CHAPTER 1. INTRODUCTION

"About this place in different directions Capt. C. *[Captain Clark]* saw a great number of small canoes lying scattered on the bank. these small canoes are employed by the women in collecting wappetoe; with one of these a woman enters a pond where the Sagitaria Sagittifolia grows frequently to her breast in water and by means of her toes and feet breakes the bulb of this plant loos from the parent radicle and disincumbering it from the mud it immediately rises to the surface of the water when she seizes it and throws it into her canoe which she always keeps convenient to her. they will remain in the water for hours together in surch of this bulb in middle of winter."

From the Journals of Meriwether Lewis on the Columbia River, April 6, 1806

The Columbia River has figured prominently in the history of the United States. Native American peoples have lived and traded along its shores for thousands of years. For those who lived at the confluence of the Columbia and Willamette Rivers, the broad floodplain provided an abundance of wapato, a highly valued food plant. This wetland plant not only provided the bulk of their food calories, but represented an important trade item. Not long after the first European-Americans arrived at the mouth of the Columbia River, Meriwether Lewis and Captain William Clark journeyed down the river, leading a scientific and geographic expedition that would link the United States to the Pacific Ocean. On April 6, 1806, Lewis and Clark established a camp near the future site of Steigerwald Lake National Wildlife Refuge. While spending a week at this site, gathering supplies for the trip home, Lewis wrote about Captain Clark's visit to the nearby village of Ne-er-cho-ki-oo (current location of the Portland International Airport). The people at this site where from a village further up the river, near the future site of Pierce National Wildlife Refuge; they traveled here in the winter to harvest wapato. Resuming their upstream journey, Lewis remarked on the numerous houses along the northern shore, including a village at the base of a prominent rock which they named Beacon Rock. Years later, this 848-foot column of basalt casts its shadow over Pierce National Wildlife Refuge.

The Lewis and Clark Corps of Discovery pioneered a route to the Pacific Ocean, ushering in a new era of exploration and intense commerce. As this country commemorates the bicentennial of the Lewis and Clark expedition, it is particularly fitting for the U.S. Fish and Wildlife Service (Service) to be planning for the future of Steigerwald Lake, Franz Lake, and Pierce National Wildlife Refuges; hereafter collectively called the Gorge Refuges. This Comprehensive Conservation Plan (CCP) will guide management of the Gorge Refuges for the next 15 years.

The Gorge Refuges

The Gorge Refuges are situated within the Columbia River Gorge, on the Washington shore of the Columbia River downstream of Bonneville Dam (Figure 1-1). The headquarters office is at Steigerwald Lake Refuge. The Gorge Refuges are part of the Ridgefield National Wildlife Refuge Complex, which has an administrative office in Ridgefield, Washington. For the purposes of this management plan, the three Gorge Refuges are treated together as one planning unit because they are located close to each other in the Columbia River floodplain, they share many of the same issues and management opportunities, and they are part of the same lower Columbia River ecosystem. Moreover, one Refuge Manager oversees all three Refuges.

U.S. Fish and Wildlife Service

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." National resources entrusted to the Service for conservation and protection include migratory birds, endangered and threatened species, interjurisdictional fish, wetlands, and certain marine mammals. The Service also manages national fish hatcheries, enforces federal wildlife laws and international treaties on importing and exporting wildlife, assists with state fish and wildlife programs, and helps other countries develop wildlife conservation programs.

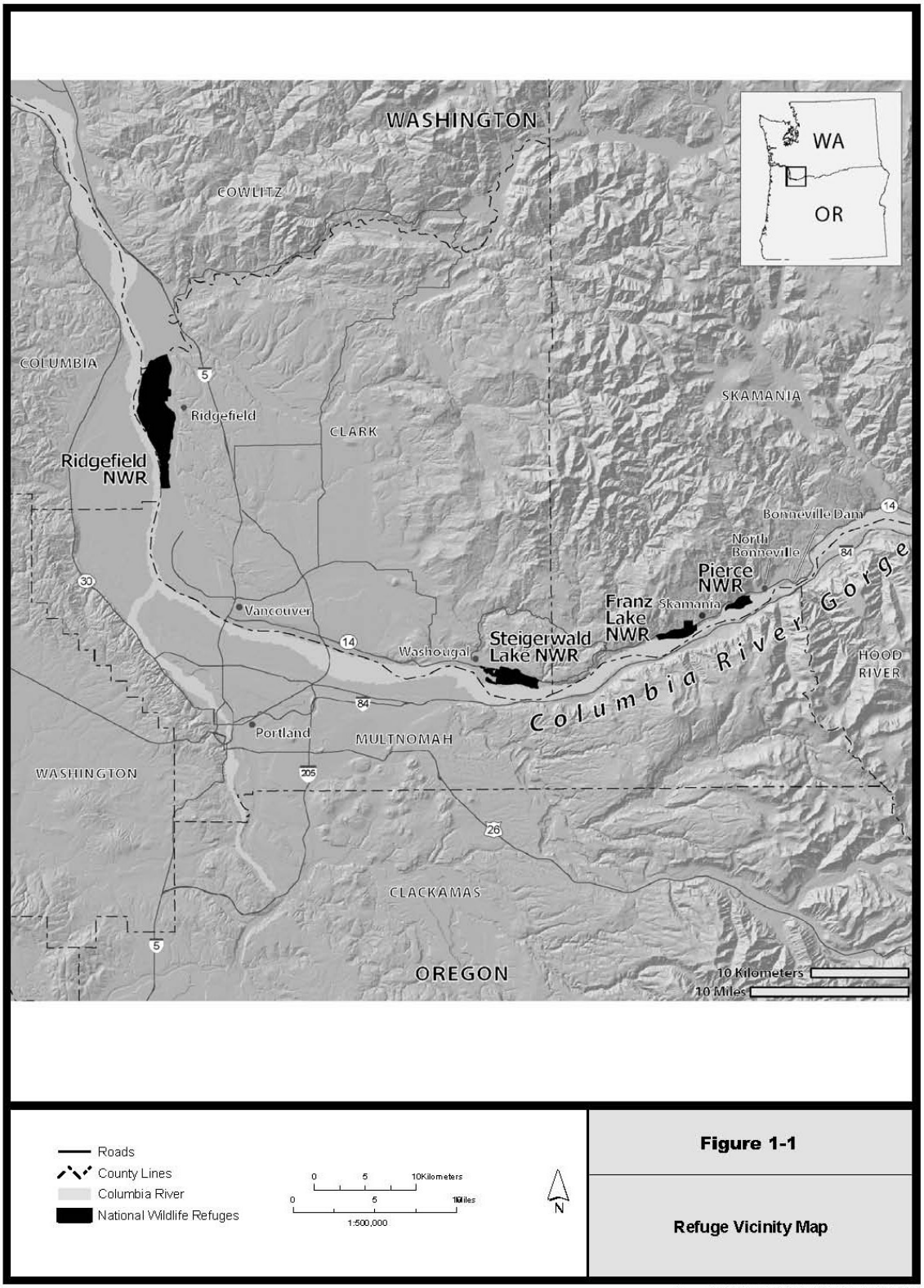
National Wildlife Refuge System

The National Wildlife Refuge System (Refuge System) is the world's largest network of public lands and waters set aside specifically for conserving wildlife and protecting ecosystems. From its inception in 1903, the Refuge System has grown to encompass 542 national wildlife refuges in all 50 states, and waterfowl production areas in 10 states, covering more than 96 million acres of public lands. More than 34 million visitors annually hunt, fish, observe and photograph wildlife, or participate in environmental education and interpretive activities on these national wildlife refuges.

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" (16 U.S.C. 668dd). Wildlife conservation is the fundamental mission of the Refuge System. Director's Order 132 established the following goals for the Refuge System:

- Fulfill our statutory duty to achieve refuge purpose(s) and further the Refuge System mission.
- Conserve, restore where appropriate, and enhance all species of fish, wildlife, and plants that are endangered or threatened with becoming endangered.


WASHINGTON
WA
OR
COWLITZ
COLUMBIA
Ridgefield
CLARK
Ridgefield NWR
SKAMANIA
Bonneville Dam
North Bonneville
Pierce NWR
Franz Lake NWR
Skamania
Vancouver
Washougal
Steigerwald Lake NWR
Columbia River Gorge
HOOD RIVER
Portland
MULTNOMAH
WASHINGTON
CLACKAMAS
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Columbia River
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Figure 1-1
Refuge Vicinity Map
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Source: BPA 2000; ESRI, 2002; FWS 2002; ICBEMP, 2002

- Perpetuate migratory bird, interjurisdictional fish, and marine mammal populations.
- Conserve a diversity of fish, wildlife, and plants.
- Conserve and restore, where appropriate, representative ecosystems of the United States, including the ecological processes characteristic of those ecosystems.
- Foster understanding and instill appreciation of fish, wildlife, and plants, and their conservation, by providing the public with safe, high-quality, and compatible wildlife-dependent public use. Such use includes hunting, fishing, wildlife observation and photography, and environmental education and interpretation.

Planning and Management Guidance

Management of the Gorge Refuges is guided by federal laws and executive orders, Service policies, international treaties, and other legal mandates (Appendix F). One of the most important acts governing management of the Refuge System is the National Wildlife Refuge System Administration Act of 1966. This act was amended in 1997 by the National Wildlife Refuge System Improvement Act which established a unifying mission for the Refuge System, a new process for determining compatible uses on refuges, and required each refuge to be managed under a CCP. The Refuge System Improvement Act further directs the Service to monitor the status and trends of fish, wildlife, and plants on each refuge and maintain the biological integrity, diversity, and environmental health of each refuge and the Refuge System.

The Refuge System Improvement Act also directs the Secretary of the Interior to recognize compatible wildlife-dependent recreational activities as priority general uses of the Refuge System. Priority wildlife-dependent public uses include hunting, fishing, wildlife observation, wildlife photography and environmental education and interpretation. For a use to be compatible, it must not materially interfere with the purpose(s) of the refuge or detract from the fulfillment of the mission of the Refuge System. The refuge manager determines which public uses are compatible based on sound professional judgment, which is defined as a decision that is consistent with the principles of fish and wildlife management and administration, available science and resources, and adherence with law. It is Service policy that where a proposed wildlife-dependent use is determined to be compatible on an individual refuge, the activity should be facilitated. Compatibility determinations must be made in writing, and must identify the anticipated effects of the proposed use on refuge resources. Compatibility determinations can be made concurrently with the development of the CCP.

The development of a CCP is guided by the Service's Refuge planning policy (602 FW 3). The planning process is designed to result in the development of vision statements, goals, objectives, and strategies. A vision is a concise statement of what the refuge should be or what the Service hopes to do, based primarily upon the Refuge System mission, refuge purposes, and other mandates. Because the vision may take several decades to achieve, it will typically remain in place 15 years or more. Goals

narrow the vision into general, supporting management directions. Vision statements and management goals for the Gorge Refuges are presented at the end of this chapter. Management objectives and strategies for achieving these goals at each refuge are presented in chapter 3.

Refuge Establishment and Explanation of Refuge Purposes

The Refuge System Improvement Act directs the Service to manage each refuge to fulfill the mission of the Refuge System, as well as the specific purposes for which that refuge was established. Refuge purposes are the driving force in developing refuge vision statements, goals, objectives, and strategies in the CCP. Refuge purposes are also critical to determining the compatibility of all existing and proposed refuge uses.

Lands within the Refuge System are acquired and managed under a variety of legislative acts and administrative orders and authorities. The official purpose or purposes for 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. The Service defines the purpose of a refuge when it is established or when new land is added to an existing refuge. When an addition to a refuge is acquired under an authority different from the authority used to establish the original refuge, the addition takes on the purposes of the original refuge, but the original refuge does not take on the purposes of the addition. Refuge managers must consider all of the purposes. However, purposes dealing with the conservation, management, and restoration of fish, wildlife and plants, and their habitats, take precedent over other purposes in the management and administration of a refuge.

Steigerwald Lake Refuge

Steigerwald Lake Refuge is located in Clark County, Washington, adjacent to the town of Washougal. The northwest boundary of the Columbia River Gorge National Scenic Area bisects the Refuge. The Portland-Vancouver metropolitan area, with a combined population of approximately 1.5 million, is located approximately 20 miles west of the Refuge. The Refuge's approved boundary is 1,406 acres. The Service owns 1,049 acres or 75 percent of the land within the approved Refuge boundary.

The boundary for Steigerwald Lake Refuge was established in 1987.[18] The Refuge's origin is closely tied to the mitigation of impacts that resulted from construction of a second powerhouse at the Bonneville Lock and Dam on the Columbia River by the U.S. Army Corps of Engineers (COE) between 1974 and 1983. Construction of the powerhouse and related relocation of the town of North Bonneville resulted in the loss of 1,122 acres of habitat on the Washington side of the Columbia River, including developed land (163 acres), pasture (184 acres), wetlands (42 acres), mixed deciduous-coniferous forest (117 acres), maple (118 acres), scattered fir-oak (357 acres), lowland brush (91), and Douglas-fir/short scrub (50 acres).[16] Wetland losses included lakes (12 acres), freshwater marsh (11 acres) and slough (19 acres).

Public Law 98-396 modified the Bonneville Dam Second Powerhouse Project to authorize the Secretary of the Army, through the Chief of Engineers, "to acquire in the Steigerwald Lake Wetlands Area, Clark County, Washington, not more than one thousand acres of land . . . for the fish and wildlife mitigation purposes associated with this project" (PL 98-396, Sec. 303a). The COE acquired the Stevenson Tract and transferred 600 acres to the Service in 1988 to manage as a wildlife refuge.[15] Public Law 98-396 was amended by Public Law 102-104 to allow the COE to transfer an additional 33 acres of predominantly wetlands to the Service for inclusion in the Steigerwald Lake Refuge.

The Service purchased approximately 37 acres within the approved Refuge boundary, including the 27-acre Kerr Tract in 1986, and 10-acre Lang Tract in 1998, using funds made available through the Land and Water Conservation Fund Act of 1965, as authorized by the Fish and Wildlife Act of 1956 and the Emergency Wetlands Resources Act of 1986. The purposes of these lands are "for the development, advancement, management, conservation and protection of fish and wildlife resources" (16 U.S.C 742f(a)(4)) and for "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)).

From 1994 to 1999, four acquisitions, totaling approximately 326 acres, funded by the Bonneville Power Administration (BPA) through the Washington Wildlife Mitigation Agreement,[2] were added to Steigerwald Lake Refuge, including the Straub (190 acres), James (90 acres), Bliss (16 acres) and Burlington Northern (30 acres) tracts. Pursuant to the Agreement, the purpose for these tracts is "protection, mitigation, and enhancement of wildlife and wildlife habitat that has been adversely affected by the construction of Federal hydroelectric dams on the Columbia River or its tributaries" in the state of Washington.[22] The Northwest Power Planning Council defined mitigation as "achieving and sustaining the levels of habitat and species productivity for the habitat units lost as a result of the construction and operation of the federal and non-federal hydropower system."[8] Habitat units were formally tabulated in the Federal Columbia River Power System Loss Assessments and adopted as part of the Northwest Power Planning Council's Fish and Wildlife Program as a BPA obligation.[3]

In 2001, the Service purchased approximately 53 acres using funds from the Migratory Bird Conservation Commission under authority of the Migratory Bird Conservation Act of 1929. The purpose of the purchase was "for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" (16 U.S.C. 715d(2)). Restoration of old overflow channels within the parcel, using Gibbons Creek as a source of water, "will provide prime foraging and wintering habitat for a variety of waterfowl."[7]

Franz Lake Refuge

Franz Lake Refuge is located in Skamania County, Washington, approximately one mile east of the town of Skamania and ten

miles upriver from Steigerwald Lake Refuge. The Service currently owns about 552 acres of the approved 695-acre (79 percent) acquisition boundary.

Franz Lake Refuge was established in 1990 under authority of the Fish and Wildlife Act of 1956. The Refuge's purpose is "to preserve biodiversity along the Columbia River by protecting diverse and now rare Columbia River floodplain wetland and riparian habitats and forested watershed buffers."[19]

Pierce Refuge

Pierce Refuge is located in Skamania County, Washington, immediately west of the town of North Bonneville and two river miles east of Franz Lake Refuge. The 329-acre Refuge is fully acquired by the Service.

The Service acquired 319 acres of the Pierce Ranch property in 1983 through donation. The warranty deed specified the area can only be used for "wildlife refuge, recreation or park purposes." When donating the land, the donor, requested the Refuge be administered as an inviolate sanctuary and stipulated that hunting should not be allowed.[17] The land donation was accepted in accordance with the Migratory Bird Conservation Act of 1929. The purpose of a migratory bird refuge is "for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" (16 U.S.C. 715d(2)). The Service accepted the donation to "help meet total Service objectives in the Columbia River Gorge for protection and enhancement of significant wildlife resources."[17] The Pierce Refuge Land Protection Plan recommended it be managed, in part, to benefit the western Canada goose.[17]

In 1990, the Service purchased the remaining 10 acres of the Pierce Ranch under the authority of the Fish and Wildlife Act of 1956. This parcel is to be managed "for the development, advancement, management, conservation and protection of fish and wildlife resources" (16 U.S.C 742f(a)(4)).

Relationship to Ecosystem Management Goals

To the extent possible, a CCP will assist in meeting the conservation goals established in existing national and regional plans, state fish and wildlife conservation plans, and other landscape-scale plans covering the same watershed or ecosystem in which the refuges reside (602 FW 3.3). The Gorge Refuges are within the Columbia River watershed (Figure 1-2). With the second largest annual flow of any river in the United States, the 259,000 square-mile Columbia River watershed is the fourth largest watershed in the country.

From its origin in the Canadian Rockies, the Columbia River flows more than 1,270 miles to empty into the Pacific Ocean. Along the way, it passes through the spectacular Columbia River Gorge, the only sea-level break in the Cascade Mountains. The Gorge Refuges are located at the west-end of the Columbia River Gorge within the Columbia River Gorge National Scenic Area (Scenic Area).

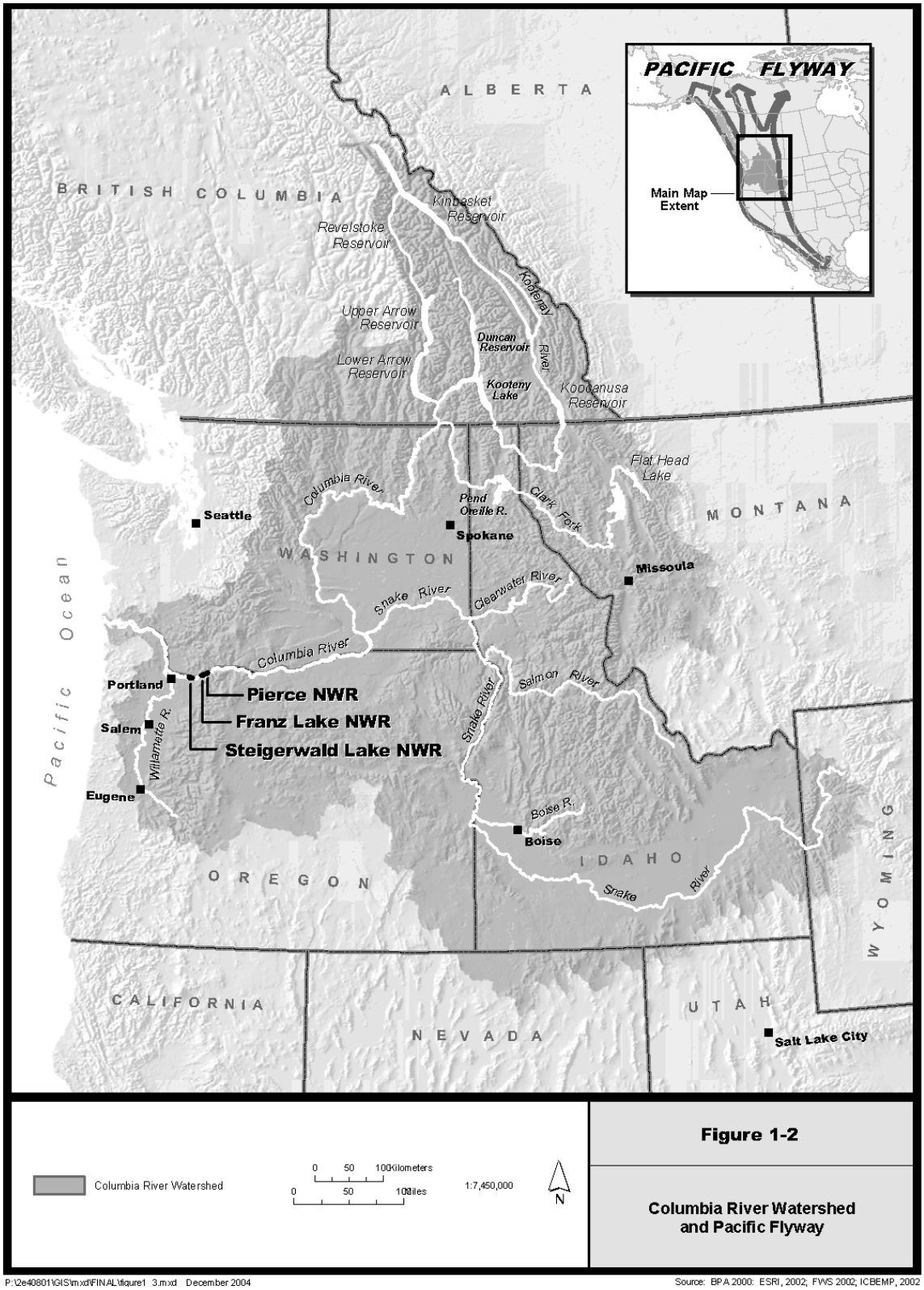

Figure 1-2

Columbia River Watershed and Pacific Flyway

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Source: BPA 2000; ESRI, 2002; FWS 2002; ICBEMP, 2002

The Gorge Refuges are positioned in the lower Columbia River basin. The lower Columbia River extends from the Pacific Ocean east to Bonneville Dam at rivermile 146. This stretch of the Columbia River can be divided into an estuarine and a non-estuarine system at rivermile 46, based on the farthest upstream intrusion of saltwater. The Gorge Refuges are located between rivermile 123 and 143. Under low water conditions, the daily tidal influence on water levels is one to two feet at Bonneville Dam.

Watershed and ecosystem planning in the lower Columbia River involves numerous agencies, local governments, nonprofit organizations, and private citizens. Additionally, planning occurs at regional, state, national, and international scales. Plans with conservation goals and objectives that may pertain to the Gorge Refuges are described on the following pages.

Revisions to the Management Plan for the Columbia River Gorge National Scenic Area

The Columbia River Gorge National Scenic Area was established by President Reagan in 1986 to "protect and provide for the enhancement of the scenic, cultural, recreational and natural resources of the Columbia River Gorge" (PL 99-663, Sec. 3). To achieve the purposes of the Scenic Area Act, Congress called for preparation of a management plan that would treat the two-state, six-county area as a region. The Scenic Area was divided into three categories of land: Urban Areas, the Special Management Area (SMA), and the General Management Area (GMA). Congress directed the U.S. Forest Service to prepare land use designations and guidelines for the SMA. The Columbia River Gorge Commission, a regional commission representing local, state, and national interests, was given responsibility to plan for the GMA. Revisions to the Management Plan for the Columbia River Gorge National Scenic Area were approved in 2004, updating the Management Plan for the Columbia River Gorge National Scenic Area of 1992.[21]

The SMA lands are the region's most sensitive lands and are managed more stringently than those in the GMA. Steigerwald Lake Refuge is in the GMA with Open Space, Large-scale Agriculture and Small Woodland land use designations, except for a 10-acre site selected in 1998 for construction of a visitor center which is designated Public Recreation. Pierce Refuge is within the SMA and has an Open Space land use designation. Part of the Franz Lake Refuge south of State Route 14 is within a SMA, Open Space; north of the highway is within a GMA, Open Space. The River Bottomlands landscape setting for Open Space areas within Pierce and Franz Lake Refuges leads to the highest visual standard within the Scenic Area (i.e.,not visually evident).

Land use ordinances for privately-owned SMA lands within the Franz Lake Refuge boundary were recently changed to GMA. Although the U.S. Forest Service ranked the parcels as a high priority to acquire, the property remains in private ownership. Per provisions of Section 8(o) of the Scenic Act, these parcels are now designated as GMA, Small-Scale Agriculture.

The U.S. Forest Service's Scenic Area Office reviews land use proposals on federal lands within the Scenic Area to ensure proposed uses and developments are consistent with provisions of the revised Scenic Area Management Plan. Infrastructure modifications, landscape changes, new facilities or signs, and land use practices described in this CCP will be evaluated by the Forest Service for consistency pursuant to Section 14(d) of the Scenic Area Act.

Guidelines for SMA require an Open Space Plan to be completed by the primary managing agency or landowner prior to any new land uses or development. The plan must be reviewed by the Forest Service. The Open Space Plan for the Good Bear Creek to Skamania Landing completed by the Forest Service in 1992 incorporates Franz Lake Refuge. This CCP fulfills the Open Space Plan requirement for Pierce Refuge and updates the plan covering Franz Lake Refuge.[13]

The Scenic Area Management Plan contains a Recreation Development Plan that highlights selected sites and proposed projects at those sites. Three projects proposed for the Gorge Refuges include the Steigerwald Northwest Gateway-Cottonwood Beach Trail (No. 1, T1, page III-5); the Franz Lake Viewpoint (No. 4, page III-6); and the Doetsch Ranch to Bonneville Trail (No. T5, page III-41). At the Service's request, the Scenic Area Management Plan was amended in 1999 to move the proposed site for the Steigerwald Lake Refuge Gateway Center to a location adjacent to Gibbons Creek. As part of this proposal, a trail would be built connecting the Gateway Center to the Columbia River Dike Trail (same concept as the Gateway-Cottonwood Beach Trail but different location). The Franz Lake Viewpoint was constructed adjacent to State Route 14 in 1997. A trail linking the proposed Doetsch Ranch recreation area to the town of North Bonneville would not cross Pierce Refuge but could provide public access to the Refuge if the Service developed an interpretive trail on the Refuge in the future.

Lower Columbia River Subbasin Plan

The Northwest Power Planning Council (NPPC), acting under the authority of the Pacific Northwest Electric Power Planning and Conservation Act of 1980, is implementing a planning process for development of its Fish and Wildlife Program across the Columbia Basin.[4] Planning is occurring at three geographic levels: (1) a basin-wide level that articulates objectives, principles and coordination elements that apply generally to all fish and wildlife projects, or to a class of projects, implemented throughout the Columbia River Basin; (2) an ecological province level that addresses the 11 unique ecological areas of the Columbia River Basin, each representing a particular type of terrain and corresponding biological community; and (3) a subbasin level that addresses the 53 tributary subbasins, each containing a specific waterway and the surrounding uplands.

The most relevant and appropriate scale to integrate Refuge programs with the Council's Fish and Wildlife Program is at the subbasin level. Each plan the NPPC develops will have a vision and biological

objectives and will identify specific actions needed for fish and wildlife in that subbasin. The plans must be consistent with visions, biological objectives, and strategies adopted at the basin and province levels, but can otherwise reflect local policies and priorities. Subbasin plans will be the basis for reviewing proposals for BPA by the fish and wildlife agencies and tribes, NPPC and the Independent Scientific Review Panel.

Subbasin plans have not been approved for any province and are not anticipated to be available before this CCP has been approved. The Gorge Refuges are positioned in the Lower Columbia Province, which includes the Columbia River and all tributaries downstream from, but not including, Bonneville Dam.[4] Within this province, the Gorge Refuges are located in the "Lower Columbia Subbasin." The Gorge Refuges will have the opportunity every five years to submit project proposals for BPA funding that are consistent with the Lower Columbia Subbasin Plan.

Lower Columbia River Estuary Program Comprehensive Conservation and Management Plan

The Lower Columbia River Estuary was accepted into the Environmental Protection Agency's National Estuary Program (NEP) in 1995. The NEP was established by Congress in 1987, by amendments to the Clean Water Act (33 U.S.C. 1330(a-k)). Estuaries are defined to include tidally influenced waters of rivers. The study area for the Lower Columbia River Estuary Program (LCREP) extends from the Pacific Ocean to Bonneville Dam because of the far-reaching effects of the ocean's tides in the Columbia River. The LCREP developed a two-state (Oregon and Washington), public-private organization called the Lower Columbia River Estuary Partnership which participated in development of the LCREP Comprehensive Conservation Management Plan.[6] The LCREP plan identifies 43 actions needed to achieve the following goals:

- Prevent further habitat loss and restore degraded habitat to achieve a net habitat gain.
- Promote environmentally sound land use in every sector, from agriculture, to forestry to urban development.
- Coordinate activities to better anticipate, prevent, and solve problems.
- Monitor river health more comprehensively and track trends over time.
- Help individuals, corporations, and government take responsibility for the river's future.
- Prevent new pollution while dealing with existing pollution problems.

Salmon-Washougal Watershed Plan

In 1998, the Washington State Legislature passed House Bill 2514, the Watershed Planning Act (RCW 90.82), providing a framework for developing local solutions to water issues on a watershed basis. Framed around watersheds, or subwatersheds known as Water Resource Inventory Areas (WRIAs), this voluntary, comprehensive planning process is designed to allow local citizens, governments, and tribes to form watershed management planning units to develop watershed management plans. State agencies manage grants, provide technical

assistance and if requested, serve on planning units.

Watershed plans must contain a water quantity component and may, at the discretion of the initiating governments for a WRIA, contain instream flow, water quality, and habitat components.[23] The planning process involves three initial phases: (1) organization, during which the planning unit is formed and the scope of watershed planning is developed; (2) technical assessment; and (3) plan development, as well as approval of the plan by jurisdictional county legislative authority or authorities. After approval of a plan, state and local entities that were party to the plan and its recommended actions, become obligated to implement the recommended actions.

The Gorge Refuges are located in WRIA 28 Salmon-Washougal. The lead agency, Lower Columbia Fish Recovery Board, has formed a planning unit which has overseen phase 2 of WRIA 28 and adjacent WRIA 27 Lewis River.[23] Significant results and findings include the following:

- Most communities rely on groundwater resources for public drinking water supplies.
- Major public water system managers anticipate significant population growth, with groundwater the most feasible source of new water. Acquiring new water rights is the primary issue for the water systems.
- Water system plans may not address projected growth in water demand in the commercial and industrial sector. Small public water systems are not projected to grow much in the future.
- Water use in the agricultural sector is not well documented. Agricultural water use is likely declining regionally.
- Streams in the two WRIAs are low elevation rain-fed systems with very low late summer and early fall flows.
- Using reclaimed water from municipal and industrial supply is not practical now but may be in the future.
- Low stream flow is a limiting factor for salmon throughout the two WRIAs.

The planning unit has outlined and prioritized sections to emphasize in their watershed plan. They have also conducted a more detailed assessment of groundwater and analysis of water demand and availability. In addition, they developed a minimum stream flow strategy with a goal of protecting low summer flows.

Streams in both WRIAs have been prioritized for instream flow-setting, and a comparative analysis of stream hydrographs, flow modeling, and toe width study results have been completed. The planning unit developed alternatives that consider using basin closures, target flows, and traditional instream flows, and addressed the practical applicability of the alternatives in the context of regional water supply planning.

Partners in Flight Landbird Conservation Plan

Partners in Flight (PIF) was conceived as a voluntary, international coalition of government agencies, conservation groups, academic institutions, private organizations, and citizens dedicated to reversing downward trends of declining species.[12] Strategies for achieving this goal are

contained in a series of geographically based Landbird Conservation Plans which identify and describe priority habitats and species, develop biological objectives, and recommend conservation strategies to achieve the biological objectives.

Lowlands and valleys of western Oregon and Washington cover the geographic area and terrestrial habitats of the Gorge Refuges.[1] The four priority habitats for the area are: grassland-savanna, oak woodland, riparian, and chaparral. The Gorge Refuges contain the first three of these habitat types.

North American Waterfowl Management Plan

The North American Waterfowl Management Plan, signed by the United States and Canada in 1986 and by Mexico in 1994, 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 1998 with an emphasis on strengthening the biological foundation, using a landscape planning approach and expanding partnerships. Implementation of this plan is accomplished at the regional level within 11 Joint Venture Areas. Partnerships involve federal, state, and local governments, tribal nations, local businesses, conservation organizations, and individual citizens for the purpose of protecting habitat within Joint Venture Areas.

The Gorge Refuges are located within the Lower Columbia River Focus Area of the Pacific Coast Joint Venture. The Pacific Coast Joint Venture Strategic Plan recommends specific actions for each Refuge.[20] At Steigerwald Lake Refuge, the plan recommends the Joint Venture restore and enhance wetlands and secure land from willing sellers to the east of the existing Refuge boundary to allow management of the historic lake bed. Recommendations for Franz Lake and Pierce Refuges include: (1) protect existing habitat values through acquisition of lands and easements, zoning and land use regulations; (2) restore and enhance wetland habitats where feasible and appropriate; and (3) control bank erosion to protect wetland systems.

Pacific Flyway Management Plans

Flyway management plans are products of Flyway Councils, developed to help state and federal agencies cooperatively manage migratory game birds under common goals. These plans typically focus on populations, which are the primary unit of management, but may be specific to a species or subspecies. The following flyway management plans pertain to the Gorge Refuges and the CCP.

<u>Canada Goose Agricultural Depredation Control in Oregon and Washington.</u>
This plan addresses agricultural depredation problems associated with seven subspecies of Canada geese that winter in the Willamette Valley and lower Columbia River areas.[9] A primary objective is to increase Canada goose use on public lands, while substantially decreasing use on private lands. The plan encourages refuges in the Pacific Northwest to design their public use program to minimize disturbance to wintering Canada geese.

Cackling Canada Geese.
The overall goal of this plan is to maintain numbers and distribution of cackling Canada geese for optimal aesthetic, educational, scientific, and hunting uses throughout their range. A pertinent objective for Steigerwald Lake Refuge is to maintain, manage, and enhance, where feasible, wintering habitat in sufficient quantity and quality to meet population objectives and public use goals.[10]

Pacific Population of Western Canada Geese.
Primary objectives of this plan are to monitor breeding population trends and maintain current distribution and associated opportunities for hunting, viewing, education, and research.[14] Canada geese are counted in the Midwinter Waterfowl Survey.

Western Population of Tundra Swans.
Managers intend to maintain a western population of at least 60,000 swans.[11] Pertinent plan objectives include providing habitat to maintain desired numbers and distribution, and providing for aesthetic, educational, and scientific uses of swans.

Washington State Recovery Plan for the Western Pond Turtle

The primary objectives of this recovery plan are to protect critical habitat, increase the population, and reestablish additional populations.[5] Recovery objectives for down-listing the species from state endangered to threatened are to establish at least five populations (three in the Columbia Gorge and two in Puget Sound) of 200 pond turtles or more each, composed of no more than 70 percent adults, in secure habitat. These populations must be sustained through natural recruitment. Objectives for down-listing to state sensitive are similar, except seven populations of 200 or more pond turtles will be needed (four populations in the Gorge and three in Puget Sound).

Under the terms of an existing MOU between the Service and WDFW, Pierce Refuge is the third site in the Gorge for establishing a western pond turtle population through the release of captive-raised turtles.

Refuge Vision Statements

The following statements describe what the Gorge Refuges will look like, or what we hope to do, based primarily upon the Refuge System mission and refuge purposes, and other mandates. Taken together, these vision statements will guide the management of the Gorge Refuges long into the future.

Photo: Yvette Donovan, USFWS

Steigerwald Lake National Wildlife Refuge

Vision Statement

The Service will actively protect, restore and enhance wetland, riparian, and upland habitats on the Refuge to benefit a diversity of native wildlife and plants. Habitat improvements and management practices will benefit native species and habitats affected by construction and operation of Federal hydroelectric projects on the Columbia River and its tributaries. The Refuge will provide opportunities for quality, compatible, wildlife-dependent recreation, education, and interpretation to enhance public appreciation, understanding, and enjoyment of the Gorge Refuges. The Service will be an active partner in promoting and facilitating efforts in the local community to protect and restore fish and wildlife habitats.

Photo: Yvette Donovan, USFWS

Franz Lake National Wildlife Refuge

Vision Statement

Franz Lake Refuge is the largest and most intact wapato, spikerush, and bulrush marsh remaining on the lower Columbia River. Dynamic riverine processes will continue to be the dominant force shaping the wetlands. Management practices will be directed at maintaining and monitoring these processes. Knowledge gained through research and monitoring will contribute to our understanding of how the lower Columbia River floodplain can be managed to protect, restore, and enhance native habitats and species. In keeping with this research and monitoring emphasis, human disturbances will be held to a minimum. The Refuge will, however, provide unique opportunities to observe and learn about its valuable resources from designated viewing sites.

Photo: Yvette Donovan, USFWS

Pierce National Wildlife Refuge

Vision Statement

The Refuge will be managed for the conservation and enhancement of native plants and wildlife and their habitats, with endangered and threatened species receiving management priority. The Service will encourage and facilitate research and monitoring of special status species. As one of the few remaining spawning sites for chum salmon in the Columbia River corridor, the Refuge will play a critical role in recovery of the species. The Refuge will work with partners and neighbors to protect and enhance the natural resources of the Refuge and adjacent lands and waters. Opportunities for compatible, wildlife-dependent education and interpretation will be provided in a safe manner.

Management Goals for the Gorge Refuges

Refuge management goals are descriptive, open-ended, and often broad statements of desired future conditions that conveys a purpose, but does not define measurable units. Goals must support the refuge vision and describe the desired end result. There are five management goals for the Gorge Refuges.

Goal 1. Protect, restore, and enhance the natural diversity of floodplain, upland forest, and grassland habitats representative of the lower Columbia River ecosystem.

Goal 2. Protect and enhance populations of native flora and fauna with an emphasis on State- and federally-listed threatened and endangered species, species of conservation concern, and their habitats.

Goal 3. Reduce the impacts of nonnative and invasive species on native flora and fauna.

Goal 4. Provide management-based research opportunities and conduct Refuge studies to investigate ecosystem dynamics, wildlife and habitat relationships, habitat use patterns, and human impacts.

Goal 5. Develop and encourage public understanding of and support for the purposes and visions of Steigerwald Lake, Franz Lake, and Pierce National Wildlife Refuges.

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