

# CHAPTER 2. PLANNING PROCESS AND ISSUES

## **Planning Process**

The planning process for this CCP involved three primary steps: (1) preplanning, (2) public involvement and scoping, and (3) draft and final plan development. Each step is described below in more detail.

### ***Preplanning***

During spring of 2000, the Service assembled a core planning team to prepare a CCP and Environmental Assessment (EA) for the Gorge Refuges. Core team members (see Appendix C) included Service staff from the Ridgefield National Wildlife Refuge Complex and Region 1 Division of Refuge Planning. Recognizing the need for additional expertise, the core team assembled an extended planning team that included interdisciplinary specialists from the Service, Washington Department of Fish and Wildlife (WDFW), and U.S. Forest Service. In addition to providing information and analysis to the core planning team, the extended planning team reviewed the draft CCP/EA.

Early in the planning process, the teams met to develop a list of preliminary issues, concerns, and opportunities to be addressed in the planning effort. These issues were later refined based on public input and further analysis by the teams. Prior to holding public meetings, the Yakama Indian Nation, Confederated Tribes of the Warm Springs, and Chinook Tribe were invited to participate in the process.

## ***Public Involvement and Scoping***

Public scoping meetings were held in Washougal and Stevenson, Washington, on September 20 and 21, 2000. Meeting participants considered the preliminary issues, concerns, and opportunities identified by the planning teams, identified additional issues, and provided comments to the Service. The first planning update, mailed to potentially affected interests in September 2000, described the planning process, advertised the public meetings, and requested comments on the preliminary issues, concerns, and opportunities. The comments received were summarized in a scoping report (see Appendix B).

Public scoping continued up to release of the draft CCP/EA to the public. Key scoping meetings during this period are described below according to the main topics discussed.

### **Feasibility Studies to Remove or Modify Dikes at Steigerwald Lake and Pierce Refuges.**

Topics included defining the scope, objectives, and constraints for the feasibility studies. Participants included the Service, COE, Port of Camas-Washougal, and WDFW.

### **Mosquito Management at Franz Lake Refuge.**

The Service held numerous meetings with the Southwest Washington Health District, Multnomah County Vector Control, Columbia Drainage Vector Control, and

Skamania County Mosquito Control Board.<sup>12</sup> The Skamania County proposed a program to control, monitor and research mosquito populations at Franz Lake Refuge. The Refuge prepared a Compatibility Determination for these uses. Public review of and comment on the Compatibility Determination occurred from June 14 through July 12, 2002. Refuge staff met with local legislative representatives, Skamania County Mosquito Control Board representatives, and local residents to review the Compatibility Determination. It was approved on October 31, 2002.<sup>12</sup>

#### Water Level Management at Steigerwald Lake.

The Service met with the Port of Camas-Washougal to discuss water level management on the Refuge, and how it affects the Port's operations.

#### Oak Habitat Conservation Planning.

The Service participated in the review of a proposal by the Washington State Department of Natural Resources (WDNR) to establish the Washougal Oaks Natural Resource Conservation Area and Natural Area Preserve. This area would include a portion of oak woodland at Steigerwald Lake Refuge. Field trip participants included WDNR, the U.S. Forest Service, members of the Natural Heritage Advisory Council, Washington's Natural Heritage Program, Washington State Parks, and the Service.

#### Biodiversity Working Group - Beacon Rock State Park.

Participants in semi-annual meetings to discuss research and management issues on and adjacent to Beacon Rock State Park

(adjacent to Pierce Refuge) included Washington State Parks, Washington Department of Natural Resources, U.S. Forest Service, Chinook Trail Association, The Nature Conservancy, Columbia Land Trust, and the Service. Meeting topics included biological surveys, resource planning, invasive species control, management and restoration of grasslands, hiking trails, salmon habitat assessments and management, and land acquisition.

#### Western Pond Turtle Management.

The core planning team met several times with the WDFW to discuss an ongoing program to establish a self-sustaining population of the western pond turtle at Pierce Refuge. These discussions resulted in a memorandum of understanding between WDFW and the Service for coordinated release, monitoring, and research of pond turtles at Pierce Refuge. Additional meetings were held to review management alternatives.

#### Outdoor Recreation.

The Service met with several agencies and groups to discuss recreational use on and immediately adjacent to the Gorge Refuges. The core planning team met frequently with the U.S. Forest Service and Washington Department of Fish and Wildlife. The Service attended several public meetings and field trips on a master plan for Captain William Clark Park at Cottonwood Beach. Wildlife viewing opportunities adjacent to Pierce Refuge were discussed at a meeting with staff from the City of North Bonneville and Skamania County.

At a regularly scheduled meeting of the Backcountry Horsemen of Washington, the

Service gained input on equestrian trail use, safety, and compatibility with other user groups. Meetings to discuss outdoor recreation issues, concerns, and opportunities were held with the members of the Lower Columbia River Estuary Partnership. Opportunities for opening a waterfowl hunting program on the Gorge Refuges were discussed with the Washington Waterfowl Association.

### ***Draft and Final CCP Development***

Following identification of issues, concerns, and opportunities, the core planning team began drafting the CCP and EA.

Information on the context of the Gorge Refuges in relation to its surrounding ecosystem was compiled, including existing management plans for the lower Columbia River. Information on the Refuges' physical, biological, and socioeconomic environment was also studied (see Chapter 4, Refuge and Resources Description). From this information and discussions with the extended planning team, the core planning team developed a vision statement for each Refuge and a set of overarching goals for all three Refuges. In April 2001, a second planning update was mailed summarizing public comments and listing the draft goals and vision statements. After refining the goals, the core team drafted three management alternatives. Anticipated effects of each alternative on the physical, biological, socioeconomic, cultural, and historic environment were evaluated, and alternatives were adjusted.

The draft CCP/EA was released for a 30-day public comment period on August 20, 2004. The affected public was notified of the

availability of these documents through a Federal Register notice, news release to local newspapers, the Service's refuge planning website, and a planning update. Tribal governments were contacted directly for comments. Copies of the draft CCP/EA and/or planning update were distributed to an extensive mailing list. In addition, the Service gave presentations on the draft CCP/EA at public meetings held by the Columbia River Gorge Commission and Skamania County Commissioners, and met with staff from the WDFW, City of Washougal, and City of North Bonneville. The final CCP was revised from the draft CCP/EA based on public comment received on the draft document. Comment letters and Service response to comments are presented in Appendix O.

### **Conservation Targets**

Service policy (601 FW 3) directs Refuge managers to use the CCP planning process to determine the appropriate management direction to maintain, and where appropriate restore, biological integrity, biological diversity, and environmental health while achieving refuge purposes. The Refuge System's conservation focus is on native species and natural communities such as those found under historic conditions (i.e., prior to substantial human related changes to the landscape).

Scientists have long recognized that biological diversity exists at various taxonomic levels (family, genus, species, subspecies, population) and landscape scales (refuge, ecosystem, national, international). Evaluating existing levels of biological diversity can be a daunting task because

refuges are home to literally thousands of species and potentially hundreds of natural communities. Focusing on a smaller set of features that will have a high likelihood of conserving the full array of biological diversity on a refuge is more practical. Conservation targets, a term coined by The Nature Conservancy,<sup>10</sup> are those features or elements of biodiversity that are the focus of conservation within a system of conservation areas. Conservation targets may be biologically based features, such as species and communities or environmentally derived targets based on such factors as soils, climate, and elevation, that serve as surrogates for biological features. Most important, a suite of conservation targets should represent a variety of spatial scales and levels of biological organization, as appropriate to the region and as available information allows.<sup>7</sup>



Bald eagle. Photo copyright Jim Cruce

## Conservation Targets for the Gorge Refuges

The process used to select and evaluate conservation targets for the Gorge Refuges consisted of the following three steps.

### *Step 1: Select Conservation Targets*

Conservation targets for the Gorge Refuges are listed in Appendix D. These 42 targets include species, communities, and species assemblages that meet one or more of the following criteria; each target must be either:

- Identified in Refuge purposes;
- A special status species (e.g., federally- or state-listed; Birds of Conservation Concern);
- Tracked by the Washington State Natural Heritage Program;
- Identified in pertinent existing plans (e.g., Partners in Flight Landbird Plan); or
- A species of local interest or concern.

For planning purposes, it was necessary to address an even smaller suite of conservation targets at the Refuge level because it is difficult to individually assess all of the conservation targets that occur at a Refuge and to develop goals and objectives for each one. Through a sorting and aggregation process, “focal conservation targets” were selected for the Gorge Refuges, that serve as surrogates for the 42 conservation targets (Table 2-1).

The primary purpose for selecting the focal conservation targets was to pinpoint threats to biodiversity and to develop strategies to abate or eliminate these threats and enhance the overall biological integrity, diversity, and environmental health of the Refuges. Focal conservation targets are a planning tool which may need adjustment over time as new threats emerge and existing threats are abated, or if the conservation situation changes significantly.

Table 2-1. Focal conservation targets selected in the CCP planning process to represent the conservation targets for the Gorge Refuges. Conservation Targets in bold font are documented to occur on one or more of the Gorge Refuges.

Focal Conservation Targets	Conservation Targets
Wetland Complex	Yuma myotis bat, <b>great blue heron, Canada goose, peregrine falcon, bald eagle, purple martin, dabbling ducks (and other waterfowl), northwestern salamander, western toad, red-legged frog, western pond turtle</b> , Bradshaw’s lomatium
Riparian System	<b>Swainson’s thrush, northern harrier</b> , yellow-billed cuckoo, olive-sided flycatcher, yellow warbler, willow flycatcher, bald eagle, purple martin, rufous hummingbird, northwestern salamander, western toad, red-legged frog, western pond turtle, Pacific giant salamander, Larch Mountain salamander, <b>Cascade torrent salamander</b>
Columbia River Shoreline	<b>Columbia yellowcress</b>
Grasslands	Townsend’s western big-eared bat, gray-tailed vole, Yuma myotis bat, brush prairie pocket gopher, <b>Canada goose, Vaux’s swift, northern harrier, western meadowlark, western pond turtle</b> , white-top aster, Bradshaw’s lomatium
Oak Woodland and Oak Savanna	Townsend’s western big-eared bat, western gray squirrel, <b>Lewis’s woodpecker, slender-billed white-breasted nuthatch, Bewick’s wren, western pond turtle</b> , tall bugbane, <b>Oregon white oak/oval-leaf viburnum - poison oak (plant community)</b>
High-Gradient Streams and Anadromous Fish	Pacific giant salamander, <b>Cascade torrent salamander, western brook lamprey, Pacific lamprey, chum salmon, coho salmon, steelhead, Chinook salmon</b> , bull trout

***Step 2: Identify and Evaluate Key Ecological Attributes of Conservation Targets***

Key ecological attributes are critical components of a target’s life history, habitat, physical processes, or community interaction. If a key attribute is degraded

(e.g., water quality), or missing (e.g., pollinators), it would seriously jeopardize the target’s integrity.<sup>10</sup> Key ecological attributes for the selected targets are described in Appendix J. For many attributes, historical conditions are the best measure of the desired condition.

### ***Step 3: Draft Management Objectives***

In the third and final step, the team evaluated existing or on-the-ground conditions of the key ecological attributes and compared these conditions to requirements identified in Step 2. Contrasting existing conditions with historic conditions clarified key problems that may adversely affect populations and habitats of native fish, wildlife, and plants, found on the Refuges. These problems and associated issues raised during scoping were the basis for the biological objectives and management strategies in Chapter 3.

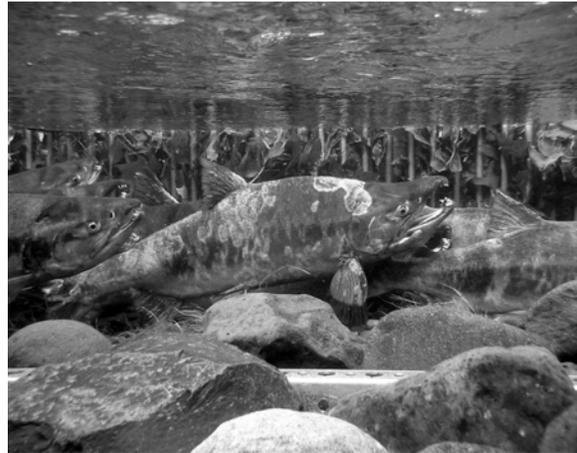
### **Planning Issues**

Using information gathered from all of the aforementioned sources, the core planning team defined the major issues to address in the CCP/EA and developed the following issue statements.

#### ***Fisheries***

The Gorge Refuge watersheds provide spawning and rearing habitat for several species of anadromous fish, including species listed or candidates for listing under the Endangered Species Act. Pierce Refuge supports one of the last chum salmon runs still existing within the lower Columbia River. Spawning habitat is critically important for recovery of chum salmon with spawning occurring in a 0.4-mile-long reach of Hardy Creek.

There are complete or partial blockages to fish habitat in Indian Mary Creek and Hardy Creek at Franz Lake and Pierce Refuges respectively.



*Chum salmon. Photo: USFWS*

At Steigerwald Lake Refuge, salmonid production in the Gibbons Creek watershed is lower than would be expected from a watershed of this size.<sup>1</sup> A number of factors are believed to be negatively impacting the aquatic ecosystem, including habitat fragmentation, especially by road culverts; removal of riparian vegetation; in-stream habitat simplification through loss of large woody debris; and spawning habitat degradation by heavy inputs of fine sediment. Construction of a flood control levee in 1966 isolated the Steigerwald Lake wetlands from the Columbia River and created a barrier to anadromous fish.<sup>2</sup> Realignment of the Gibbons Creek channel in 1992 onto an elevated dike partially restored fish access to the upper watershed. The elevated channel can adequately pass fish (except chum salmon) only at normal flows. At higher flows, fish can be shunted over a spillway into the wetlands isolating them from the Columbia River.



*Western pond turtle. Photo USFWS*

### ***Western Pond Turtle***

In cooperation with the Service, the Washington Department of Fish and Wildlife is releasing western pond turtles at Pierce Refuge with the objective of establishing a self-sustaining population in the Columbia River Gorge. Evidence of successful breeding will confirm that a self-sustaining population has been established. Long-term monitoring of turtles will be necessary, not only to verify nesting but also to determine sources of predation and to evaluate competition between western pond turtle and co-occurring native western painted turtle. Additional studies will be needed for the Service to evaluate the suitability of Steigerwald Lake Refuge as a release site for western pond turtles.

Pierce Refuge was selected as a release site for western pond turtles because it contains suitable habitat that is isolated from roads and other centers of human activity. Refuge management activities such as mowing

grasslands and draining wetlands to remove nonnative species have the potential to directly or indirectly impact western pond turtle survival and production. Establishing a western pond turtle population should be coordinated and conducted in a manner complimentary and compatible with other existing natural resource, recreation, cultural, and historical management programs at Pierce Refuge.

### ***Water Quality***

Contaminated water and fine sediments are entering Steigerwald Lake Refuge from Gibbons Creek flows. Non-point sources of pollution in the creek upstream of the Refuge include urban runoff, leaking underground septic tanks, land development, and agricultural and silvicultural practices. The creek is on the State 303(d) list as a water quality limited waterbody for fecal coliform bacteria. Gibbons Creek watershed also suffers from high water temperature, nitrate concentration, elevated total phosphorus concentration, and high levels of fine sediments.<sup>1,4</sup>

When Gibbons Creek was rerouted in 1992, the remnant Gibbons Creek channel carrying waters from Steigerwald Lake became another concern at the Refuge. The channel receives wastewater and stormwater runoff from industrial facilities operating adjacent to the Refuge. Water samples collected from the remnant channel in 1994 and 1995 exceeded State water quality criteria for pH, temperature, fecal coliform, turbidity, and dissolved oxygen.<sup>5</sup> Samples collected from a storm sewer violated pH, hexavalent chromium, total chromium, copper, zinc, and arsenic criteria. Sediments from the

remnant channel have exhibited elevated levels of arsenic, chromium, copper, zinc, cadmium, and lead.

In comparison to the Gibbons Creek watershed, potential sources of water pollution within the watersheds of Franz Lake and Pierce Refuges are minimal; however, water quality is not monitored in these areas. The upper watershed at Pierce Refuge has among the highest road density, stream crossing density, and miles of roads with slopes exceeding 50 percent, of any watershed in the Washington side of the Columbia River Gorge National Scenic Area.<sup>13</sup> This watershed also contains trails originating at Beacon Rock State Park. Roads and trails can reduce water quality through runoff, erosion, soil disturbance, and vegetative loss.

Clark County is monitoring water quality in Gibbons Creek for one year as part of its watershed cleanup plan. There is no water quality testing for water entering Franz Lake and Pierce Refuges. Impacts of degraded water quality on Refuge fish, wildlife, and habitats are currently unknown.

### ***Wetland Management***

Steigerwald Lake and Pierce Refuges contain diked wetlands (impoundments) with water control structures. These are used to manage water levels to suppress the dominance of invasive species, particularly reed canarygrass, and to provide aquatic habitat for native wildlife. The Pierce Refuge impoundments are either too deep or too densely vegetated with reed canarygrass

to support a diverse native emergent plant community. Managing water at Steigerwald Lake requires factoring in two issues. First, the Columbia River dike isolates the wetlands from the river, making it difficult to manage for productive native emergent and wet meadow communities. The areas historically supporting these native communities are now dominated by nonnative reed canarygrass, a species which is difficult and costly to control. The most cost-effective treatment for large areas involves disking (tillage) to remove dead canarygrass with follow-up application of herbicide during the growing season.<sup>9</sup> Along with these treatments, it is essential that sufficient water depths be maintained throughout late winter and early spring to prevent canarygrass regrowth. Currently, the Gorge Refuges lack sufficient resources, including staff, equipment, and water control, to effectively manage and monitor its wetlands.

The second water level management issue at Steigerwald Lake Refuge is the presence of the Port of Camas-Washougal Industrial Park downstream from the Refuge's water control structures. The Port has requested the Service manage the lakebed as a stormwater detention basin by maintaining low water levels in the winter. The Port has three flood pumps which they operate to remove water from the outflow of Steigerwald Lake. During periods of high rainfall, the Port would like to rely on the full capacity of the lakebed to store water until the pumps can lower the water elevation in preparation for the next storm event.

### ***Riparian Habitat Management***

Riparian habitat on the Gorge Refuges includes bottomland forest and scrub-shrub vegetation. Columbia River riparian communities evolved under a dynamic hydrologic regime. Human activities have substantially altered these processes, with profound effects to riparian habitat. Most notably, the construction and operation of 219 dams in the Columbia River watershed has lengthened spring freshet and lowered peak flows.<sup>8</sup> Extreme or repeated fluctuations in water elevations resulting from operation of Bonneville Dam have accelerated bank erosion in some areas and increased sedimentation rates in others.

Agricultural and silvicultural land use practices prior to establishment of the Gorge Refuges further reduced riparian areas and left behind isolated patches of forest cover. Natural regeneration of cottonwood-ash and scrub-shrub riparian habitats is limited by the altered hydrologic processes, maintenance of adjoining grasslands by mowing and grazing, and competition from invasive plants. Some natural regeneration is occurring at Pierce Refuge, and a minimal amount of planting has occurred along the streams. However, there has been no follow-up monitoring or weed control.

### ***Invasive Species***

Invasive species are nonnative species that harm or are likely to cause harm to the environment, economy, and human health

when introduced to an area. Invasive species pose a serious threat to native species through competition and predation. For example, reed canarygrass forms dense, persistent stands within Refuge wetlands, moist meadows, and riparian habitats, which reduces native plant diversity. Dense thickets of Himalayan blackberry prevent native shrubs and trees from establishing, thereby negatively impacting forest stand structure and reducing food resources for native wildlife. Carp and nutria degrade aquatic habitat for native species, while other introduced vertebrates such as bullfrog and bass prey on native amphibians and reptiles.

Nationwide, impacts from invasive species are considered to be the most critical issue facing wildlife refuges. Hundreds of nonnative species inhabit the Pacific Northwest, and the tide of invasives is certain to continue. The Gorge Refuges are strategically located to receive new invaders such as mitten crab and zebra mussel. Current levels of surveillance may be inadequate to detect newly arrived species before they become firmly established. The impacts of nonnative species are not well understood, and the most appropriate and cost effective response is often uncertain. Current management actions to combat invasive species focus on control and eradication, with little action on prevention, education, research, and monitoring.



Oak community. Photo USFWS

### ***Oak Community Management***

Oak communities in Washington State are declining in extent and condition.<sup>3</sup> The oak community at Steigerwald Lake Refuge is a particularly rare plant association and is connected to the largest oak woodland community of its kind in the region.

Along the edges of the oak woodlands and among small, disjunct stands of oak, invasive plants have displaced native understory species. Nonnative species, particularly Himalayan blackberry, suppress natural regeneration of oaks. Refuge grassland management practices inhibit or prevent oaks from recolonizing historic habitat. Further, historic prevention of frequent low intensity burns in oak woodlands is allowing Douglas-fir to overtop oaks, which may displace them.

With no active management of oak habitat occurring on the Gorge Refuges, the long term viability of this important habitat type is jeopardized.

### ***Grassland Management***

Most grassland habitat at Pierce and Steigerwald Lake Refuges is the product of logging, ranching, and farming operations that occurred prior to the Service taking ownership of the land. Previous landowners drained wetlands, cleared native vegetation, and planted nonnative grasses to create pastures for livestock. The Service has continued to maintain the same pastures as winter browse for Canada geese. Mowing, grazing, and fertilizer help to maintain short, nutritious grass forage for the geese.

Herbicide spraying and biological control agents are used to control weeds in problem areas. Pasture management is, however, labor intensive, and implementation and results have been inconsistent due to limited staff. Moreover, the amount of pasture exceeds the area currently being used by the geese, providing opportunities for an old field and native grassland management program to benefit a wider variety of native species.

### ***Inventory, Monitoring and Research Needs***

The National Wildlife Refuge System Improvement Act requires the Service to monitor the status and trends of fish, wildlife, and plants on each refuge in the System. Though acquired approximately 15 years ago, few biological surveys (other than for fish) have been conducted on the Gorge Refuges. At Steigerwald Lake Refuge, wintering Canada geese were surveyed between 1996 and 2004. These goose surveys were suspended after 2004 due to funding and staffing declines. Other species of birds are surveyed by a qualified volunteer on a monthly basis. Avian point counts conducted at Pierce and Franz Lake

Refuges have been discontinued due to other priorities. Baseline surveys of wildlife and associated habitats are particularly lacking. This lack of data hinders the Refuge's ability to use adaptive management to evaluate the effectiveness of its management practices and make any necessary course corrections.

In *Fulfilling the Promise*,<sup>11</sup> the Service acknowledged the need for each refuge in the Refuge System to identify management-oriented research needs based on Refuge System, ecosystem, and refuge goals. Refuges need to develop an effective program to identify and provide resources required, as well as involve partners to accomplish high priority research. Several research projects have been completed or are in progress on the Gorge Refuges (see Chapter 4). Priority management-oriented research needs have not been identified, however, and a program to attract qualified researchers has not been developed. As with most refuges, the Gorge Refuges lack the staff to engage in complex, multi-year research projects.

### ***Compatibility of Mosquito Control at Franz Lake Refuge***

Columbia River floodwaters provide optimal breeding conditions for mosquitoes on Franz Lake and other wetland areas connected to the river. Residents of Skamania, Washington, who consider Franz Lake Refuge to be a major source of mosquitoes in their community, are concerned about the nuisance and health risks associated with large numbers of biting mosquitoes. The mosquitoes can be extremely annoying; however, there have been no recorded cases of mosquito-born

disease in humans in Clark or Skamania Counties.<sup>6</sup> Similarly, there are no confirmed incidences of West Nile virus infecting humans in Washington. In the United States, West Nile virus is transmitted by infected mosquitoes, primarily members of the *Culex* species. The most common species of mosquito in the Franz Lake Refuge area are *Aedes vexans* and *A. sticticus*. Experimentally, *Aedes vexans* exhibit moderate infection and transmission rates for West Nile virus.

Local mosquito control districts have requested permits from the Service to treat mosquito larvae at Franz Lake Refuge. The Service has permitted the Skamania County Mosquito Control District to monitor and treat mosquitoes within specific areas of Franz Lake Refuge, as stipulated in the Service's Compatibility Determination approved in October 2002.<sup>12</sup> This document is available, upon request, at the office for Steigerwald Lake Refuge. The only control agent currently authorized for use on the Refuge is the larvicide *Bacillus thuringiensis* var *israelensis* (B.t.i.). The use of B.t.i. to reduce the number of mosquito larva has been determined to be compatible when applied to a specific area east of Franz Lake dike, provided no salmonids are present during treatment. Application of B.t.i. west of the dike would not be compatible with the Refuge's conservation efforts due to the presence of federally-listed salmonids in this area and because potential impacts of B.t.i on the aquatic food web are not adequately known.

Site-specific research is needed to address: (1) the overlap in seasonal habitat use between listed salmonids and mosquito larvae, and (2) the efficacy and non-target

effects of B.t.i. treatments. Until further research and evaluations are completed to support a compatible use determination, the Service can not approve B.t.i. mosquito treatments west of the Franz Lake dike. Issues of mosquito treatment are not further addressed within the CCP. These issues were addressed in a separate planning document and will be reevaluated within future Compatibility Determinations, as site-specific research and evaluations are completed.

### ***Public Access and Use***

The public currently has limited opportunities to visit the Gorge Refuges. In addition to occasional staff-led events and environmental education activities at Pierce and Steigerwald Lake Refuges, year-round access to Steigerwald Lake Refuge along the Columbia River Dike Trail is available. The only road onto Franz Lake Refuge crosses private property. The Service acquired an easement on the road strictly for administrative purposes; therefore, public use does not currently occur at the Refuge.

The Refuge System Improvement Act directs the Secretary of the Interior to give serious consideration to increasing opportunities for wildlife-dependent recreational uses when they are compatible and consistent with sound principles of fish and wildlife management.

Opportunities at Steigerwald Lake Refuge for wildlife observation, wildlife photography and environmental education and interpretation may improve in the future with development of the visitor center and interpretive trail already approved for

construction (funding is currently being sought). Scoping comments indicate that the public has a strong interest in Refuge staff becoming more involved in nearby communities and informing residents about Refuge programs and resources.

Opportunities for opening Steigerwald Lake Refuge to limited waterfowl hunting and fishing are also explored in the CCP. While opportunities exist on the Gorge Refuges to provide high-quality, compatible public uses, a majority of public comments received during the scoping period recommended the Service maintain or reduce existing public access while providing remote or off-site viewing opportunities to protect unique and sensitive resources.

When Steigerwald Lake Refuge was established, non-wildlife-dependent recreational uses that had been occurring on the Columbia River Dike Trail for many years were unofficially allowed to continue. In a 1999 Environmental Assessment to construct the Steigerwald Lake Gateway Center, the Service issued a decision to close 0.6 miles of the trail to horses, dogs, and bicycles. This closure was deemed necessary to provide the public with a high-quality, wildlife-dependent recreational experience. The closure has not been implemented and the trail remains unofficially open to the public. Horseback riders are opposed to the closure due to the lack of alternative areas for riding during the wet winter and spring period. People walking dogs, on- or off-leash, is a common use of the trail. The compatibility of these uses with Refuge purposes has not been evaluated.

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