

Chapter 1

Introduction and Background



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Chapter 1 Introduction and Background

1.1 Introduction

Just a few short miles from the center of Oregon's largest city, the honking of geese replaces the honking of cars. This special place is a refuge, a haven for wildlife and people. Born of a community's dream, and made possible by their support, a wildlife refuge now thrives in the backyard of a growing metropolis.

Located on the outskirts of Portland, Tualatin River National Wildlife Refuge (refuge) is one of a handful of urban national wildlife refuges in the country. Situated within the floodplain of the Tualatin River, the refuge comprises less than 1 percent of the 712-square-mile watershed (see Appendix P, Maps 1 and 3). Yet, due to its richness and diversity of habitats, it supports some of the most abundant and varied wildlife in the watershed. The refuge is home to nearly 200 species of birds, over 28 species of mammals, 14 species of reptiles and amphibians, and a wide variety of insects, fish, and plants. The refuge has also become a place where people can experience and learn about wildlife and the places they call home. Established in 1992 under the guidelines of the U.S. Fish and Wildlife Service's (USFWS's; Service's) Urban Refuge Policy ([341 FW 1](#)) (Smith 1991), Tualatin River National Wildlife Refuge has served nearly 110,000 visitors annually since it opened to the public in 2006. In 2007, the Wapato Lake Unit was established, more than doubling the size of the original acquisition boundary.

The Tualatin River National Wildlife Refuge, which includes the Wapato Lake and Sherwood Units (the Sherwood Units contain five subunits: Atfálat'i, Onion Flats, Riverboat, Rock Creek, and Tualatin River), is located in the northern portion of the Willamette Valley, in Washington and Yamhill Counties, Oregon (see Appendix P, Maps 4 and 5). The overall management focus cited in the Land Protection Plan (USFWS 1992a) is to “protect, enhance, and manage upland, wetland, and riparian habitats for a variety of migratory birds and resident fish and wildlife, as well as for the enjoyment of people.” The Wapato Lake Unit serves a similar purpose and supports many of the same types of habitats found within the Sherwood Units. Currently, the established acquisition boundary of the refuge totals 7,370 acres, with 2,217 acres under management. The refuge may purchase lands within the boundary from willing sellers. Land currently owned or managed by the refuge is distributed among six management units: Riverboat (348 acres); Tualatin River (221 acres); Atfálat'i (555 acres); Onion Flats (139 acres); Rock Creek (75 acres); and Wapato Lake (879 acres). The refuge's landscape is predominately flat bottomland bordered by uplands. Habitats consist of rivers and streams; herbaceous and scrub-shrub wetlands; riparian forests; wet meadows; oak savanna; and mixed coniferous/deciduous forested uplands.

The refuge has a rich history in community involvement, beginning with the establishment of the refuge itself. In the late 1980s and early 1990s, many local residents and leaders recognized that the Tualatin River and its floodplain had been highly modified by both agriculture and urbanization. This recognition fueled a desire by local communities to preserve open green space and create an area where future generations could enjoy outdoor recreation and interpretation, while also leaving an educational legacy for children. This led a small group of citizens and local leaders to approach the Service to request having part of the 100-year floodplain, just north of Sherwood, be set aside as a national wildlife refuge. At the same time, the Service identified a need to protect and enhance floodplains, wetlands, riparian habitats, and upland buffers for a variety of wildlife and for the

enjoyment of people—in particular in urban areas. In 1992, grassroots and governmental support coalesced, and the Tualatin River National Wildlife Refuge became part of the National Wildlife Refuge System (Refuge System).



Photo 1-1. Entry to Tualatin River National Wildlife Refuge. USFWS.

1.2 Importance of the Refuge

Since the time of Euro-American settlement, habitats in the Willamette Valley have been converted to support a growing human population. Significant losses of habitat have occurred within the Portland/Vancouver metropolitan area and continue to occur (see Appendix P, Map 2). Commercial, agricultural, and residential encroachments into floodplains, which include wetlands, riparian forests, and uplands, have occurred during the past 150 years, resulting in lost habitat, increased pollution, increased human disturbance, and lower water quality. These habitats are important to resident, migrating, and wintering bird, mammal, fish, reptile, amphibian, and invertebrate species. Although these habitats are provided some degree of protection by Oregon’s land-use planning process, the wildlife values of these habitats continue to be degraded.

Traditionally, fish and wildlife agencies have focused their efforts on management of lands and waters outside of urban areas where the majority of fish and wildlife resources occur. However, habitats of regional significance often occur in urban areas and are of great value to fish and wildlife. These habitats also provide important public benefits, such as open space, recreation, environmental education, aesthetics, flood control, and water quality enhancement. The proximity and availability of these public benefits are attributes for which the Portland/Vancouver metropolitan area is renowned. Many consider natural areas to be an essential component of the quality of life in this metropolitan area.

As an urban refuge, Tualatin River National Wildlife Refuge was established under the guidance of the Urban Refuge Policy and “may protect habitat of great significance to the conservation of fish and wildlife resources, including endangered and threatened species. However, the ‘Primary

Purpose' for establishment of new urban refuges will be to foster environmental awareness and outreach programs to develop an informed, involved citizenry that will support fish and wildlife conservation ... these refuges will provide public use benefits associated with fish and wildlife resources that include, but are not limited to, bird watching, fishing, scientific research, environmental education, open space in a urban setting, and protection of cultural resources" (Smith 1991).

Situated within the floodplain of the Tualatin River Valley, the refuge provides habitat for some of the most diverse and abundant wildlife in the valley. The refuge also provides a variety of recreational and educational activities focused on fish and wildlife and their habitats. Visitor facilities include a Wildlife Center, an environmental education shelter, trails, overlooks, an observation deck, a photography blind, environmental education study sites, and exhibit panels. Current visitation is approximately 110,000 people per year (USFWS 2011f).



Photo 1-2. Tualatin River National Wildlife Refuge lies on the outskirts of Portland, Oregon. © Bjorn Fredrickson.

1.3 Proposed Action

The Service manages wildlife refuges as part of the Refuge System. We propose to adopt and implement this Comprehensive Conservation Plan (CCP) for the refuge. 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 (Administration Act), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act). The Improvement 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; and

- Areas suitable for administrative sites or visitor facilities, and opportunities for fish- and wildlife-dependent recreation.

Refuge System planning policy ([602 FW 3](#)) states that the purpose of CCPs is to “describe the desired future conditions of a refuge and provide long-range guidance and management direction to achieve refuge purposes; help fulfill the Refuge System mission; maintain and, where appropriate, restore the ecological integrity of each refuge and the Refuge System; ... and meet other mandates.”

The Service developed and examined three alternatives for management of the refuge and disclosed anticipated effects for each alternative, pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended. The goals, objectives, and strategies under Alternative 2 best achieve the purpose of the refuge and the need for the CCP, while maintaining balance among the varied management needs and programs. Alternative 2 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 with sound principles of fish and wildlife management.

The preferred alternative was modified between the draft and final documents based on comments received from the public or other agencies and organizations. The Service’s Regional Director for Region 1 made the final decision regarding which alternative will be implemented. For details on the specific components and actions constituting the chosen management direction, see Chapter 2.

1.4 Purpose of and Need for Action

The purpose of this CCP is to identify the role the refuge would play in supporting the mission of the Refuge System, and to provide the Service, the Refuge System, partners, and the public with long-term guidance for managing programs and activities. This will be a 15-year management plan for improving the refuge’s habitat conditions and infrastructure for fish, wildlife, and public use. The CCP is needed to:

- Communicate with the public and other partners in efforts to carry out the mission of the Refuge System;
- Provide a clear statement of direction for managing the refuge;
- Provide neighbors, visitors, and government officials with an understanding of the Service’s management actions on and around the refuge;
- Ensure that the Service’s management actions support the goals and intent of the Administration Act;
- To the extent practicable, ensure refuge plans will be consistent with the fish and wildlife conservation plans of the state and the conservation programs within the ecosystem;
- Provide a basis for development of budget requests for the refuge’s operation, maintenance, and capital improvement needs;
- Address habitat management concerns; and
- Address increasing visitor use needs.

1.5 Legal and Policy Guidance

1.5.1 U.S. Fish and Wildlife Service

The Service is the principal Federal agency responsible for fish, wildlife, and plant conservation. The Refuge System is one of the Service's major programs.

The mission of the Service is working with others, to conserve, protect and enhance fish and wildlife and their habitats for the continuing benefit of the American people.

In the late nineteenth and early twentieth centuries, America's fish and wildlife resources were declining at an alarming rate, largely due to unrestricted market hunting. Concerned citizens, scientists, and hunting and angling groups joined together and generated the political will for the first significant conservation measures taken by the Federal government. These actions included the establishment of the Bureau of Fisheries in the 1870s, the passage of the first Federal wildlife law in 1900, the Lacey Act, which prohibited interstate transport of wildlife taken in violation of state laws, and the creation of wildlife refuges across the nation.

Over the next three decades, the United States ratified the Migratory Bird Treaty with Great Britain, and Congress passed laws to protect migratory birds, establish more new refuges, and create a funding source for refuge land acquisition. In 1940, the U.S. Fish and Wildlife Service was created within the Department of the Interior, and existing Federal wildlife functions including law enforcement, fish management, animal damage control, and wildlife refuge management were combined into a single organization for the first time.

Today, the Service enforces Federal wildlife laws; manages migratory bird populations; restores nationally significant fisheries; conserves and restores vital wildlife habitat; protects and recovers endangered species; helps other governments with conservation efforts; and connects people with nature through high quality education and recreation programs to foster a conservation constituency within the public.

1.5.2 National Wildlife Refuge System

In 1903, President Theodore Roosevelt designated the 5.5-acre Pelican Island in Florida as the nation's first wildlife refuge for the protection of native nesting birds. This was the first time the Federal government set aside land for wildlife. This small but significant designation marked the beginning of the Refuge System.

Over one hundred years later, the Refuge System has become the largest collection of lands in the world specifically managed for wildlife, encompassing more than 150 million acres within 560 refuges, 38 wetland management districts, and more than 3,000 waterfowl production areas providing breeding and nesting habitat for migratory birds. Today there is at least one refuge in every state as well as in Puerto Rico and the U.S. Virgin Islands.

The Tualatin River National Wildlife Refuge is managed as part of the Refuge System within a framework of legal and policy guidelines. The needs of wildlife and their habitats come first on refuges, in contrast to other public lands, which are managed for multiple uses. Refuges are guided by various Federal laws and executive orders, Service policies, and international treaties. The

mission and goals of the Refuge System and the designated purposes of the refuge as described in establishing legislation, executive orders, or other documents establishing, authorizing, or expanding a refuge are fundamental.

1.5.2.1 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).

The goals of the Refuge System, as articulated in the Mission, Goals, and Purposes Policy ([601 FW 1](#)), 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, and 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.

1.5.2.2 National Wildlife Refuge System Administration Act

Of all the laws governing activities on national wildlife refuges, the Administration Act undoubtedly exerts the greatest influence. The National Wildlife Refuge Improvement Act of 1997 amended the Administration Act by including a unifying mission for all national wildlife refuges as a system, a new process for determining compatible uses on refuges, and a requirement that each refuge be managed under a comprehensive conservation plan, developed in an open public process. In addition to the Improvement Act providing the mission for the Refuge System, it also stated that the wildlife and habitat vision for each unit of the Refuge System shall maintain the following principles.

- Wildlife comes first.
- Ecosystems, biodiversity, and wilderness are vital concepts in refuge and district management.
- Habitats must be healthy.
- Growth of refuges and districts must be strategic.
- The Refuge System serves as a model for habitat management with broad participation from others.

The Administration Act states that the Secretary of the Interior shall provide for the conservation of fish, wildlife, and plants, and their habitats within the Refuge System as well as ensure that the biological integrity, diversity, and environmental health of the System 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.” Biological integrity, diversity, and environmental health are critical components of wildlife conservation. As later made clear in the Biological Integrity, Diversity, and Environmental Health Policy ([601 FW 3](#)), “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.”

Under the Administration Act, each refuge must be managed to fulfill the Refuge System mission as well as the specific purposes for which it was established. The Administration Act requires the Service to monitor the status and trends of fish, wildlife, and plants in each refuge.

Additionally, the Improvement Act identifies six priority wildlife-dependent recreational uses for the Refuge System. These uses are hunting, fishing, wildlife observation and photography, and environmental education and interpretation. Under the Improvement Act, the Service is to grant these six wildlife-dependent public uses special consideration in the planning, management, establishment, and expansion of units of the Refuge System. The overarching goal of the wildlife-dependent public uses program is to enhance opportunities and access to quality wildlife-dependent visitor experiences on refuges while managing refuges to conserve fish, wildlife, plants, and their habitats. 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.

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) proposed or occurring on a refuge for appropriateness and compatibility. 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 purposes, the Refuge System mission, or goals or objectives described in a refuge management plan. A compatible use is one that, in the sound professional judgment of the refuge manager, would not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge. Updated appropriate use and compatibility determinations for existing and proposed uses for Tualatin River National Wildlife Refuge can be found in Appendices A and B of this CCP.

The Improvement Act also requires that, in addition to formally established guidance, the CCP must be developed with the participation of the public. Issues and concerns articulated by the public play a role in guiding alternatives considered during the development of the CCP, and together with formal guidance, can play a role in selection of the management direction. It is Service policy that CCPs be developed in an open public process, and the agency is committed to securing public input throughout the process. Public involvement details can be found in Appendix K of the CCP.

1.5.3 Other Laws and Mandates

Many other Federal laws, executive orders, Service policies, and international treaties govern Service and Refuge System lands. Examples include the Migratory Bird Treaty Act of 1918 (as amended), the Refuge Recreation Act of 1962 (as amended), the National Historic Preservation Act of 1966 (as amended), the Endangered Species Act of 1973 (as amended), and the Service Urban Refuge Policy

(341 FW 1) (Smith 1991). 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 Improvement 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 Agencies (<http://www.fws.gov/policy/>). These policies and others in draft or under development can be found at: <http://refuges.fws.gov/policymakers/nwrpolicies.html>.

In 2011, the Service published the new vision for the National Wildlife Refuge System "Conserving the Future" (USFWS 2011c) which sets forth updated recommendations for conservation of wildlife and wildlands, for developing a conservation constituency within the public, and for embracing leadership competencies that will guide the Service into the future.

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. Refuge purposes are the driving force in the development of vision statements, goals, objectives, and strategies in a CCP and are critical to determining the compatibility of existing and proposed 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, and plants, and the habitats on which they depend take precedence over other purposes in the management and administration of any refuge. Where a refuge has multiple purposes related to fish, wildlife, and plant conservation, the more specific purpose would 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.

1.6.2 Purpose and History of Refuge Establishment

The Improvement Act of 1997 defines “purposes of the refuge” and “purposes of each refuge” as the purpose specified in or derived from the law or any of a number of specified documents that establish, authorize, or expand a refuge. This includes acquisition purposes in cases where land at a refuge has been acquired under authority other than the establishing authority.

The purposes of Tualatin River National Wildlife Refuge are defined as:

- “ ... the development, advancement, management, conservation, and protection of fish and wildlife resources ... ” 16 U.S. Code (U.S.C.) § 742f(a)(4) (Fish and Wildlife Act of 1956).
- “ ... the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ... ” 16 U.S.C. § 742f(b)(1) (Fish and Wildlife Act of 1956).
- “ ... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ... ” 16 U.S.C. § 3901(b) (Emergency Wetlands Resources Act of 1986).

Additionally, the refuge was established under the guidance of the Service’s Urban Refuge Policy ([341 FW 1](#)) (Smith 1991) to foster environmental awareness and outreach programs to develop an informed, involved citizenry that will support fish and wildlife conservation.

1.6.3 Land Status and Ownership

Established in 1992 under the guidelines of the Service’s Urban Refuge Policy, the Tualatin River National Wildlife Refuge became one of a handful of urban refuges in the country. The establishment of the refuge was in response to a growing concern in the community about urbanization replacing the rural way of life. Concerned about this urban growth, the community requested a study of the feasibility of creating a refuge. The need and endorsement for creating this refuge was officially approved on December 20, 1991, which then led to an Environmental Assessment (EA) that culminated in a decision to approve the refuge boundary on February 13, 1992 (USFWS 1992a). This EA approved acquiring and managing lands within an acquisition boundary of 3,058 acres by fee title purchase, conservation easements, and/or agreements. In 2004, an additional 2 acres were added, and more recently in 2007, the Wapato Lake Unit was established, adding an additional 4,310 acres to the acquisition boundary. Currently, the approved acquisition boundary incorporates 7,370 acres. Approximately 2,165 acres are under fee title or easement and are managed as a national wildlife refuge; and additional 50 acres are managed under agreement with Metro.

Numerous land parcels have been acquired since 1992 ranging from several acres to over 300 acres. These properties were purchased using different funding sources and under different authorities. Appendix J explains in further detail the acquisition history and authorities of individual tracts.

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. This section summarizes some of the key plans reviewed by members of the core team while developing the CCP.

1.7.1 Regional Plans

The Nature Conservancy's Willamette Valley-Puget Trough-Georgia Basin Ecoregional Assessment: This report addresses the most important places for conserving native species and ecosystems in the Pacific Northwest. Using this assessment, The Nature Conservancy selected target species and communities that represented various habitat types. This assessment is a guide for providing the most conservation benefit for the lowest cost.

1.7.1.1 Migratory Birds Plans

Birds of Conservation Concern: Based on the efforts and assessment scores of three major bird conservation efforts (Partners In Flight [PIF], the U.S. Shorebird Conservation Plan, and the North American Waterbird Conservation Plan [NAWCP]), this report (USFWS 2002a) identifies, by Service region and by Bird Conservation Region (BCR), the bird species most in need of conservation attention. The Tualatin River National Wildlife Refuge is located within BCR Region 5, for which 27 species are listed; however, several of these are seabirds that do not use the refuge.

PIF: The primary goal of the *Conservation Strategy for Landbirds in the Lowlands and Valleys of Western Oregon and Washington* (Altman 2000) is to ensure long-term maintenance of healthy populations of native landbirds. Specific management activities and strategies are recommended.

North American Waterfowl Management Plan (NAWMP): This plan, first formulated in 1986, provides a strategy to protect North America's remaining wetlands and to conserve waterfowl populations through habitat protection, restoration, and enhancement. The plan was updated in 2004 with an emphasis on strengthening the biological foundation, using a landscape approach, and expanding partnerships. The 2004 update contains species-specific population objectives and evaluations of whether the continental population is currently above or below the target. There are also flyway goals for production by species, but the plan did not target population objectives for wintering or migratory waterfowl by area (NAWMP Committee 2004). Implementation of this plan is accomplished at the regional level by partnership, within 11 Joint Venture areas. Tualatin River National Wildlife Refuge is located within the area of the Pacific Coast Joint Venture. Many of the projects identified to achieve the NAWMP objectives are eligible for funding under the North American Wetlands Conservation Act (NAWCA). NAWCA authorizes congressional funding for projects fostering public/private partnerships that support the conservation and restoration of wetland habitats and associated wildlife resources. Given the extent of historical wetlands and ongoing public/private partnerships in the Willamette Valley, this Act has been (and continues to be) a tremendous resource for the conservation community in the region.

Pacific Flyway Plans: Flyway management plans are the products of Flyway Councils, developed to help state and Federal agencies cooperatively manage migratory game birds. Several flyway management plans pertain to Tualatin River National Wildlife Refuge, especially those for the western and cackling Canada goose (Pacific Flyway Council 1999, 2000) and tundra swans (Pacific Flyway Council 2001). In addition, the *Plan for Northwest Oregon/Southwest Washington Canada Goose Agricultural Depredation Control* (Pacific Flyway Council 1998) details specific strategies

and guidance by management area for reducing depredation by Canada geese within the Lower Columbia Region/Willamette Valley.

United States Shorebird Conservation Plan/Northern Pacific Coast Regional Shorebird Management Plan: These plans (Brown et al. 2001; Drut and Buchanan 2000) identify numerous landscapes within the northern Pacific coast that provide important habitat for shorebirds. The diversity of wetland habitat types in the Willamette Valley is specifically highlighted as being of regional importance for several species including dunlin, Wilson's snipe, and killdeer.

Pacific Coast Joint Venture Willamette Valley Implementation Plan: This plan (Roth et al. 2004) is intended to provide a strategic framework for site-specific habitat protection and restoration projects within the Willamette Valley. The plan's primary focus is on migratory birds and their habitats including waterfowl, shorebirds, waterbirds, and landbirds.

1.7.2 State Plans

There are numerous state plans available for management strategies and recommendations on habitat restoration and management, and on guidelines on species as well. The list below is by no means comprehensive and only reflects the plans the refuge most heavily relied on during the development of this CCP.

Oregon Conservation Strategy (OCS): This document, authored by the Oregon Department of Fish and Wildlife (ODFW) (2006), is an overarching strategy for conserving fish and wildlife within the State of Oregon. The strategy identifies specific Conservation Opportunity Areas where high-priority species and habitat conservation may be most efficiently addressed. Strategy (high-priority) habitats identified by the OCS within the Willamette Valley include grasslands, oak woodlands, riparian areas, and wetlands/wet prairies. Three mammals, 10 plants, five herptiles, four invertebrates, 23 fish species, populations, or segments, and 14 birds are listed as strategy (high-priority) species within the OCS; many of these are found within the Willamette Valley. The refuge lies within The Nature Conservancy's Conservation Opportunity Area #80, Tualatin River.

Oregon Elk Management Plan: This plan (ODFW 2003) outlines elk management guidelines within the State of Oregon. ODFW manages elk based on population management objectives for winter population size and post-season bull ratios in each Wildlife Management Unit in the state. The current population objective size for Roosevelt elk in the Willamette Valley is zero. Tualatin River National Wildlife Refuge will be working cooperatively with ODFW and the Willamette Valley National Wildlife Refuge Complex on a step-down elk management plan for the refuge.

State Comprehensive Outdoor Recreation Plan (SCORP): The 2008-2012 Oregon SCORP (Oregon Parks and Recreation Department 2008) includes a comprehensive overview of state recreational trends. The SCORP provides guidance, information, and recommendations for Federal, state, and local government as well as the private sector in making policy and planning decisions regarding outdoor recreation in Oregon.

1.7.3 Additional Plans

USFWS Recovery Plan for the Prairie Species of Western Oregon and Southwestern Washington: This plan (USFWS 2010b) outlines the main recovery areas, actions, and population objectives for five listed Willamette Valley plants and Fender's blue butterfly.

Oregon Chub Recovery Plan: This plan (USFWS 1998) outlines the main recovery areas, actions, and population objectives for Oregon chub.

Oregon Partners for Fish and Wildlife Program, Statewide Strategic Plan 2007-2011: This plan (USFWS 2007a) identifies the ecological importance of habitats that occur within the Willamette Valley Focus Area. Continued emphasis will be placed on conservation of rare and unique habitats that support declining species on private lands within the Willamette Valley through collaborative partnerships with private landowners, non-governmental organizations, and other agencies.

1.8 Special Designation Lands

1.8.1 Important Bird Areas

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 United States, 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. The NAS is working within each state to identify a network of sites across the United States 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 places that are critical to birds during some part of their life cycle (breeding, wintering, feeding, migrating), the hope 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. Tualatin River National Wildlife Refuge is in the bird conservation area known as the Northern Pacific Rainforest region. The refuge was designated as an Important Bird Area due to high population numbers of wintering geese and northern pintails, in addition to shorebirds. More information is available at <http://web4.audubon.org/bird/iba/index.html>.

1.9 Planning Process and Issue Identification

1.9.1 Planning Process

The Service prepared this CCP in compliance with the Administration Act. The actions described within meet the requirements of the Council on Environmental Quality regulations for implementing NEPA. Figure 1-1 demonstrates the complete CCP planning process from conception to final document.

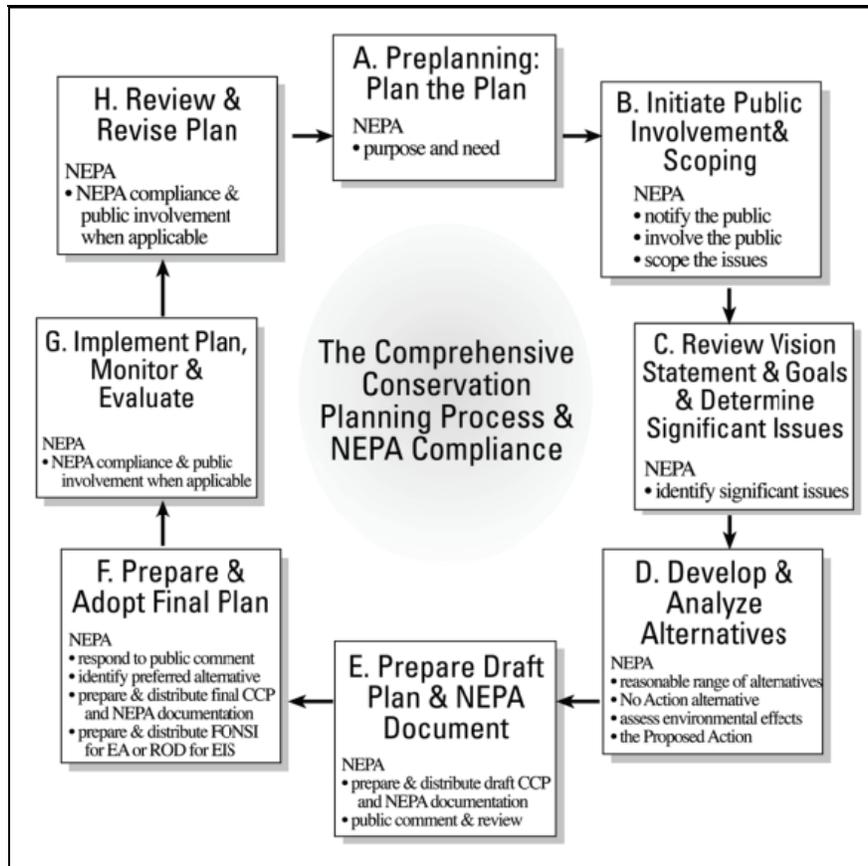


Figure 1-1. Overview of CCP planning process.

The Service began the pre-planning process in 2009 (Table 1-1) with the formation of the core planning team, which consists of refuge staff and a regional planner. The extended planning team included other Service employees, fisheries biologists, refuge law enforcement officers, and other Federal, regional, and state employees. Early in the planning process, both teams cooperatively identified priority species, groups, and communities for the refuge, and most of the biological emphasis of the CCP is focused on maintaining and restoring these targets. Public use planning centered on developing goals, objectives, and strategies around the “big six” wildlife dependent public uses and the role of an urban wildlife refuge. Big six uses include hunting, fishing, wildlife photography and observation, and environmental education and interpretation. Other non-wildlife-dependent uses that currently occur were also addressed.

Table 1-1. Summary of CCP Planning Process for Tualatin River National Wildlife Refuge

Date	Event	Outcome
December 15, 2009	Kick-off meeting and formation of core team	Planning team learned about the CCP process and discussed initial team list, mailing list, roles of team members, and planning schedule.
January 12-14, 2010	Wildlife and habitat review	Panel of wildlife and habitat

Table 1-1. Summary of CCP Planning Process for Tualatin River National Wildlife Refuge

Date	Event	Outcome
		experts from Federal, state, and regional agencies and other partners gathered to discuss and propose options for managing the refuge's wildlife and habitat resources.
October 14, 2010	Visitor services review	Panel of visitor services experts from Federal, state, and regional agencies met to discuss public use opportunities, issues, and concerns.
November 3, 2010	Notice of Intent publication	Notice of Intent to prepare CCP was published in the Federal Register.
November 2010	Planning Update #1 mailing	First update was sent to mailing list recipients; it described planning process and preliminary issues to be considered.
November 16, 2010	Interagency scoping meeting	Multiple agencies gathered to discuss issues, opportunities, and concerns.
November 30 and December 2, 2010	Public scoping meeting, Sherwood and Forest Grove, Oregon	Public attendees learned about CCP process and discussed issues and ideas for future management.
April 2011	Planning Update #2 mailing	Update discussed comments received from the public and summarized draft refuge goals.
May 2011-October 2012	<p>Alternatives development and evaluation; objective and strategy development</p> <p>Environmental consequences review</p> <p>Map and figure review</p> <p>Internal draft plan preparation</p>	<p>Planning team developed alternatives, objectives, and strategies for refuge goals.</p> <p>Team reviewed consequences of proposed alternatives.</p> <p>Team discussed relevant maps and figures needed.</p> <p>Planning team prepared draft CCP and EA, including maps. Document was prepared for editor to ready for internal review.</p>

Table 1-1. Summary of CCP Planning Process for Tualatin River National Wildlife Refuge

Date	Event	Outcome
November 2011	Planning Update #3 mailing	Update #3 summarized the preliminary alternatives.
October 2012	Draft CCP distributed with Planning Update #4	Comment period opened for 30 days.
April 2013	Finding of No Significant Impact approved	CCP final.

During the pre-planning phase, refuge staff identified and evaluated the issues and concerns raised during public scoping. These issues are defined as matters of controversy, dispute, or general concern, or interest in resource management activities, the environment, land uses, or public use activities. 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 analysis on major issues. Major issues typically suggest different actions or alternative solutions, are within the refuge’s jurisdiction, and have a positive or negative effect on the resource. Major issues influenced the decisions outlined in the CCP. Issues and goals that assisted in developing the management direction for the CCP are listed below.

1.9.2 Key Issues Addressed in the Comprehensive Conservation Plan

1.9.2.1 Restoration of Native Habitats and Natural Water Regimes

One of the primary goals of the Tualatin River National Wildlife Refuge is to protect, manage, and restore native habitats of the Tualatin River Basin and ensure that the refuge’s efforts contribute to the much larger landscape outside of the refuge’s boundary. Native habitat restoration requires understanding basic resources that ecosystems are dependent on to make sound scientific decisions. Local-scale knowledge of soils, hydrology, and topography are important attributes to consider when planning to restore a given habitat type. Additionally, it is just as important to determine what the land supported historically and identify changes from the historical condition that would help guide restoration options for a given area. Refuge management must be able to answer the most basic questions of “why” and “where” to support decisions. One of the key components in making restoration decisions is looking at the larger landscape both within and outside refuge boundaries. Habitats within the Tualatin River Basin are often fragmented into small, disconnected areas. Of primary concern is to provide larger contiguous blocks of a given habitat type, and maintain wildlife corridors to increase connectivity among habitat patches.

The Tualatin River is the “lifeblood” of the refuge, as a majority of refuge lands lie within its floodplain. Agricultural practices, development of dams, and urbanization have drastically altered hydrological patterns of the Tualatin River floodplain. Knowledge of current river functions is critical to support floodplain habitat restoration and support decisions to convert areas of the refuge to a more natural hydrologic-driven process.

One outcome of the CCP planning process was the development of computer modeling to help identify and map important floodplain habitat restoration opportunities using current land attributes and historical vegetation. The model will also help determine the historical, current, and future extent

of frequency and duration of Tualatin River flooding in order to identify floodplain restoration opportunities and show how current river hydrology could be integrated into habitat management.

1.9.2.2 Species Posing Management Challenges

The refuge is known for its natural features and diverse and abundant wildlife. However, as a refuge in an urban/rural interface, the space for wildlife is limited and the potential for conflicting use, use that disturbs wildlife both within and outside refuge boundaries, poses wildlife management challenges.

To date there have been no mosquito-borne human health disease issues documented near the refuge, but public concern for potential disease transmission from wildlife to humans have increased as human populations have grown around the refuge. The CCP will explore the refuge's role and appropriate responses to these concerns in cooperation with local agencies.

Invasive species are a major issue on public lands throughout the United States, and national wildlife refuges are no exception. Some invasive species are so well established that eradicating them completely using existing technology is impossible. The CCP, Chapter 4, will examine what the most appropriate strategies are for controlling invasive species in a variety of habitat types. Non-native invasive plant species include reed canarygrass, Himalayan blackberry, Bermuda grass, and common cocklebur. Efforts to control these and other species are ongoing.

Non-native animal populations that occur on refuge lands include nutria, bullfrogs, carp and other non-native fish species, and feral cats. These species degrade habitat and affect native wildlife populations directly or by displacement.

Some native species also pose management challenges. For example, beavers cause damage to water control structures and native vegetation; Canada geese numbers have increased significantly in the Willamette Valley and impact surrounding agricultural lands; ODFW has designated the Willamette Valley Management Unit as an elk de-emphasis area to minimize damage to agricultural crops—populations of elk reside less than a mile from the Wapato Lake Unit. The CCP will evaluate all wildlife management options and control strategies for these species to protect refuge resources.

1.9.2.3 Management of Special-status Species

The refuge has great potential to play a role in the protection and recovery of listed species, species of concern, and rare species occupying a variety of habitat types within the Willamette Valley. The CCP will explore management and landscape-level restoration actions that could include restoring riparian habitats to a more natural barrier-free system, providing wintering habitat for listed salmonids and other native fish. The conservation and restoration of rare and declining habitats such as wet prairie, oak savanna, and other habitat types would assist in the recovery of special-status species and possibly prevent future listings.

1.9.2.4 Refuge Public Access

Getting to and from the refuge as well as accessing areas within the refuge are important considerations for the CCP. Many transportation systems that bring visitors to the refuge either already exist, are planned, or have the potential to be implemented in the future. The CCP will explore whether the existing facilities within the refuge are sufficient to provide access to the range

of high-quality wildlife-dependent recreation opportunities, including those existing and those that may be implemented as an outcome of the CCP. Access must be considered through the lens of appropriateness and compatibility, evaluating disturbance/impacts to wildlife and their habitats, other compatible public uses, and refuge management programs.

1.9.2.5 Hunting and Fishing

Hunting and fishing are traditional recreational uses of renewable natural resources. The Administration Act, other laws, and the Service's policies permit hunting and fishing on a national wildlife refuge when it is compatible with the purposes for which the refuge was established and acquired.

National wildlife refuges exist primarily to safeguard wildlife populations through habitat preservation. The word "refuge" encompasses the idea of providing a haven of safety for wildlife, and as such, hunting might seem to be an inconsistent use of the Refuge System. However, habitats that normally support healthy wildlife populations produce populations that can sustain minor individual loss without impacting the population as a whole; therefore, the resource is renewable.

As practiced on refuges, hunting and fishing do not pose a threat to wildlife populations, and in some instances, are actually necessary for sound wildlife management. For example, on some wildlife refuges, deer populations will often grow too large for the refuge habitat to support. If some deer are not harvested, they destroy habitat for themselves and other animals and die from starvation or disease. The harvesting of wildlife on refuges is carefully regulated to ensure an equilibrium between population levels and wildlife habitat. The decision to permit hunting and fishing on national wildlife refuges is made on a case-by-case basis that considers biological soundness, economic feasibility, effects on other refuge programs, and public demand (USFWS 2011d).

Hunting and fishing are currently not offered at the Tualatin River National Wildlife Refuge. Hunting opportunities in the Portland metropolitan area are very limited, but there is potential to provide high-quality hunting and fishing opportunities on the refuge, in particular hunting at the Wapato Lake Unit and fishing at the Sherwood Units. Public scoping in 2010 revealed interest in offering hunting, including programs that offer youth hunts, and some interest in fishing. The CCP will examine what types of hunting and fishing could be offered, based on appropriateness, compatibility, sustainability, and feasibility.

1.9.2.6 Entrance and User Fees

Charging entrance fees (to visit the refuge) and user fees (to participate in a specific program or use specific facilities) are options to financially support visitor service operations, including facility maintenance and salaries for park rangers, fee collectors, or hunter check station operators. Several aspects of a potential fee program will be evaluated during the CCP. The cost of managing a fee program will be weighed against the revenue that is likely to be generated. The refuge will consider whether the income generated by a fee program would be worth the potential loss of visitors who would not come to the refuge if a fee were required.

1.9.2.7 Wapato Lake Management

In 1952, the Wapato Improvement District (WID) was established to coordinate the various water needs for agricultural operations and maintenance of Wapato Lake. The WID operated and

maintained two pumps, 5+ miles of levees, weirs, canals, bridges, and culverts associated with water management of the lake. The district consisted of all the landowners of the lake who paid assessments to WID to perform the necessary maintenance and operations to dewater the lake and deliver summer water to the lakebed landowners.

When the refuge first acquired lands within the Wapato Improvement District, it became a member of the WID and paid an assessment along with the other landowners to maintain the infrastructure. When the refuge became the majority landowner of the lakebed, the WID voted to no longer function as a district and in spring of 2012, the WID donated its assets to the Service. In the interim, until more detailed habitat management can be completed, the refuge will continue to dewater the lakebed to utilize cooperative farming to help manage invasive species and provide additional forage for waterfowl. Since it is inconsistent with refuge purposes and Service policies the refuge cannot take on the responsibilities of WID that relate to the irrigation responsibilities of the Tualatin Valley Irrigation District.

1.9.3 Issues Outside the Scope of the Comprehensive Conservation Plan

While CCPs are very comprehensive plans, no single plan can cover all issues. The planning team has compiled a list of issues that are currently considered to be outside the scope of this CCP.

Operations associated with raising of Scoggins Dam and raw water pipeline: At the Wapato Lake Unit, additional potential impacts to riverine and floodplain habitats and wildlife resources exist that are associated with a proposed raising of Scoggins Dam and the raw water pipeline project. Refuge and other Service staff will continue to be a part of this planning process.

Alignment of proposed I-5 and 99-W connection corridor: A new road development and associated right-of-way construction project has the potential to impact future acquisition needs and threaten refuge resources at several refuge unit locations. Alternative routes have been proposed that cross fee title refuge lands or are in close proximity to refuge parcels. Refuge staff will continue to monitor and comment on this planning process.

Washington County urban reserve planning process: As an urban refuge, the Tualatin River National Wildlife Refuge faces external threats that reflect the urbanization of the surrounding landscape. The City of Sherwood has been identified as one of the fastest growing cities in Oregon, with residential and commercial development continuing to expand at a high rate. Metro, the elected regional government for the Portland metropolitan area, has expanded the urban growth boundary since refuge establishment to accommodate growth of municipalities. Much of the habitat adjacent to the floodplain is now targeted for construction and development.

Hazardous material and contaminant issues: Land use surrounding the refuge includes a variety of operations that may adversely impact refuge resources, primarily through contamination of soils and waterways and urban-related runoff upstream and adjacent to the refuge. Examples of past and current operations include auto recycling facilities; landfills; abandoned and current industrial sites; quarries; and others. The Service will continue to engage and provide input on these types of concerns on a case-by-case basis, as appropriate and as authorized.

Willamette Valley Conservation Study Area: The Service has initiated a collaborative study of conservation opportunities within the Willamette Valley. The Willamette Valley Conservation Study Area is part of the America's Great Outdoors Initiative to develop twenty-first century conservation

and recreation solutions. The initiative takes as its premise that lasting conservation solutions should rise from the American people. This landscape-level study will be accomplished with our partners and other stakeholders to focus on several key points (USFWS 2011a):

- Conserving rare and declining habitats;
- Assisting in recovering endangered, threatened, and candidate species;
- Connecting people to nature through outdoor recreation and education opportunities;
- Enhancing habitat connectivity and wildlife corridors;
- Conserving rural working farms, ranches, and forest with wildlife habitat values through partnerships and incentives; and
- Assisting in achieving Pacific Flyway Canada goose and other migratory bird objectives.

1.10 Refuge Vision and Goals

1.10.1 Expanded Vision Statement: An Image of the Future

Tualatin River National Wildlife Refuge is a natural treasure where an abundance of native wildlife thrive in a mosaic of wetland, prairie, forest, and stream habitats characteristic of the Willamette Valley that the Atfalát'í people knew. It's a special place, an icon where the stories of the refuge reflect the importance of the National Wildlife Refuge System. The refuge has a rich history of community vision where friends and neighbors helped create, and continue to care for, this urban refuge and the watershed that supports it. It is a model that combines excellence in landscape conservation, learning, and partnerships to strive for a healthy natural world.

The refuge is a sanctuary for both wildlife and people, a place where the ebb and flow of the river marks the natural rhythms of the refuge through the seasons.

Spring is a time when the melody of songbirds echoes through the canopy of the riparian forest and prairies are washed in the vibrant colors of wildflowers in bloom. Nature is alive with the sights and sounds of animals as they fulfill their ancient ritual of courting and raising their young. Wetlands give way to mudflats as migrating shorebirds probe the mud for the insects and worms that will nourish them on their northward journey. The curiosity of school children is nurtured as they discover nature's surprises like a bird's nest, a vole tunnel, a duckling, a soaring hawk, or the slither of a snake.

The heat of summer dominates as wetlands dry and native plants continue to grow, setting the dinner table for the waterfowl that will arrive in fall. Turtles bask on logs, songbirds are fledging their young, the chorus of frogs resonates at sundown, and bats dart through the night sky eating insects on the fly. Volunteers and refuge staff are busy with the chores of caring for the refuge, while families explore the sunny expanse of tall meadow grasses and seek shelter in the cool shade of the green forest.

As fall approaches, the colors of the forest change to golden hues and the air fills with the sound of migrating geese and swans. Seasonal rains begin as the arriving waterfowl seek shelter and food in the wetlands that are beginning to flood. Deer and squirrels prepare for winter as they search for acorns under majestic oaks. Teachers gather at the refuge to learn how to share the sense of wonder that nature has to offer to their students.

Winter brings the awe of thousands of waterfowl, swirling overhead as they seek sanctuary. Rains pour down as ducks, geese, and swans forage in the wetlands, abundant with the seeds and roots that will nourish them through the cold season. People gather and marvel as bald eagles perch high atop leafless trees and patrol wetlands searching for a waterfowl meal. Fish migrate through rising rivers and streams, and seek shelter in the quieter waters of backwater sloughs. Late in the winter, the open water of the wetlands reflects the misty sunsets as waterfowl depart to their arctic breeding grounds.

Winter rains wane as the cycle begins anew in a place where rich traditions, outdoor learning experiences, and discovery foster a love of and caring for nature that endures for generations to come.

1.10.2 Condensed Vision: Summarizing the Core Values of the Refuge

Tualatin River National Wildlife Refuge is a natural treasure where an abundance of native wildlife thrive in a mosaic of wetland, prairie, forest, and stream habitats characteristic of the Willamette Valley that the Atfalat’i people knew. The refuge is a sanctuary for both wildlife and people, a place where the ebb and flow of the river marks the natural rhythms of the refuge through the seasons. It’s a special place, an icon where the stories of the refuge reflect the importance of the National Wildlife Refuge System. The refuge has a rich history of community vision where friends and neighbors helped create, and continue to care for, this urban refuge and the watershed that supports it. It’s a model that combines excellence in landscape conservation, learning, and partnerships to strive for a healthy natural world. Tualatin River National Wildlife Refuge is a place where wildlife, rich traditions, outdoor learning experiences, and discovery foster a love of and caring for nature that endures for generations to come.

1.10.3 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.

The CCP planning team has drafted a series of goals, objectives, and strategies to meet these goals and to address the concerns identified during scoping. Included below are the goals.

- Maintain, enhance, and restore bottomland riparian habitats consistent with the historical range of variability representative of the Willamette Valley ecosystem to support breeding and migratory landbirds and other native species.
- Maintain, enhance, and restore mixed coniferous/deciduous forest habitat to a historical range of variability representative of the Willamette Valley ecosystem to support breeding and migratory landbirds and other native species.
- Maintain, enhance, and restore oak savanna habitat to a historical range of variability representative of the Willamette Valley ecosystem to support breeding and migratory landbirds and other native species.
- Maintain, enhance, and restore native Willamette Valley wet prairie habitat, with an emphasis on management for rare and listed species.

- Maintain, enhance, and restore a diversity of wetlands to support migratory landbirds, waterbirds, and shorebirds with special emphasis on wintering waterfowl.
- Maintain, enhance, and, where feasible, restore streams and off-channel backwater slough habitats to benefit salmonids and other native aquatic species.
- Cultivate and maintain croplands as an interim measure to control non-native invasive species.
- Collect scientific information (surveys, scientific assessments, and research) as necessary to support adaptive management decisions that are associated with the goals of the refuge.
- Protect and manage the refuge's unique cultural resources for their cultural, scientific, and educational values, while consulting with appropriate Native American groups and preservation organizations and complying with historic preservation legislation.
- Provide visitors, local residents, volunteers, and partners with opportunities to understand and appreciate fish and wildlife conservation as well as the purpose, ecology, and management of the refuge and the Refuge System.
- Provide students and educators from the greater Portland area with compatible and high-quality opportunities to participate in environmental education.
- Provide refuge visitors with diverse, compatible, and high-quality opportunities to participate in wildlife-dependent recreation and interpretation.
- Build a broad-based natural resource conservation constituency with a focus on urban audiences to create a conservation ethic within urban communities; increase relevance of habitat conservation, wildlife heritage, and the Refuge System in the eyes of urban citizens; and instill a sense of empowerment for urban communities to work together to actively support conservation, in both local and global settings.