCP, pinpoint the types of information to gather, and help define alternatives for the CCP. It is the Service's responsibility to focus planning and the analysis on the major issues. Major issues typically suggest different actions or alternative solutions, are within a refuge's jurisdiction, and have a positive or negative effect on the resource. The following issues are within the scope of the CCP and were considered by the Service to be the major issues to address in this planning process:

**Wildlife and Habitat Management:** What actions should the Service take to sustain and restore priority species and habitats over a period of 15 years? How should the Service prioritize the restoration of hydrologic function, historic water flows, tidal flows, and floodplain functions on the Refuge, and how can partners most efficiently be involved in this restoration? Are there opportunities to restore upland forest, forested wetlands, and riparian areas? How will the Service prioritize inventory, control and monitoring of invasive species?

**Climate Change:** What actions should the Service take to address anticipated impacts to refuge resources from climate change/sea level rise, including species range shifts, phenological changes, decoupling of species assemblages, hydrological changes, ocean acidification, and changes in disturbance regimes? Are there focal species that will be adversely affected (directly or indirectly) by climate change, and what might be done to mitigate for that? How can cumulative stresses be reduced (e.g., among climate stress and other anthropogenic stresses, which do we have most control over)? Many of these threats are much larger in scope than just Siletz Bay NWR. They will be addressed at various scales depending on available information and what is most appropriate and relevant to the Refuge.

**Public Uses:** What public use opportunities will best support refuge purposes and increase visitor awareness of the Service's and Refuge System's mission and goals? Should the Service consider opening new areas of the refuge to public access, and what activities should be allowed in these areas? Where would new trails and other wildlife observation facilities be compatible and desirable on Siletz Bay NWR, and if constructed, how can these be designed to enhance public enjoyment,

understanding, appreciation, and stewardship of refuge resources? Should the Service consider opening portions of the Refuge to waterfowl hunting, fishing, and clamming, and if so, where?

**Facilities:** Is there a need for a Service-owned visitor and education center at Siletz Bay NWR? Should the Service pursue the establishment of a visitor or environmental education center at Siletz Bay NWR, or would it be more efficient and productive to pursue partnerships with existing information outlets?

## **1.10 Refuge Vision and Goals**

### **1.10.1 Vision Statement**

At Siletz Bay National Wildlife Refuge we will preserve in perpetuity a dynamic mixture of tidal marsh, sloughs, mudflats, and forest. The refuge will be a place where salmon and trout find shelter near large woody debris; where birds of prey hunt from perches on starched skeleton trees; and where herons, egrets, and waterfowl safely forage in the tidally influenced waters.

Tidal marshes and woodlands will be restored to their historic conditions and invasive plants will be eradicated whenever they are found. We will work with our conservation partners to apply sound, scientific principles, and adaptive management strategies to sustain the integrity of the estuary in the face of a changing climate. Paddling through the open waters that nourish the Refuge, visitors will experience unique opportunities to connect with nature.

### **1.10.2 Refuge Goals**

Refuge management goals are descriptive, open-ended, and often broad statements of desired future conditions that convey a purpose, but do not define measurable units. Goals must support the refuge vision and describe the desired end result.

Wildlife and Habitat Goals:

1. Protect and maintain upland forests characteristic of the North Pacific Coastal Ecosystem.
2. Restore, enhance, protect, and maintain estuarine habitats characteristic of the Pacific Coastal Ecosystem.
3. Protect and maintain forested wetlands and stream-riparian habitat characteristic of the North Pacific Coastal Ecosystem.
4. Enhance, protect, and maintain instream aquatic habitat for all dependent species including anadromous and estuary-dependent fish.
5. Research and monitoring. Gather scientific information (surveys, research, and assessments) to support adaptive management decisions.

Public Use Goals:

6. Provide opportunities for people of all ages to observe, photograph, and learn about waterfowl, waterbirds, and other estuarine wildlife of the Pacific Coast and increase their interest in and connection with nature.

7. Provide and manage safe, enjoyable, and quality waterfowl hunting and fishing opportunities in Siletz Bay for people of varying ages and resources that further the tradition of wildlife conservation and stewardship.
8. Provide facilities and materials and conduct outreach that welcomes and orients children and adults to Siletz Bay National Wildlife Refuge so they can easily and safely learn about its abundant fish and wildlife resources.

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