

APPENDIX C. PROGRAM DIRECTORY

*This chapter was drafted in 2004 and does contain
minor updates for the 2010 revision.*

APPENDIX C. PROGRAM DIRECTORY

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C.1. Introduction

The Program Directory is a compilation of the various organized activities that significantly affect or are affected by salmon recovery and other resident fish and wildlife efforts. For the purposes of this plan, these activities are categorized into two distinct categories—programs and projects. Programs are considered to be the fundamental organizational structures by which strategies, measures, and actions are implemented. Projects include on-the-ground habitat protection and restoration activities completed or underway within the region. Both types – programs and projects will ultimately be the tools by which the salmon recovery plan will be implemented. An inventory of existing programs and projects is essential to provide a foundation for strategies and actions, and identifying gaps. It is also useful in determining a critical path toward recovery to prioritize actions.

A wide variety of programs and projects are involved in salmon recovery to varying degrees and to varying interactions with other manageable factors. A subset of these comprehensive lists is fundamentally used to address recovery efforts – these subsets are referred to as the *key programs and key projects*. Key programs are identified and analyzed at both the regional level as well as the subbasin level in the management plan. Links between programs and measures provide the basis for identifying gaps and recovery actions. Section 1.3 identifies key programs, factor categories (habitat, hydropower, hatcheries, harvest estuary and ecological interactions) they impact and the subbasins they affect. A list of key projects including habitat factors and subbasins they impact is updated regularly through the Lower Columbia Fish Recovery Board and is available in the 6-Year Implementation Work Schedule (Habitat Strategy).

C.2. Methods

C.2.1. Government and Non-Government Programs

The LCFRB identified and evaluated existing governmental and non-governmental programs that may benefit or adversely affect species recovery. Information gathered on these programs was analyzed on a qualitative basis and scaled to available geo-spatial information. This information was used to identify where additional programs will be needed to affect recovery.

The effort to identify programs began in August of 2002 by creating the Lower Columbia Recovery Plan Programs Work Group. This group brought together federal, state and local agency and non-profit personnel with hands-on experience working with various programs. In order to obtain a comprehensive list of programs that affected fish the group developed a program inventory questionnaire (Attachment 1.5.1). A preliminary list of federal, state, city and county agencies, and tribal and non-governmental organizations as potential interviewees was created. Approximately 200 questionnaires were distributed. Because each agency might have several programs with the potential to impact salmon, questionnaires were sent to multiple branches of some agencies. For example, state agency programs might include regulatory programs affecting land use, resource use, and water quality; resource management programs may affect design, construction, and maintenance and operations; and assistance programs might affect technical, financial, and educational programs.

Along with mailing the questionnaires the work group recommended follow-up calls. As of June 2003, a total of 140 interviews were conducted. Information from completed questionnaires was entered into a MS Excel Spreadsheet as a way to sort and cross-reference questionnaire information. The questionnaire identified 21 applicable basins, including an “all” category. In the questionnaire, each program identified which basin the program affected and the primary habitat indicators affected. Attachment 1.5.2 represents a list of all programs identified as a result of the questionnaires, the watersheds they affect, the agencies or jurisdictions implementing the program, and the primary habitat indicators.

After analyzing this information the LCFRB identified key agency and non-profit individuals and conducted a series focused discussions. The purpose of these workshops was to obtain more specific information and clarity on key programs and to begin identifying gaps to shape potential strategies and actions. The discussion primarily focused on the following questions:

- How far can our existing programs take us toward recovery of salmon and steelhead?
- Can these programs be improved to better assist in reaching recovery?
- Are there other existing programs or new programs that could help?
- Do our recovery goals need to be adjusted?

The participants were asked to complete the matrix to direct the discussion. Attachment 1.5.3 illustrates the guidelines for completing either the general or city/county programs matrices.

C.2.2. Habitat Protection and Restoration Projects

The project list represents protection and restoration work for the entire Lower Columbia region extending from the mouth of the Columbia River on the Washington side up to and through the Little White Salmon River. Restoration and protection projects are defined as those projects that improve habitat conditions such as:

- Riparian and other instream work
- Floodplain/wetland reconnection and restoration
- Water quality, quantity, and nutrient improvements
- Feasibility studies and assessments
- Fish passage improvements
- Watershed condition improvements such as road abandonment
- Critical habitat acquisitions

Types of projects included:

Acquisition:	Projects that purchase land through fee simple acquisition, conservation easements or purchase of development rights
Riparian:	All riparian restoration including replanting, fencing, non-native weed control, etc.
Instream:	Including LWD placement, boulders, gabions, channel reconfiguration, streambank protection
Upland:	Projects away from the stream such as road improvements and abandonment intended to address watershed functions
Studies:	Assessments and feasibility studies focused on collecting data for project development
Passage:	Restoring access to salmonid habitat blocked by culverts and other infrastructure
Monitor:	Implementation and success monitoring
Nutrient:	Enhancement of stream nutrient levels through carcass placement and/or the addition of inorganic nutrients
Supplementation:	Projects focused on hatchery production and rearing

The LCFRB continues to gather data on projects from conception to completion. A future goal of this project list is to develop GIS coverages of all project locations along with the supporting data. Once completed, this information will become a powerful tool for displaying restoration progress and identifying future restoration efforts.

C.3. Program Inventory

The following section provides an overview of the existing programs indentified in the 2004 Plan which directly relate to recovery of listed salmon and trout in the Lower Columbia Basin. The list is provided for informational purpose only. Some of the programs may have changed since the original survey and it is recommended that you contact the program administrator for more up-to-date information.

C.3.1. Federal Agency Programs

United States Forest Service (USFS)

Gifford Pinchot Forest Plan and Northwest Forest Plan. The National Forest Management Act requires forest plans for each National Forest. The Gifford Pinchot National Forest published its first Land and Resource Management Plan in 1990. Later in 1994, the Plan was updated with consideration of the President’s Northwest Forest Plan, which took into consideration the Spotted Owl and its habitat requirements. Today’s Gifford Pinchot Forest Plan reflects management values that are based, in part, on watershed analysis for each of the major basins in the Forest. Within each of these basins, the plan describes the Forest Service’s management directives and funding priorities, consistent with the National Environmental Protection Act (NEPA). Management directives are organized around Designated Areas. Examples include: Congressional Reserves, Administratively Withdrawn Areas, Late-Successional Reserves, Managed Late-Successional Reserves, Adaptively-Managed Areas, Riparian Reserves, and Matrix Lands. Each area is managed for distinct objectives.

The Gifford Pinchot Forest Plan provides high levels of protection for fish habitat, riparian areas and forest stands within the upper Cowlitz Basin, East Fork and Upper North Fork Lewis: riparian buffers in all areas of the GP include at least 300’ setbacks and matrix (multiple objective) lands such as those of the Little White Basin and the Columbia Gorge Tributaries observe the forest-wide ‘no clear cut’ policy. Significant acreage of GP in the Upper Cowlitz, Wind, East Fork Lewis and some of the North Fork Lewis lands are within the Late Successional Reserves Program (e.g., Packwood, Woods, Quartz units) and thinning occurs in riparian areas to support healthier late successional stands. Congressional reserve areas in the upper Cowlitz, East Fork Lewis and the Muddy Fork watershed are ‘no touch’ areas that include wilderness land management. Administratively withdrawn areas include reaches in the Cispus, upper Cowlitz, Ohanapecosh, and Johnson Creek in the Upper Cowlitz, Indian Heaven and Mt. Adams in the Upper North Fork Lewis, and a significant portion of the Wind. Some of the uppermost reaches of the Wind River are located in the Indian Heaven Wilderness Area and the Trapper Creek headwaters are further protected by Wilderness Area designation.

Restoration efforts include placement of large woody debris and road stabilization and decommissioning. In the Upper North Fork Lewis the Muddy Fork and Pine Creek, which provide important bull trout habitat, receive high priority for restoration. Restoration activities within the Upper Washougal basin are a low priority, but needs are modest. The Wind Basin is one of five priority areas for the Gifford Pinchot. It receives significant restoration attention in terms of instream work, road decommissioning, and riparian restoration. Restoration efforts have focused on the Trout Creek watershed and the mining reach of the upper Wind River.

Program Significance to Recovery: Management directives in the Gifford Pinchot NF are expected to play an important role in salmon recovery in the region. This is because of current management actions, improving conditions in the forest, and restoration activities occurring in the Wind, Lewis, and Cowlitz Basins.

Program Type: Protection and Restoration

Applicable Subbasins: Washougal, North Fork Lewis, East Fork Lewis, Cowlitz, Kalama, and Little White.

Mt. St. Helens National Volcanic Monument. The Mt. St. Helens National Volcanic Monument was created in 1982 for research, recreation, and education. The environment, inside the Monument has been left to respond naturally to the 1980 eruption. Restoration only occurs passively; there is, however, monitoring and evaluation of natural restoration in the Toutle. The Mt. St. Helens National Volcanic Monument offers excellent protection to the headwaters of the Kalama; however the real benefit to salmonids occurs in terms of instream flow regime and clean waters. Restoration only occurs passively; there is, however, monitoring and evaluation of natural restoration in the Kalama.

Program Significance to Recovery: The Mt. St. Helens National Volcanic Monument is important to recovery because it will offer excellent protection to the headwaters of several watersheds.

Program Type: Protection

Applicable Subbasins: North Fork Lewis, Cowlitz, and Kalama

Columbia River Gorge National Scenic Area. The Columbia River Gorge was designated as a National Scenic Area with the signing of the National Scenic Area Act on November 17th 1986. The purpose of the National Scenic Area Act is to protect and provide for the enhancement of the scenic, cultural, recreational and natural resources of the Gorge; and to protect and support the economy of the Columbia River Gorge area by encouraging growth to occur in existing urban areas and by allowing future economic development. The National Scenic Area Act called for a new partnership between the USDA Forest Service, a bi-state regional planning agency (the Columbia River Gorge Commission), the states of Oregon and Washington, and the six counties with land in the Scenic Area. The Act required the Gorge Commission, with assistance from the Forest Service, prepare a comprehensive Management Plan to achieve the purposes of the Act. All new development and land uses must be reviewed in the National Scenic Area to determine if they are consistent with the Act and the implementing land-use ordinances. In addition, the Act designated 7.7 miles of the lower White Salmon River as a National Scenic River. Monitoring is an important part of the National Scenic Area Act. The Gorge Commission is directed to develop and carry out a comprehensive monitoring program in conjunction with all of the Scenic Area partners.

Program Significance to Recovery: The Columbia River Gorge National Scenic Area is important to recovery because its management plan sets a high standard for development and land use protections while protecting and supporting local economies.

Program Type: Restoration and Protection

Applicable Subbasins: Washougal, Bonneville Tributaries, Wind, Little White.

NMFS

NMFS is responsible for the conservation, management, and protection of living marine resources within the United States Exclusive Economic Zone. This mission includes administering the Endangered Species Act for marine and anadromous species; the Magnuson-Stevens Fisheries Conservation and

Management Act, which governs marine fisheries management in U.S. waters; and the Marine Mammal Protection Act.

Endangered Species Act (ESA). The purpose of the ESA is the conservation and recovery of endangered and threatened species and the ecosystems upon which they depend. ESA listed species under NMFS' jurisdiction within the range of the LCFRB recovery plan include five salmon and steelhead. The ESA provides a number of regulatory and planning tools to assist with this conservation goal.

The ESA makes it illegal for any person subject to the jurisdiction of the United States to "take" any species of fish or wildlife that is listed as endangered (ESA section 9[a][1]) without specific authorization. These same prohibitions against "take" may also be put in place for threatened species (see below, under ESA section 4(d)). *Take* is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct" (ESA section 3[19]). *Harm* is defined as an act that actually kills or injures a protected species (50 CFR 222.102 (64FR 60727)). Harm can arise from significant habitat modification or degradation where it actually kills or injures protected species by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering.

Section 7 of the ESA requires federal agencies to ensure, through a consultation process, that any action they authorize, fund or carry out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of their critical habitat. Hydroelectric Project Relicensing under ESA section 7 requires the Federal Energy Regulatory Commission (FERC) to consult with NOAA on the issuance of licenses for hydroelectric projects under its jurisdiction. As part of the section 7 process, NOAA must issue a Biological Opinion, which spells out the terms and conditions for the activity in question, and ensures that the activity is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of their critical habitat. In the LCFRB planning area, consultations with FERC have recently been or are currently underway on hydroelectric projects in the Cowlitz and Lewis river basins.

Section 10 of the ESA authorizes NMFS to issue permits for take that occurs as part of research activities, for take that occurs as part of activities that enhance a species' survival, and for take that occurs incidental to an otherwise lawful activity.

Section 4(d) of the ESA requires NMFS to issue protective regulations for species listed as threatened. These protective regulations may apply any or all of the ESA section 9 provisions that automatically prohibit take of species listed as endangered. The rules need not prohibit all take. There may be an "exception" from the prohibitions on take so long as the take occurs as the result of a program that adequately protects the listed species and its habitat. In other words, the 4(d) rule can "limit" the situations to which the take prohibitions apply. 4(d) rules for the listed ESUs addressed by the LCFRB plan were issued in June of 2000.

This 4(d) rule contains 13 "limits" or pathways through which various types of programs can be assured of being in compliance with the ESA. These limits include provisions for the approval of Hatchery and Genetics Management Plans, Fishery Management and Evaluation Plans, and local or regional government ordinances regulating Municipal, Residential, Commercial, and Industrial Development. See <http://www.nwr.noaa.gov/1salmon/salmesa/final4d.htm> for more information on these rules.

Section 4(f) of the ESA requires NMFS to develop recovery plans for all listed species. Recovery plans must contain objective, measurable criteria for de-listing the species, site-specific management actions to achieve the goals, and estimates of the time and cost required to achieve the goals.

Program Significance to Recovery: ESA provides tools for protecting listed species and a framework for the conservation and recovery of listed species and the ecosystems upon which they depend.

Program Type: Protection

Applicable Subbasins: All

NMFS Enforcement. NMFS Office for Law Enforcement is dedicated to the enforcement of laws that protect and conserve the nation's living marine resources and their natural habitat. These laws include the Endangered Species Act, the Magnuson-Stevens Fisheries Conservation and Management Act, and the Marine Mammal Protection Act. The Office of Law Enforcement investigates violators of these acts and promotes voluntary compliance through constituent communication and public awareness.

Program Significance to Recovery: Enforcement activities are an important facet of recovery because they help ensure that illegal activities do not deter or counterbalance the effects of implementation of recovery actions.

Program Type: Protection

Applicable Subbasins: All

Marine Mammal Protection Act. The Marine Mammal Protection Act (MMPA), which is administered by NMFS for whales, dolphins, seals, and sea lions, is the principal Federal legislation guiding marine mammal species protection and conservation policy. NMFS implements MMPA activities through its Regional offices and Fishery Science Centers in cooperation with the States, conservation groups, the public, other Federal agencies, the Marine Mammal Commission, and constituents, including scientific researchers, the fishing industry, and the public display community.

The Act established a moratorium on the taking (under MMPA, "take" is defined as "to harass, hunt, capture, or kill or attempt to harass, hunt, capture, or kill any marine mammal") or importing of marine mammals except for certain activities which are regulated and permitted. These activities include scientific research, public display, and the incidental take of marine mammals in the course of commercial fishing operations.

Program Significance to Recovery: Any activities undertaken to manage marine mammal predation on salmonids must be consistent with the MMPA.

Program Type: Protection and restoration

Applicable Subbasins: All

Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens Act). The Magnuson Fishery Conservation Act was adopted 1976 as the principal law governing marine fisheries in the United States. The Act was adopted for the purposes of governing marine fisheries 3 to 200 miles offshore of the U.S. coastline, phasing out foreign fishing activity with this zone, recovering overfished stocks, and conserving and managing fishery resources. In 1996, Congress passed the Sustainable Fisheries Act, which revised the Magnuson Act (renamed the Magnuson-Stevens Fishery Conservation and Management Act) and reauthorized it through 1999. The Pacific Fishery Management Council (PFMC) is one of eight regional fishery management councils established by the Magnuson Act. The PFMC is responsible for fisheries, including salmon fisheries, off the coasts of California, Oregon, and Washington. The Council's salmon Fishery Management Plan describes the goals and methods for salmon management. Central parts of the plan are annual spawner escapement goals for the major

salmon stocks and an allocation of the harvest among different fisheries or locations. The Council uses management tools such as season length, quotas, bag limits, and gear restrictions to achieve fishery management goals.

Program Significance to Recovery	Governs U.S. salmon fisheries.
Program Type:	Management and conservation.
Applicable Subbasins	All

Mitchell Act Hatchery EIS. NMFS is in the process of preparing an Environmental Impact Statement (EIS) for the funding and operation of Columbia River hatcheries authorized under the Mitchell Act (Public Law 75-502). The EIS will evaluate the environmental impacts of a full range of alternatives for funding and operation of Columbia River Hatchery programs consistent with the Mitchell Act, Endangered Species Act (ESA).

Tribal trust responsibilities, and broader NMFS objectives for sustainable fisheries under the Magnuson-Stevens Fisheries Conservation and Management Act. Currently, funds are provided to the Washington Department of Fish and Wildlife (WDFW), Oregon Department of Fish and Wildlife (ODFW), U.S. Fish and Wildlife Service (USFWS), and Confederated Tribes and Bands of the Yakama Nation (Yakama) for the operation and maintenance of 18 hatcheries, which stock the Mainstem.

Columbia River and its tributaries with close to 65 million salmon and steelhead annually. These funds also provide for the marking of hatchery fish and support associated monitoring, reform, and scientific.

Investigations. The EIS will potentially address the following issues: 1) How will hatchery operations positively or negatively affect the distribution, diversity, and abundance of the various populations of steelhead, Chinook, chum, and coho salmon found within the project area; 2) How will hatchery operations impact the other fish and wildlife species in the region; 3) What are the impacts of hatchery water withdrawals and releases of water used for fish rearing; 4) How are Tribal fisheries rights affected by hatchery production; and 5) will hatchery operations have disproportional impacts on lower income groups? NMFS expects to complete a final EIS and make ESA determinations on hatchery programs supported through the Mitchell Act by the fall of 2006.

Program Significance to Recovery:	The Mitchell Act funds the operation and maintenance of 18 hatcheries that stock the mainstem Columbia River and its tributaries.
Program Type:	Management and conservation
Applicable Subbasins:	All

U.S. Fish & Wildlife Service

Endangered Species Act. The U.S. Fish & Wildlife Service (USFWS) and NMFS share responsibility for administration of the Endangered Species Act. In general, USFWS is responsible for wildlife and plants, while NMFS is responsible for pacific salmon, ground fish, halibut, and marine mammals. Section 4 describes the requirements for listing species. In particular, Section 4(d) provides for the creation of protective regulations for threatened species, which may include selective application of Section 9 protections to threatened species and the development of recovery plans. Section 7 requires federal agencies to ensure, through a consultation process, that any action they authorize, fund or carry out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse

modification of their critical habitat. Section 10 requires for permits and exemptions for otherwise prohibited activities. This includes authorizing USFWS to permit incidental taking when it is the result of carrying out an otherwise lawful activity, such as scientific research or commercial activity. This exemption is in turn limited by tribal resource management plans, which are permitted if they will not appreciably reduce survival or recovery. Permits are granted after biological opinions are issued, verifying that the private individual, corporation, or municipal entity will not affect the propagation of the species. Funding programs associated with Section 10 of the Endangered Species Act that are managed by USFWS include Habitat Conservation Plan Land Acquisition, Planning Assistance, and the Recovery Land Acquisition Program. Section 6 Grants to States provides funding to help implement projects that conserve and recover listed species.

Program Significance to Recovery: ESA provides the framework for balancing protective regulations for threatened species, as well as permits and exceptions for social needs.

Program Type: Protection

Applicable Subbasins: All

Wildlife Refuges. The U.S. Fish and Wildlife Service manual on refuge planning applies to designated areas of land, water, or interest in land or water within the refuge system. The goals of the National Environmental Policy Act (NEPA) and the National Wildlife Refuge System Administration Act, are to ensure that wildlife comes first, that management achieves conservation and other objectives, that there are opportunities to participate in the planning process, that there is a basis for adaptive management, and that there is consistent consideration of the six priority public uses (hunting, fishing, wildlife observation and photography, and environmental education and interpretation). Management actions occur through comprehensive conservation plans (CCPs) that provide statements of desired future conditions for each refuge, encourage the use of an ecosystem approach, ensure that the six priority wildlife dependent recreational uses receive consideration. The CCP must provide a fifteen-year management plan specific to each refuge. This plan determines species or resources of concern, and must comply with a list of mandates, including Section 7 of the ESA and Sections 401 and 404 of the Clean Water Act. Access to the refuges is limited in order to minimize disturbance to the wildlife.

Refuges in Southwest Washington include Ridgefield to the north of Vancouver; and Franz Lake, Pierce and Steigerwald Lake all located in the Columbia River Gorge. Together, these refuges comprise approximately 7000 acres in Southwest Washington. Two Bonneville tributaries flow through the Steigerwald, Franz Lake, and Pierce refuges: Gibbons Creek and Hardy Creek. Gibbons Creek is largely contained within an artificial channel and water control structures in the Steigerwald Refuge. USFWS is working with the CORPS to develop restoration options. Riparian habitat and channel conditions for Hardy are well-protected within the Pierce Refuge. USFWS also has conducted chum spawning improvements on Hardy Creek and is working with USACE to make channel improvements to Gibbons Creek.

Program Significance to Recovery: USFWS Refuges are important to recovery because of their potential for protection and restoration potential.

Program Type: Protection and restoration

Applicable Subbasins: All

Environmental Contamination. The Division of Environmental Contaminants within the Ecological Services program has primary responsibility for working with USFWS staff from the Division of Endangered Species, Habitat Conservation, Fisheries, Refuges and Engineering as well as other agencies related to contaminants. Contaminant specialists address a variety of issues aimed at preventing damage to threatened and endangered species, trust resources, and national wildlife refuges. The program also conducts studies that help reveal the health of terrestrial and aquatic ecosystems, participates in the National Contaminant Biomonitoring Program, and conducts a refuge clean-up program. Since 1988, the Pacific Region of the Environmental Contaminations Program has conducted 62 refuge and 33 off-refuge investigations, which address a wide range of contaminant issues.

Program Significance to Recovery: USFWS Environmental Contamination Program is important to recovery because of the potential effect of contaminants on ecosystems.

Program Type: Protection and restoration

Applicable Subbasins: All

Partners for Fish and Wildlife. The Partners for Fish and Wildlife Program provides assistance to private landowners who want to restore or improve habitat on their property. Restoration projects include restoring wetland hydrology, planting native trees and shrubs in formerly forested wetlands and other habitats, planting native grasslands, installing fencing and off-stream livestock water facilities, removal of exotic plants and animals, prescribed burning to remove exotic species and to restore natural disturbance regimes for species survival, reconstruction of in-stream aquatic habitat, and reestablishing fish passage for migratory fish. The program is concerned with wildlife species such as bull trout, salmon, cutthroat trout, bald eagle, black tern, Columbia spotted frog and pygmy rabbit, and plants such as the golden paintbrush and water howellia. To date the program has restored 186 acres of wetland, twelve miles of riparian habitat, two miles of in-stream habitat, thirty acres of native grassland, forty-eight acres of species habitat, and fifteen miles of anadromous fish passage.

Program Significance to Recovery: USFWS' Partners for Fish and Wildlife is important because it focuses efforts at the landscape-level where important landowner stewardship efforts are most needed.

Program Type: Restoration and Education

Applicable Subbasins: All

Greenspaces Program. This program provides funds for projects in the Portland Vancouver area that focus on urban conservation. The purpose of the program is to allow the USFWS to collaborate with local municipalities to conserve sensitive species, through environmental education, habitat restoration, conservation planning, and collaboration with other stakeholders.

Program Significance to Recovery: USFWS' Greenspaces program is important because it assists local Portland/Vancouver governments with efforts to conserve sensitive species through conservation planning, habitat restoration, and environmental education.

Program Type: Restoration and Education

Applicable Subbasins: Portland and Vancouver Metropolitan area (Lower Columbia Mainstem).

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) is the Federal government's largest water resources development and management agency. The objective of USACE is to contribute to national economic development while protecting the nation's environment. The Corps addresses state, local, national, and international concerns through a six-step planning process prescribed by the Principles and Guidelines. These include identifying water resources problems in the study area, collecting data on the problems identified, developing alternatives to solve the problems, evaluating the effects of the alternatives, comparing the alternatives, and selecting a plan for recommendation or deciding to take no action. The types of state, local, national, and international projects include navigation, flood control, ecosystem restoration, hurricane and storm damage reduction, coastal and shoreline erosion, water supply, hydroelectric power, outdoor recreation, and environmental water quality and aquatic plant controls. In addition, USACE provides flood plain management, planning assistance to states, and a regulatory monitoring and enforcement function.

Current Corps projects in Washington State include the Mt. St. Helens Recovery Project, the Crims Island habitat restoration project, and the east White Salmon treaty fishing access site development. The Corps is also in the process of conducting several studies, such as a Navigation Channel study of the Columbia River, the Columbia Slough Environmental Restoration Study, the Lower Columbia River Ecosystem Restoration General Investigation and Feasibility study, and the Columbia River Channel Deepening study.

Section 1135. Section 1135 of the Water Resources Development Act provides for the modification of the structure or operation of a past Corps project to restore fish and wild life habitat. The advantage of section 1135 programs is the relatively large potential budget for restoration (up to five million dollars). The limitations of section 1135 programs are several. The projects must be linked to a past Corps project and the reports are time-consuming to process and require approval before implementation. Only five projects have been done in Washington because of the intensive funding and staff commitments. The Corps entered into a Section 1135 ecosystem restoration agreement for the Grays River with a number of interested parties (including, among others, WDFW, Wahkiakum County, the Grays River Habitat Enhancement District, LCFRB, and CLT) although the status of the project is uncertain.

Program Significance to Recovery: Section 1135 is important to recovery because of the potential restoration resources available in the program. This program may be directed to the North Fork Toutle Sedimentation Structure, as well as other projects.

Program Type: Restoration

Applicable Subbasins: All

Section 206. Section 206 of the Water Resources Development Act of 1996 (WRDA), authorizes the Secretary of the Army to carry out an aquatic ecosystem restoration and protection project if the Secretary determines that the project will improve the quality of the environment, is in the public interest, and is cost-effective. Significant provisions of section 206 include a cost-sharing requirement and an annual funding cap for programs nation-wide. A minimum of 35% of a project's costs must be

contributed from non-federal sources and a maximum of \$25 million dollars annually may be dedicated to projects nation-wide. Unlike section 1135 of the WRDA, it is not a requirement that restoration and protection projects funded under section 206 be tied to a hydrologic project.

Program Significance to Recovery: Section 206 is important to recovery because of its potential to leverage state and local funds to accomplish large-scale projects that could not otherwise be accomplished.

Program Type: Restoration and Protection

Applicable Subbasins: All; however there are no section 206 projects currently in the region—some attempts to initiate projects in the Toutle, East Fork and Salmon Creek have not been successful.

Hydroelectric Program. Hydroelectric programs in the Portland district of the Northwestern Division are concerned both with constructing and operating power facilities as well as their environmental impact. The Corps is currently studying ways to minimize the impact of dams on anadromous fish species, salmonids in particular.

Program Significance to Recovery: The Federal Columbia River Power System is important to recovery because its operations relative to flows in the estuary are a significant determining factor in habitat-forming processes and habitat conditions for juvenile, as well as adults.

Program Type: Restoration and Protection

Applicable Subbasins: All impacts to salmonids in the Estuary have an effect on all subbasins within the lower Columbia Region.

Regulatory Program. The regulatory program of USACE considers the full public interest for both the protection and utilization of water resources. The regulatory authority of USACE is based on Section 10 of the Rivers and Harbors Act of 1899, which prohibits the obstruction or alteration of navigable waters of the United States without a permit from USACE. Its authority is also based on Section 404 of the Clean Water Act, subsection 301, which prohibits the discharge of dredged or fill material into waters of the U.S. without a permit from USACE. Typical activities requiring Section 10 permits are the construction or installation of piers, wharves, and bulkheads, and dredging and excavation. Typical activities requiring Section 404 permits are the depositing of fill, dredged, or excavated material in waters of the U.S. and/or adjacent wetland, grading or mechanized land clearing of wetlands, and placement of spoils from ditch excavation activities in wetlands. Any person or agency planning to work in navigable waters of the U.S., or dump or place dredged or fill material in these waters, must first obtain a permit from USACE.

Program Significance to Recovery: The Corps' Regulatory Program is important to recovery because it protects navigable waters from impairment while allowing utilization of water resources. Ensuring an appropriate balance between these often competing uses is key to recovery.

Program Type: Restoration and Protection

Applicable Subbasins: All

U.S. Environmental Protection Agency

Clean Water Act—Water Quality Standards Program. The Environmental Protection Agency (EPA) is responsible for the implementation of the Clean Water Act (CWA). The broad goal of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation’s waters so they can support the protection and propagation of fish, shellfish, and wildlife and recreation. The CWA requires that Water Quality Standards (WQS) be set for surface waters. WQS are aimed at translating the broad goals of the CWA into waterbody-specific objectives and apply only to the surface waters. The WQS Program is comprised of three major components: Designated Uses, Water Quality Criteria, and Antidegradation Policies. Together, these three components identify uses, set standards to support the uses, and protect high quality surface waters. EPA delegates authority for developing standards and implementation to the State while retaining approval authority of clean-up plans.

Program Significance to Recovery: The Water Quality Standards Program is important to recovery because it dictates surface water quality standards consistent with important uses and protects high quality surface waters.

Program Type: Protection and Restoration

Applicable Subbasins: All

Bonneville Power Administration

The Bonneville Power Administration (BPA) is a federal agency headquartered in Portland that markets wholesale electricity and transmission to energy markets on the West Coast. BPA provides about half the electricity used in the Northwest and operates over three-fourths of the region’s high-voltage transmission. BPA works with other federal and state agencies and tribes on programs to address problems caused by federal dams. To this end, BPA helps fund and manage the largest regional program of its kind in the United States, directing approximately 140 million dollars per year to fish and wildlife improvements. This represents about 500 fish and wildlife projects a year, from repairing spawning habitats to studying fish diseases and controlling predators. Projects for BPA funding are identified by the Northwest Power and Conservation Council’s fish and wildlife program and are reviewed by an independent scientific review panel.

Program Significance to Recovery: BPA is important to recovery because the operations of the FCRPS have direct effects on fish and wildlife species, including the salmonids. While BPA funding for fish and wildlife species is significant throughout the basin, its investments will be critical for recovery in terms of returning the Estuary to productive habitat for lower Columbia (and upstream populations)

Program Type: Restoration and Protection

Applicable Subbasins: All

Northwest Planning and Conservation Council

The Northwest Power and Conservation Council (NPCC), an interstate compact of Idaho, Montana, Oregon, and Washington, has specific responsibility in the Northwest Power Act of 1980 to mitigate the effects of the hydropower system on fish and wildlife of the Columbia River Basin. The Council does this through its Columbia River Basin Fish and Wildlife Program, which is funded by BPA. Beginning in Fiscal Year 2006, funding is guided by locally developed subbasin plans that are expected to be formally adopted in the Council’s Fish and Wildlife Program in December 2004.

Program Significance to Recovery: NPCC is important to recovery because the Fish and Wildlife Program represents an important restoration and protection funding source for recovery efforts in the Lower Columbia Region.

Program Type: Restoration and Protection

Applicable Subbasins: All

Federal Columbia River Power System

The Federal Columbia River Power System (FCRPS) is a unique collaboration among three U.S. government agencies – BPA, USACE and the Bureau of Reclamation (Reclamation). The FCRPS operates to serve an array of individual project and system purposes such as power generation, flood control, irrigation, recreation, and fish and wildlife protection. System-wide purposes focus on supplying electrical energy to meet existing and projected loads, flood control, and more recently, salmon recovery. Thirty-one federally owned multipurpose dams on the Columbia and its tributaries, as well as the output of Energy Northwest’s Columbia Generating Station, comprise the FCRPS and provide about 45 percent of the region’s capacity (all fuel types) and about 64 percent of hydroelectric generating capacity.

The FCRPS agencies address the ESA in managing the hydrosystem. System operations have been influenced through a series of consultations, biological opinions and an elaborate, multi-layered process for working through in-season operating changes in order to protect ESA listed salmon and steelhead in the Columbia River Basin. Structural and operational measures have been prescribed by NMFS and adopted by the FCRPS to improve fish survival during periods of migration and residence in the Columbia River Basin.

Program Significance to Recovery: The FCRPS is important to recovery because the operations of the Columbia River Hydrosystem have direct effects on fish and wildlife species, including the salmonids.

Program Type: Restoration and Protection

Applicable Subbasins: All

Natural Resources Conservation Service

Formerly the Soil Conservation Service, the USDA Natural Resources Conservation Service (NRCS) is the federal agency that works hand-in-hand with landowners to conserve natural resources on private lands. The NRCS provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment. Formalized in 1993, the National Conservation Partnership is the dynamic relationship between federal, state, and nonprofit groups that have pledged to jointly provide national conservation leadership. The following programs are currently being implemented or could be implemented in the Lower Columbia Region:

Conservation Technical Assistance (CTA). NRCS provides assistance to land-users, communities, units of State and local government, and other Federal agencies in planning and implementing conservation systems. The purpose of the conservation systems is to reduce erosion, improve soil and water quality, improve and conserve wetlands, enhance fish and wildlife habitat, improve air quality, improve pasture and range condition, reduce upstream flooding and improve woodlands.

Plant Materials Program. The Plant Materials Program provides native plants that can help solve natural resource problems. Plant material is used for biomass production, carbon sequestration, erosion reduction, wetland restoration, water quality improvement, streambank and riparian area protection, coastal dune stabilization, and other special conservation needs. The Plant Materials Centers seek out plants that show promise for meeting an identified conservation need and test their performance.

Resource Conservation and Development Program (RC&D). The purpose of the RC&D is to accelerate the conservation, development, and utilization of natural resources, improve the general level of economic activity, and enhance the environment and standard of living in authorized RC&D areas. It improves the capability in rural areas to plan, develop, and carry out programs for resource conservation and development. The program also establishes or improves coordination systems in rural areas. Current program objectives focus on improvement of quality of life achieved through natural resources conservation and community development that leads to sustainable communities and the management and conservation of natural resources. Authorized RC&D areas are locally sponsored areas designated by the Secretary of Agriculture for RC&D technical and financial assistance program funds. The Columbia-Pacific RC&D area in Washington serves Grays Harbor, Mason, Pacific and Wahkiakum Counties. There is no RC&D for Lewis, Cowlitz, Clark or Skamania Counties.

Soil Survey Programs. Soil surveys provide a scientific inventory of soil resources needed to maintain usable soil. This inventory includes maps showing the locations and extent of soils, data about the physical and chemical properties of those soils, and information derived from that data about potentialities and problems of use on each kind of soil in order to meet the needs of farmers, agricultural technicians, community planners, engineers, and scientists. They also provide information needed to protect water, wetlands, and wildlife habitats. Soil surveys are the basis for predicting the behavior of soil under various uses, its potential erosion hazard, potential for ground water contamination, and suitability for cultivated crops, trees, and grasses.

Watershed Program (PL-566). The PL-566 Watershed Program is the locally-led conservation extension of the agency's traditional assistance to individual farmers and ranchers for planning and installing conservation practices. It means that local people, generally with the leadership of conservation districts along with NRCS technical assistance, will assess their natural resource conditions and needs; set goals; identify ways to solve resource problems; utilize a broad array of programs to implement solutions; and measure their success.

Conservation Reserve Enhancement Program (CREP). CREP is state-federal conservation partnership to address specific state and nationally significant water quality, soil erosion and wildlife habitat issues related to agricultural use. USDA has committed nearly \$1.2 billion to the CREP program. CREP uses financial incentives to encourage farmers and ranchers to voluntarily enroll in contracts of 10 to 15 years in duration to remove environmentally sensitive lands from agricultural production.

Conservation Reserve Program (CRP). CRP provides technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner. The program provides assistance to farmers and ranchers in complying with Federal, State, and tribal environmental laws, and encourages environmental enhancement. CRP reduces soil erosion, protects the Nation's ability to produce food and fiber, reduces sedimentation in streams and lakes, improves water quality, establishes wildlife habitat, and enhances forest and wetland resources. It encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as tame or native grasses, wildlife plantings, trees, filter strips, or riparian buffers. Farmers receive an annual rental payment for the term of the multi-year contract. Cost-sharing is provided to establish the vegetative cover practices.

Environmental Quality Incentive Program (EQIP). EQIP provides technical, educational, and financial assistance to eligible farmers, ranchers, and small forest landowners to address soil, water, and related natural resource concerns on their lands. The program provides assistance to farmers and ranchers in complying with Federal, State and tribal environmental laws, and achieves its ends through the implementation of a conservation plan which includes structural, vegetative, and land management practices on eligible land.

Farm and Ranch Land Protection Program (FRPP). The FRPP provides funds to help purchase development rights to keep productive farmland in agricultural uses. Working through existing programs, USDA joins with State, tribal, or local governments to acquire conservation easements or other interest from landowners. USDA provides up to 50 percent of the fair market easement value.

Wetlands Reserve Program (WRP). The WRP is a voluntary program for the restoration of wetlands. Participating landowners can establish conservation easements or can enter into restoration cost-share agreements where no easement is involved. Depending upon the duration of the easement, the landowner receives payment up to the agricultural value of the land and restoration costs for restoring the wetlands. In all instances, landowners continue to control access to their land. WRP funding was used in the East Fork Lewis for protection of wetlands.

Wildlife Habitat Incentives Program (WHIP). WHIP provides financial incentives to develop habitat for fish and wildlife on private lands. Participants implement a wildlife habitat development plan and USDA provides cost-share assistance for plan implementation. USDA and program participants enter into a cost-share agreement for wildlife habitat development. This agreement generally lasts a minimum of ten years from the date that the contract is signed. WHIP programs in Washington state include the Gray's Bay preserve in Wahkiakum County, the Prairie Preserve in Thurston County, riparian protection along Dogfish Creek in Kitsap County, and an improvement of fish habitat on the Walla Walla River in Walla Walla County.

Conservation Security Program (CSP). CSP helps the producers of working lands promote conservation and improve the quality of soil, water, air, energy, and plant and animal life. It provides environmental benefits by addressing resource concerns on agricultural land. Where other programs help with installation or initial establishment of conservation management practices, CSP identifies and rewards those farmers and ranchers who are meeting the very highest standards of conservation and environmental management on their land. CSP is a new program that is going through the formal rule-making process and will be available after publication of the final rule.

Forest Incentive Program (FIP). FIP shares in the costs of tree planting, timber stand improvements, and related practices on non-industrial private forestlands. FIP's forest maintenance and reforestation provide numerous natural resource benefits, including reduced wind and soil erosion and enhanced water quality and wildlife habitat as well as helping to assure a reliable future supply of timber.

Program Significance to Recovery: Specific programs under the Natural Resources Conservation Service are important to recovery because they represent some of the most relevant programs to assist agriculture impacts to watershed health.

Program Type: Restoration and Protection

Applicable Subbasins: All

Federal Energy Regulatory Commission (FERC)

Hydroelectric Relicensing. Nonfederal hydroelectric projects generally operate under licenses issued by the Federal Energy Regulatory Commission (FERC). A hydroelectric license prescribes operations and

safety precautions, as well as environmental protection, mitigation and enhancements. At least five years before a license expires, an owner applies to FERC to "relicense" the hydroelectric project. The project, its surrounding environment and related resources are studied during this process to determine what new license conditions will most effectively balance developmental values (electric power, flood control and water supply) with non-developmental values (environmental resource protection and restoration). Licenses are normally issued for a period of 30 to 50 years.

The FERC relicensing process requires years of extensive planning, including environmental studies, agency consensus, and public involvement. The Federal Power Act of 1920 (FPA) was amended in 1986 by the Electric Consumers Protection Act (ECPA). The new law requires that FERC give equal consideration to the non-generating benefits of the natural resource (e.g., fish, wildlife, aesthetics, water quality, land use, and recreational resources) along with the benefit of power production.

Program Significance to Recovery: Hydroelectric relicensing is important to recovery in the Cowlitz and Lewis because the recovery at the regional-scale cannot be achieved without success in these basins, especially for Spring Chinook.

Program Type: Restoration and Protection

Applicable Subbasins: North Fork Lewis and Cowlitz Subbasins.

The following non-federal public, private, and non-profit utilities are subject to Federal Energy Regulatory Commission authority pertaining to relicensing in the Lower Columbia Region:

PacifiCorp (Swift/Yale/Merwin)

PacifiCorp is a power company that operates 53 hydropower facilities in Washington, Oregon, Idaho, Utah and Montana that produces nearly 11 percent of the company's annual power generation. In Washington, Oregon, Wyoming, and California, PacifiCorp operates as Pacific Power. PacifiCorp and the Cowlitz PUD operate hydroelectric facilities on the North Fork Lewis. The projects are currently undergoing relicensing pursuant to the federal Power Act using FERC's alternative licensing approach. Under this approach the utilities are working with federal agencies, local governments, tribes, community interests, and environmental organizations to develop a settlement agreement defining terms for a license. Topics affecting the lower North Fork Lewis include flows and habitat protection for ESA listed salmonids and other aquatic and terrestrial species. PacifiCorp also participated in the acquisition of Eagle Island. In the Upper North Fork Lewis relicensing negotiations underway include the following habitat restoration topics: adult and juvenile passage for salmonids, reintroduction of spring Chinook/coho/steelhead, habitat protection and improvement for salmon/steelhead/bulltrout, and flows in the bypass reach (former North Fork Lewis channel).

Program Significance to Recovery: Hydroelectric relicensing is important to recovery in the NF Lewis because recovery at the regional-scale cannot be achieved without success in the NF Lewis, especially for Spring Chinook.

Program Type: Restoration and Protection

Applicable Subbasins: North Fork Lewis

Cowlitz County Public Utilities District (Swift)

Public Utility District No. 1 of Cowlitz County is a municipal corporation of the State of Washington, formed to provide electric service within Cowlitz County. Cowlitz County PUD is a not-for-profit, consumer-owned utility serving 45,500 electric customers and 3,540 water customers in the County. Cowlitz PUD owns the Swift No. 2 hydroelectric project. Cowlitz PUD operates Swift No. 2 according to an agreement that allows PacifiCorp to manage all four hydro projects on the Lewis River in a coordinated manner.

Program Significance to Recovery: Hydroelectric relicensing is important to recovery in the NF Lewis because recovery at the regional-scale cannot be achieved without success in the NF Lewis, especially for Spring Chinook.

Program Type: Restoration and Protection

Applicable Subbasins: North Fork Lewis

Lewis County Public Utilities District (Cowlitz Falls)

The Lewis County Public Utility District is a non-profit, customer-owned utility that provides electricity to rapidly growing Lewis County in southwest Washington. Lewis County PUD serves substantially all of Lewis County with the exception of the City of Centralia. In addition, Lewis County PUD serves a portion of Pierce County, including the areas from the town of Elbe, Ashford and Mount Rainier National Park. The Lewis County PUD and the BPA cooperatively developed the Cowlitz Falls Project. The PUD is owner of the Project, while the BPA has purchased the annual output of the Project under a long-term contract. In exchange for receiving the output of the Project, BPA pays all costs associated with its operation and maintenance. Lewis County PUD buys its power from BPA so the power generated by the Cowlitz Falls Project helps supply the needs of Lewis County residents and businesses.

Program Significance to Recovery: Hydroelectric relicensing is important to recovery in the Cowlitz Subbasin because recovery at the regional-scale cannot be achieved without success in the Cowlitz, especially for Spring Chinook.

Program Type: Restoration and Protection

Applicable Subbasins: Cowlitz

Tacoma Public Utilities (Mayfield/Mossyrock)

Tacoma Power is a publicly owned division of Tacoma Public Utilities that provides electricity to the city of Tacoma, Fircrest, University Place, Fife, Steilacoom, Lakewood, and unincorporated Pierce County. The Cowlitz River Project produces hydroelectric power from the water stored behind Mayfield and Mossyrock dams. The upper Cowlitz and Cispus River basins were blocked from migrating salmon and steelhead by Tacoma Power's construction of the Mossyrock and Mayfield Dams in the 1960's. The Cowlitz River Project mitigates hydroelectric impacts to anadromous fish using two major hatcheries, as well as other habitat-related protection and restoration projects. Terms of the recent relicensing agreement provide for reintroduction of Spring Chinook into the headwaters of the Cowlitz. Wild adult fish are collected at the salmon hatchery barrier dam and trucked up stream above the dams. Out-migrating juvenile fish are collected and either hauled or diverted around the dams.

Restoration activities include up and downstream passage for salmonids (volitional passage facilities are conditioned on first establish a self-sustaining population for any Tilton salmonid population and either spring Chinook or winter steelhead above Mossyrock Dam), providing flows protective of salmonids below the project, augmentation of sediment and spawning gravel below the project, funding fish habitat restoration projects, and large woody debris augmentation in the lower river.

Program Significance to Recovery: Hydroelectric relicensing is important to recovery in the Cowlitz Subbasin because recovery at the regional-scale cannot be achieved without success in the Cowlitz, especially for Spring Chinook.

Program Type: Restoration and Protection

Applicable Subbasins: Cowlitz

National Park Service

Mount Rainier National Park was established on March 2, 1899 and encompasses 235,625 acres, ranging in elevation from 1,610 ft to 14,410 ft above sea level. The Park is approximately 97 percent wilderness and as such, offers a high degree of protection for the headwaters of the Cowlitz Subbasin.

Program Significance to Recovery: Mount Rainier National Park is important to recovery because it offers strong protection and passive restoration of headwater habitats, as well as watershed processes.

Program Type: Restoration and Protection

Applicable Subbasins: Cowlitz

Pacific Salmon Commission

After many years of negotiation, the PST was signed in 1985 to set long-term goals for the benefit of the salmon and the two countries. The principal goals of the treaty are to enable both countries, through better conservation and enhancement, to increase production of salmon and to ensure that the benefits resulting from each country's efforts accrue to that country.

The Pacific Salmon Commission (PSC) is the body formed by the governments of Canada and the United States to implement the treaty. The Commission itself does not regulate the salmon fisheries but provides regulatory advice and recommendations to the two countries.

The Commission has a dual role; to conserve Pacific salmon in order to achieve optimum production, and to divide the harvests so that each country reaps the benefits of its investment in salmon management. The Commission has a variety of tools at hand to achieve its mandate. It may recommend that the countries implement harvest limitations, time and area closures, gear restrictions, or other measures to control harvests. In addition, the Commission may recommend use of enhancement techniques to strengthen weak runs, mitigate for damage done by logging, mining or dam building, or for other purposes. The PSC gives both countries a forum through which to resolve the difficult problems surrounding salmon harvest management.

Pacific Fishery Management Council

The Magnuson-Stevens Fishery Conservation and Management Act of 1976 is the principal law governing marine fisheries in the United States. The Act was adopted for the purposes of managing fisheries 3-200 miles offshore of the U.S. coastline, phasing out foreign fishing activity within this zone, recovering overfished stocks, and conserving and managing fishery resources. In 1996, Congress passed the Sustainable Fisheries Act, which revised the Magnuson Act and reauthorized it through 1999; later reauthorization bills have been presented but have not been enacted. The Pacific Fishery Management Council (PFMC) is one of eight regional fishery management councils established by the Magnuson Act. The PFMC is responsible for fisheries off the coasts of California, Oregon, and Washington.

The Council's Salmon Fishery Management Plan (SFMP) describes the goals and methods for salmon management. Central parts of the plan are annual spawner escapement goals for the major salmon stocks and an allocation of the harvest among different fisheries or locations (i.e. allocations are set for ocean or inland commercial, recreational, or tribal fisheries as well as for specific ports). The Council uses management tools such as season length, quotas, bag limits, and gear restrictions to achieve fishery management goals.

Annually, a preseason process of meetings and public hearings is used to develop recommendations for management of the ocean fisheries. Past harvest data and preseason salmon abundance forecasts are the primary basis for management decisions concerning season structure and harvest quotas. Final recommendations are adopted annually in April and implemented by NMFS beginning in May. The Salmon Technical Team (STT) provides technical information and data analysis to the Council; the team is comprised of eight representatives from state, federal, and tribal fisheries management agencies. The Salmon Advisory Subpanel (SAS) has 17 members who represent commercial, recreational, and tribal interests, as well as a public representative and a conservation representative.

U.S. vs. Oregon

In 1968, the U.S. District Court ruled that Columbia River treaty Indians were entitled to an equitable share of the upper Columbia River fish returns, in a court case known as *U.S. v. Oregon*. After 20 years of legal tests and negotiations, the CRFMP was adopted by District Court order in 1988 and agreed to by the parties: the United States; the states of Oregon, Washington, and Idaho; and the four treaty Indian tribes. The purpose of the CRFMP as defined by the court was to:

. . . provide a framework within which the Parties may exercise their sovereign powers in a coordinated and systematic manner in order to protect, rebuild, and enhance upper Columbia River fish runs while providing harvests for both treaty Indian and non-Indian fisheries. In order to achieve the goals of the CRFMP, the Parties intend to use habitat protection authorities, enhancement efforts, artificial production techniques, and harvest management to ensure that Columbia River fish runs continue to provide a broad range of benefits in perpetuity.

C.4. State Agency Programs

C.4.1. Department of Natural Resources

Habitat Conservation Plan (HCP). Management of DNR public lands is governed by tenets of their proposed Habitat Conservation Plan (HCP). In general, the HCP is more restrictive than Forest Practices to ensure the legacy of public lands. The HCP protects riparian areas through the use of buffers, mitigates impacts on watershed processed through harvest restrictions, and has established new road construction standards that are more stringent than Forest Practices Rules. DNR manages these public lands as a 'trust' that generates funds in support of schools or other local services (e.g., hospitals, libraries, etc.), as well as providing protections to fish and wildlife habitats. In terms of protection, the HCP establishes restrictions to harvest in, and around, riparian zones for classes of streams as well as screening for increased landslide potential. Restoration activities occur independent of the permit process and include fish passage and road management improvements to address water quality standards, sediment delivery, and stream bank stability.

Program Significance to Recovery: The DNR Habitat Conservation Plan is important to recovery because it governs the management of a significant acreage of resource lands in a manner that is anticipated to improve watershed hydrology, sediment transport, and new access to habitats.

Program Type: Restoration and Protection

Applicable Subbasins: All

Forest Practices Rules. The Washington Forest Practices Board has established Washington Administrative Codes (WAC 222) that govern forest practices on non-federal lands. Management of private industrial forestlands is subject to Forest Practices regulations that include both protective and restorative measures. Protective measures primarily include the establishment of riparian setbacks, harvest restrictions around critical areas, and new road construction measures. In addition, all permits are screened for risks associated with unstable slopes. Restorative measures focus upon the maintenance and improvements of roads and culverts. Large industrial forest owners are required to address road conditions and culverts within a 15-year timeline, while small industrial forest owners' restoration activities are partially driven by availability of state funding. There are financial incentive programs for small forest owners included in the Forest Practices Rules. One example is the Small Forest Landowner Riparian Easement Program. In 2003-2005, the state allocated two million dollars for the support of small private forest owners.

Program Significance to Recovery: The Forest Practices Rules Program is important to recovery because it governs the management of a significant acreage of resource lands in a manner that is anticipated to improve watershed hydrology, sediment transport, and new access to habitats.

Program Type: Restoration and Protection

Applicable Subbasins: All

Aquatic Lands Steward. DNR is steward to approximately 2.4 million acres of state owned aquatic lands. These include bedlands, tidelands, and shorelands of Puget Sound, navigable rivers, lakes and other waters. The public lands are managed for current and future citizens of the state to sustain long-term ecosystem and economic viability. In the Lower Columbia region, there are significant miles of navigable waters in the Grays, Cowlitz, Lewis, and Washougal Rivers, as well as the Columbia River Estuary. As steward of these lands for citizens of the state, DNR is responsible for striking the appropriate balance between ecosystem and economic values. The balance that is struck on these important lands will help determine the legacy for future generations. DNR administers an Aquatic Reserve Program to preserve, restore, and enhance state-owned aquatic lands of distinct environmental, educational, or scientific value. Aquatic Reserves could be established to conserve particular areas of state-owned aquatic lands within the Lower Columbia region that are considered particularly important to salmon recovery.

Program Significance to Recovery: Aquatic Lands Steward Program is important to recovery because navigable waters within the region represent areas that have significant development pressures on them. The balance between economic vitality and ecosystem health is, in part, struck through the thoughtful authorization of uses. Restoration and monitoring activities on state owned aquatic lands require DNR approval.

Program Type: Restoration and Protection

Applicable Subbasins: Grays, Cowlitz, Lewis, and Washougal Subbasins

Aquatic Reserve Program: DNR administers and Aquatic Reserve Program to preserve, restore, and enhance state-owned aquatic lands of distinct environmental, educational, or scientific value. Aquatic Reserves could be established to conserve particular areas of state-owned aquatic lands within the Lower Columbia River Subbasin that are considered particularly important to salmon recovery.

C.4.2. Department of Transportation

The primary goal of the Washington State Department of Transportation (WSDOT) is to provide safe, efficient, dependable and environmentally responsible transportation facilities and services. To ensure compliance with environmental laws and statutes, the Environmental Services Department's Biology Branch addresses issues involved with the Endangered Species Act, fish passage, wetland mitigation, and wetland monitoring. The Compliance Branch addresses regulatory compliance with the National Environmental Policy Act (NEPA), administers the Advance Environmental Mitigation Revolving Account for watershed management, and implements the Uniform Environmental Project Reporting System. Compliance also addresses flood management and hydrogeology, stormwater management, and NPDES. The Resource Branch addresses cultural resources, hazardous materials, water quality and erosion control, and air quality. The goal of the program is to ensure that fish have access to available functional habitat for spawning, rearing, and migration. The Department must obtain permits from federal, state and local agencies when projects pass through sensitive areas, such as wetlands or stream corridors, or have the potential to impact threatened or endangered species.

Fish Passage Barrier Removal Program. WSDOT cooperates with WDFW to identify, prioritize, design and construct fish passage barrier removal projects (i.e., culvert replacements) that achieve the greatest possible benefits with limited funding. Factors that are corrected in older culverts include high water velocity, inadequate water depth, and large culvert outfall drops. Culvert barriers are corrected in the course of highway projects, as stand-alone projects, during routine maintenance or through a special

retrofit program funded by the legislature. WSDOT, in a partnership with Lewis County, has provided over \$430,000 in funding for county culvert assessment, design and engineering.

Program Significance to Recovery: The Fish Passage Barrier Removal Program is important to recovery because it addresses state highway barriers that prevent fish access to habitat.

Program Type: Restoration and Protection

Applicable Subbasins: All

Regional Road Maintenance ESA Section 4d Program. In response to ESA, WSDOT has developed a Regional Road Maintenance Program. The Program has been approved by NMFS under their Section 4d authority to ensure that program elements are consistent with federal law. Primary elements of the roadside maintenance go well beyond vegetation management, litter control and maintenance of safety rest areas, to include the following “cleaning and repair of roadway surfaces, base and shoulders; maintenance and repair of drainage structures (i.e., ditches, culverts, catchbasins, stormwater detention and treatment facilities, etc.); bridge cleaning, maintenance and repair (including cleaning and maintenance of fishways and ladders); snow and ice control; and, slide repair and abatement.

Program Significance to Recovery: The Regional Road Maintenance Program is important to recovery because activities associated with road construction and maintenance has the potential to negatively impact watershed health. Through the Program, Best Management Practices are observed thereby reducing these effects.

Program Type: Restoration and Protection

Applicable Subbasins: All

Integrated Vegetation Management & Roadside Development Program. Vegetation management involves caring for and/or controlling foliage within the highway right-of-way. Properly managed roadside vegetation can become naturally self-sustaining over time and require less intervention from maintenance crews as it grows and matures. WSDOT uses an Integrated Vegetation Management (IVM) program to strive for this state of roadside stability. IVM is defined as a coordinated decision making process that uses the most appropriate long-term vegetation management strategy on a site-specific basis in an environmentally and economically sound manner. The IVM process consists of monitoring, determining injury levels and action thresholds, proper timing of maintenance efforts, selection of least disruptive control and effective revegetation tactics and evaluation.

Program Significance to Recovery: IVM is important to recovery because state highways parallel most subbasins within the region. Foliage along these transportation corridors act as important buffers to highway impacts. Traditional chemical approaches to roadside vegetation management are minimized through this approach.

Program Type: Restoration and Protection

Applicable Subbasins: All

Environmental Mitigation Program. The goal of WSDOT’s environmental mitigation program is to offer the highest ecological benefit, the most cost effective use of tax dollars, and the most efficient use of permitting time. WSDOT is currently pursuing alternatives to traditional mitigation including anticipatory mitigation developed in advance of potential environmental impacts, consolidation of small mitigation needs into a mitigation bank, and working with partners to meet mitigation requirements in ways that have a higher ecological and social benefit than standard mitigation. The major focus of alternative mitigation is mitigation banking. The sponsor of the mitigation bank creates, restores enhances and preserves functioning wetlands to be used later as compensatory mitigation for unavoidable wetland impacts associated with authorized development occurring in the vicinity. Mitigation banks are permanently protected.

Program Significance to Recovery: The Environmental Mitigation Program is important to recovery because it offers the potential to direct transportation mitigation dollars to projects that have greater effectiveness than traditional on-site mitigation.

Program Type: Restoration and Protection

Applicable Subbasins: All

Stormwater Retrofit Program. WSDOT designs and constructs highway projects to provide stormwater treatment and flow control consistent with all federal, state, and local requirements. This includes retrofitting existing systems that do not currently provide, or provide inadequate treatment (and/or flow control).

Program Significance to Recovery: The Stormwater Retrofit Program is important to recovery because poorly designed highway projects impact watershed health in terms of water quality treatment and hydrology.

Program Type: Restoration

Applicable Subbasins: All

Chronic Environmental Deficiency Program. The Chronic Environmental Deficiency Program identifies, funds, designs and builds projects with significant environmental benefits. WSDOT restores in-stream habitat functions (e.g., stabilizes and revegetates eroded stream banks; constructs fish-friendly bridge scour solutions) applying techniques consistent with the Aquatic Habitat Guidelines developed in conjunction with WDFW and other parties.

Program Significance to Recovery: The Chronic Environmental Deficiency Program is important to recovery because it represents a potential partner for initiating restoration activities within the region.

Program Type: Restoration

Applicable Subbasins: All

C.4.3. Department of Commerce

The Washington State Department of Commerce (formerly Community Trade and Economic Development) assists in the building and sustaining of strong social, environmental and economic foundations. The Local Governments Division provides technical assistance to counties on Growth

Management Act (GMA) topics, such as rural and urban development, environmental protection, critical areas, and buildable lands. The Program reviews GMA policies and provides grant and low-interest loans to local governments for planning.

Program Significance to Recovery: The Local Governments Division of the Department of Commerce is important to recovery because it assists local governments as they plan for population growth. This facet of recovery is one of the most important as the region prepares for population growth that is anticipated exceed 250% in several subbasins over the next 25 years.

Program Type: Protection

Applicable Subbasins: All

C.4.4. Conservation Commission

The Washington State Conservation Commission was created by statute in 1939 (RCW 89.08) to protect, conserve, and enhance the natural resources of the state. The Commission provides leadership, partnerships, and resources to support locally governed conservation districts in promoting conservation stewardship. One of the key functions of the Conservation Commission is to provide core operational funding to conservation districts, as well as the administration of key programs that conservation districts implement.

Agriculture, Fish and Wildlife Agriculture, Fish and Wildlife (AFW) is in an on-going negotiation between several state agencies and the agriculture community. Its overall aim is to negotiate changes to the existing Field Office Technical Guide. It includes two major changes—guidelines for Irrigation Districts to enhance, restore, and protect habitat for endangered fish and wildlife species, and to address state water quality needs. While this program holds tremendous potential for addressing issues associated with agriculture and ecosystem health, currently the program is not functional, nor is it implemented.

Program Significance to Recovery: The Agriculture, Fish and Wildlife Program is important to recovery because it has the potential to reform agricultural practices, if it is implemented.

Program Type: Protection

Applicable Subbasins: All

Conservation Reserve Enhancement Program (CREP). Conservation Reserve Enhancement Program (CREP) is a joint partnership between the State of Washington and the U.S. Department of Agriculture and is administered by the Conservation Commission and the Farm Services Agency, with implementation of projects by individual Conservation Districts. The general concept of CREP is to remove sensitive areas (i.e., riparian lands) from agricultural production and perform restoration activities for ecological benefits. Landowners receive annual rent, incentive, and maintenance payments under the terms of 10 – 15 year contracts.

Program Significance to Recovery: The Conservation Reserve Enhancement Program is important to recovery because it represents one of the few agriculture programs that protect and restore riparian areas. CREP is currently implemented in several subbasins in the region.

Program Type: Protection and Restoration

Applicable Subbasins: All

C.4.5. Department of Agriculture

The Washington State Department of Agriculture's (WSDA) assures the safety of the state's food supply, governs pesticides and fertilizers use, protects against pests and disease, and markets agricultural products domestically and world-wide. Within these goals, WSDA provides leadership and support in developing and implementing statewide natural resources policies that affect agricultural stakeholders. WSDA works closely with the Conservation Commission, Farm Services Agency, and Conservation Districts to implement programs related to salmon recovery.

Endangered Species Program (ESP). WSDA's Endangered Species Program (ESP) addresses the potential impact of pesticides on threatened and endangered species. The goal of this program is to work with the agricultural community and regulatory agencies to protect aquatic resources. The ESP staff is collaboratively developing geo-spatial tools that will be used to identify, evaluate and potentially mitigate pesticide impacts to threatened and endangered species.

Program Significance to Recovery: The Endangered Species Program is important to recovery because it regulates the use of pesticides and fertilizers that impact listed salmonid species.

Program Type: Protection

Applicable Subbasins: All

State Noxious Weed Control Board. The board has three primary programs that address weed control. These include public education geared towards preventing the spread of noxious weeds, county surveys to assess emerging issues, and enforcement of noxious weed control. Lewis, Skamania, Wahkiakum, Clark, and Cowlitz Counties all have local noxious weed control boards. Each year, the State Noxious Weed Control Board develops its 'hit list' of noxious weeds. The list exhibits the Board's priorities and values in terms of prevention and eradication. The county noxious weed boards implement education, surveys, and enforcement programs and are funded through property assessments and grant programs.

Program Significance to Recovery: The State Noxious Weed Control Boards and County Noxious Weed Control Boards are important to recovery because they are the first line of defense against exotic plant species. Their mission of identification, education, and enforcement are critical to the success of recovery.

Program Type: Protection, Restoration, and Education

Applicable Subbasins: All

Comprehensive Irrigation District Management Plan Program (CIDMP). WSDA's Comprehensive Irrigation District Management Plan Program is a pioneering effort to provide guidance to irrigation districts and other water users in developing management plans for simultaneously meeting the requirements of the CWA and ESA. This process is intended to integrate these acts through a voluntary, incentive-based approach. The guidance manual outlines an agreed upon process that is open to refinement and adoption in accordance with the needs of the planning proponents, agency representatives and others participating in the plan development. The ultimate goal of this process is to

protect and enhance our state’s natural resources and help in the recovery of salmon and bull trout while providing irrigation districts or other water users assurances that completion of their management plans will allow them to achieve compliance with ESA and CWA and remain economically viable. This program is currently not implemented and likely has limited potential in the Lower Columbia Region because agriculture irrigation in the region is minor.

Program Significance to Recovery: The Comprehensive Irrigation District Management Plan Program is important to recovery because of its potential to positively affect water quality and quantity. If the program is implemented, it will likely benefit the region through Columbia River Mainstem and Estuary benefits.

Program Type: Protection and Restoration

Applicable Subbasins: All; especially the Columbia River Mainstem and Estuary

C.4.6. Department of Ecology

Water Resources Program. The goal of the Water Resources program is to manage water resources to meet the current and future needs of the natural environment and Washington’s communities. The program applies to all sixty-two water resource inventory areas (WRIAs), and is regulated by chapter 90 of the Revised Code of Washington (RCW). The major activities of the Water Resources program include administering water rights adjudication and compliance, restoring and maintaining stream flows, conservation and re-use of agricultural and municipal water supplies, well construction regulation, dam safety, and drought response. It also tracks ambient monitoring of flow, water quality, and lake stations, and the results of ecology studies.

Program Significance to Recovery: The Water Resources Program is important to recovery because it is charged with managing the State’s water resources and finding the appropriate balance between the environment and people—fish need cool, clean water in abundant supplies and so do people.

Program Type: Protection and Restoration

Applicable Subbasins: All

Shorelines and Environmental Assistance (SEA) The Shorelines and Environmental Assistance Program is responsible for implementing the Shorelines Management Act, the State Environmental Protection Act, the Watershed Planning Act, and 401 Certification of ACOE Permits. The State Environmental Policy Act (SEPA) Chapter 43.21C RCW, was enacted in 1971 to ensure that governmental decisions are made with an understanding of their potential impacts on the natural and built environments. In growth management planning, SEPA review is triggered when a county or city proposes adoption of county-wide planning policies, comprehensive plans, subarea plans, or development regulations. SEPA is also triggered when local governments process permit applications for projects that meet thresholds defined in SEPA. Under the Shorelines Act, local jurisdictions are required to develop Shoreline Master Plans to ensure that clearing and grading regulations are consistent with the Act. A Shoreline Substantial Development Permit (Shoreline Permit) is required for substantial development that occurs within 200 feet of the shoreline. Under the authority of the Shorelines Management Act, the Department of Ecology (Ecology) establishes guidelines and reviews permits.

To help manage water resources, the legislature passed 90.82 Watershed Planning Act. The act envisioned water interests at the local level developing policies to address water supply, instream flow, habitat, and water quality against the backdrop of balancing environmental and anthropocentric needs. Within the region, three planning units were formed to receive funding from Ecology and develop a management plan for water. Planning Units were formed around WRIAs 25/26, 27/28, and 29. Management plans are expected from the first two Planning Units by December 2004 containing recommendations for stream flow protection and developing water supplies. Ecology expects to implement recommendations generated from the management plans pertaining to instream flows within 24 months of plan approval.

Program Significance to Recovery: The Shorelines and Wetlands Section is important to recovery because it implements programs designed to protect the state's waters. Individually, these programs are fundamental to recovery in terms of protecting instream flows, riparian areas, and floodplains.

Program Type: Protection

Applicable Subbasins: All

Water Quality Program. The goal of the Water Quality Program is to protect and restore Washington's waters by preventing point source pollution and reducing non-point sources, as well as managing stormwater and pollution cleanup. The program provides financial assistance to local governments, state agencies, and tribes for facility improvements to protect water quality, as well as funding non-point source control projects such as watershed planning, and stormwater management. Other activities include monitoring and studies off aquifer vulnerability, groundwater quality, and critical aquifer recharge areas. It provides technical and general information on stormwater, wastewater, and water reuse programs. It also grants general, industrial, wastewater and stormwater permits, and certifies dams.

The Department of Ecology addresses water quality issues through its Water Cleanup Plans based upon the federal Clean Water Act, Section 303d. The TMDL Program establishes a new 303(d) list of polluted water body segments every two years and submits the list to the U.S. Environmental Protection Agency. Ecology is then responsible to set priorities and prepare Cleanup Plans for the impaired water body segments. A Cleanup Plan is designed to restore the beneficial use of the impaired waters. It consists of an analysis of how much pollution a water body segment can receive, recommendations for controlling point source and nonpoint source pollution, and a monitoring plan to ensure the effectiveness of cleanup actions.

Program Significance to Recovery: The Water Quality Program is important to recovery because it regulates activities that may potentially impair watershed health to the detriment of the various life stages of salmonids.

Program Type: Protection and Restoration

Applicable Subbasins: All

C.4.7. Recreation and Conservation Office

Salmon Recovery Funding Board. In 1999 the Washington State Legislature enacted the Salmon Recovery Act (RCW 77.85) and the Salmon Recovery Funding Board (SRFB). Composed of five citizens appointed by the Governor and five non-voting state agency directors, the board brings together the

experiences and viewpoints of citizens and the major state natural resource agencies. The board provides grant funds to protect or restore salmon habitat and assist related activities with local watershed groups known as lead entities. SRFB has helped finance over 500 salmon recovery projects statewide. It also supports related programs and activities that produce sustainable and measurable benefits for fish and their habitat.

Program Significance to Recovery: The SRFB is important to recovery because it is the principle funding entity for restoration and protection projects in the region. Its continued and increased support for these projects is fundamental to achieving habitat goals.

Program Type: Protection and Restoration

Applicable Subbasins: All

Aquatic Lands Enhancement Account. The Aquatic Lands Enhancement Account (ALEA) was established in 1984 with the passage of Chapter 79.90 RCW. The ALEA Grant Program is used to provide grant support for the purchase, improvement, or protection of aquatic lands for public purposes, and for providing and improving access to such lands. It is guided by concepts originally developed by DNR, including reestablishment of naturally self-sustaining ecological functions related to aquatic lands, providing or restoring public access to the water, and increasing public awareness of aquatic lands as a finite natural resource and irreplaceable public heritage. All projects must be consistent with the local shoreline master program and must be located on lands adjoining a water body that meets the definition of "navigable." Projects intended primarily to protect or restore salmonid habitat must be consistent with the appropriate lead entity strategy or regional salmon recovery plan. Aquatic lands are defined as lands directly or physically adjoining navigable water bodies, and marine tidelands and/or adjoining uplands, freshwater shorelands and and/or adjoining uplands, bedlands of navigable water bodies, and wetlands or riparian areas of publicly controlled uplands adjoining navigable water bodies.

Program Significance to Recovery: The Aquatic Lands Enhancement Account Program is important to recovery because it provides an important funding source for restoration and protection projects in the region.

Program Type: Protection and Restoration

Applicable Subbasins: All

Washington Wildlife and Recreation Program. The Washington Wildlife and Recreation Program (WWRP) was established in 1990 with the passage of Chapter 79A.15 RCW. WWRP is administered by the Recreation Conservation Funding Board to provide funding assistance for a broad range of land protection, park development, preservation/conservation, and outdoor recreation facilities. This program has two primary goals: First, to assist with the rapid acquisition of the most significant lands for wildlife conservation and outdoor recreation purposed before they are converted to other uses; Second, to develop existing public recreation land and facilities to meet the needs of present and future generations. By statute, WWRP is divided into two accounts: 1) the Habitat Conservation Account and 2) the Outdoor Recreation Account. Each account receives half of the total WWRP appropriation. These accounts contain specific funding categories. The Habitat Conservation Account includes the categories of Critical Habitat, Natural Areas, and Urban Wildlife Habitat. Any of these categories could provide protection for salmon. State Agencies are the only eligible participants for all three categories except Urban Wildlife Habitat also includes Local Agencies.

Program Significance to Recovery: The Washington Wildlife and Recreation Program is important to recovery because it provides an important funding source for restoration and protection projects in the region.

Program Type: Protection and Restoration

Applicable Subbasins: All

C.4.8. Department of Fish and Wildlife (WDFW)

Habitat Protection and Restoration. WDFW's Habitat Division supports a variety of programs that address salmonids and other wildlife and resident fish species. These programs are organized around *habitat conditions* (Science Division, Priority Habitats and Species, and the Salmon and Steelhead Habitat Inventory and Assessment Program); *habitat restoration* (Landowner Incentive Program, Lead Entity Program, and the Conservation and Reinvestment Act Program, as well as technical assistance in the form of publications and technical resources); and *habitat protection* (Landowner Assistance, GMA, SEPA planning, Hydraulic Project Approval, and Joint Aquatic Resource Permit Applications). Collectively, these programs are instrumental in providing technical information, leadership, funding, and regulatory insight and protections.

Hydraulic Project Approval. The Hydraulic Code requires that any person, organization, or agency proposing to conduct any construction activity that will use, divert, obstruct, or change the bed or flow of state waters must do so under the terms of a permit (called the Hydraulic Project Approval-HPA) issued by WDFW. This could involve streambank protection; construction of bridges, piers, and docks; pile driving; channel change or realignment; conduit (pipeline) crossing; culvert installation; dredging; gravel removal; pond construction; placement of outfall structures; log, log jam, or debris removal; installation or maintenance of water diversions; and mineral prospecting. Projects that are issued HPA Permits have been scrutinized for their impacts to watershed processes and habitat conditions.

Program Significance to Recovery: The Hydraulic Project Approval Program is important to recovery because through its regulatory authority and technical input to proposed projects, it has the ability to protect instream resources.

Program Type: Protection Applicable

Subbasins: All

Wildlife Division. This multi-program division is responsible for wildlife species throughout the state, including management, research, planning, and monitoring. WDFW is currently developing a Comprehensive Wildlife Conservation Strategy (CWCS) to receive grants from the federal Wildlife Conservation and Restoration Program. Guiding principles for Washington's CWCS include conservation of species and habitats with greatest conservation need while recognizing the importance of keeping common species common, and to build and strengthen conservation partnerships with other conservation agencies, tribes, local governments, and NGOs.

Program Significance to Recovery: Wildlife Division management, research, planning, and monitoring programs are important to recovery because these programs collectively influence ecosystem health, including food webs that support salmonids.

Program Type: Protection and Restoration

Applicable Subbasins: All

Enforcement Program. The WDFW Enforcement Program is responsible for responding and providing assistance to the public natural resource law compliance and wildlife complaints. This includes compliance with licensing and habitat requirements and enforcing prohibitions against the illegal taking or poaching of fish and wildlife. Officers also provide first response to human/wildlife conflicts including bear and cougar complaints, deer and elk damage to crops, other problem wildlife incidents, and public safety issues.

Program Significance to Recovery: WDFW Enforcement is important to recovery because the program has the authority to ensure that statutes, rules, and policies are enforced. The program also proactively addresses enforcement through education and outreach activities.

Program Type: Protection and Education

Applicable Subbasins: All

Hatchery Program. Washington Department of Fish and Wildlife operates a series of hatcheries throughout the Lower Columbia Basin. For more information please see Volume I Recovery Plan and Volume II Subbasin Plan.

State Fishery Regulations. Regulations for Lower Columbia tributary sport fisheries are developed through state public process and adopted into law by the respective Fish and Wildlife Commissions of Washington and Oregon for their jurisdictional waters. Mainstem Columbia joint waters are coordinated for consistency in the Compact forum (see below) but are adopted into law by the respective states. The state regulatory process includes adoption of permanent rules as well as emergency regulations to enable quicker adjustments of fisheries when needed to meet conservation objectives or provide additional harvest opportunity. The state regulations are made consistent with management strategies reached in the NOF process.

Columbia River Compact. In 1918, the U.S. Congress ratified a compact between Oregon and Washington covering concurrent jurisdiction of Columbia River fisheries. Periodic hearings to adopt or review seasonal commercial regulations are held just before major fishing seasons to consider current information and establish season dates and gear restrictions. Additional hearings are held in-season when updated information concerning run size, attainment of escapement goals, or catch guidelines indicates a need to adjust the season. The Compact jurisdiction includes the Columbia River from the mouth to just upstream of McNary Dam. The Compact sets fishing seasons in the non-Indian commercial Zones 1-5 (Mouth to Bonneville Dam) and in the treaty Indian commercial area Zone 6 (Bonneville Dam to McNary Dam).

Program Type: Regulatory

Applicable Subbasins: All

C.4.9. Parks and Recreation Commission

Washington State Parks and Recreation Commission acquires, operates, enhances and protects a diverse system of recreational, cultural, historical and natural sites. In the Lower Columbia Region, there are five state parks, including Lewis and Clark, Seaquest, Battle Ground Lake, Paradise Point, and Beacon Rock. Of these parks, Beacon Rock and Paradise Point State Parks are most relevant to recovery. Beacon Rock State Park is a 4,650-acre year-round camping park with historic significance dating back

hundreds of years. Located in the Columbia River Gorge National Scenic Area, Beacon Rock includes 9,500 feet of freshwater shoreline on the Columbia River and encompasses most of the Hardy Creek watershed above the USFWS Pierce Refuge. Paradise Point State Park is an 88-acre camping park with 6,180 feet of freshwater shoreline on the East Fork Lewis River. The Park's central attraction is water access to the East Fork Lewis, including a swimming area within the river.

Program Significance to Recovery: Beacon Rock and Paradise Point State Parks are important to recovery because they are publicly owned lands in important watersheds within the Region. Beacon Rock State Park is large enough that management actions in the park make significant contributions to habitat and watershed conditions in Hardy Creek. Paradise Point State Park is important to recovery because of active instream uses.

Program Type: Protection, Restoration, and Education

Applicable Subbasins: East Fork Lewis and Bonneville Tributaries

C.5. Local Government Programs

Local government programs are as diverse and unique as the various agencies that implement them. This is because local agencies are responsive to the needs of their citizens and not every approach works in all situations. To capture this uniqueness, the Local Government Programs Section summarizes programs that are, for the most part, common to all local agencies in the Lower Columbia Region. Following the summaries, agency-specific information is detailed to show how the various local governments address the issues they face.

State Environmental Policy Act (SEPA). The State Environmental Policy Act (SEPA) Chapter 43.21C RCW, was enacted in 1971 to ensure that governmental decisions are made with an understanding of their potential impacts on the natural and built environments. In growth management planning, SEPA review is triggered when a county or city proposes adoption of county-wide planning policies, comprehensive plans, subarea plans, or development regulations. SEPA is also triggered when local governments process permit applications for projects that meet thresholds defined in SEPA. Some communities adopted comprehensive plans under the Growth Management Act (GMA) with detailed Environmental Impact Statements (EIS) that project developers can use instead of individual environmental analyses. Other communities have less detailed EISs that will need to be supplemented for later actions. Options remain for communities that did not combine growth management and SEPA. Subarea, transportation, sewer, water, stormwater, and other plans can produce better results than parcel-by-parcel, project-by-project environmental review. A number of communities have found the subarea – a neighborhood, industrial area, downtown, or highway corridor – provides the most “bang-for-the-buck” in striking a balance between protecting the environment and encouraging development.

SEPA review procedures should rely first on critical areas review requirements to address environmental impacts. Local governments are encouraged to complete review under the critical areas regulations prior to making a threshold determination. Counties and cities may then make a determination that some or all of the environmental impacts of a project have been adequately addressed by critical areas regulations.

Program Significance to Recovery: SEPA is important to recovery because it provides a framework for analyzing the effects of plan/project implementation on the environment at the local level. Because SEPA is tied directly to comprehensive planning, it helps to ensure that potential impacts to watershed health are understood and that solutions are incorporated into growth planning.

Program Type: Protection

Applicable Subbasins: All

Comprehensive Planning (CAO). Comprehensive planning is a statement of policies and goals that guides growth and development throughout the County. The purpose of a comprehensive plan is to manage the County's growth in an orderly, positive, and constructive fashion. All other development ordinances, including land use (zoning), subdivision, and environmental regulations must be in compliance with and consistent with this Comprehensive Planning document. Examples ordinances include zoning, critical areas, shoreline, roads, parks, urban growth boundaries, and weed control. Collectively, these programs are regulatory in nature and protect natural resources by directing and managing population growth.

Program Significance to Recovery: Comprehensive Planning is important to recovery because it is fundamental to ensuring an appropriate balance between people and watershed health by proactively guiding the various regulatory ordinances in an orchestrated approach.

Program Type: Protection

Applicable Subbasins: All

Critical Areas Ordinance. Critical Areas Ordinances identify restrictions to land use activities that occur within defined geographic areas. The goal of these ordinances is to designate critical areas and assure their conservation. Critical areas are defined as wetlands; aquifer recharge areas; fish and wildlife habitat conservation areas; frequently flooded areas; geologically hazardous areas; ponds and lakes; and streams, creeks and rivers. Geologic hazard areas include lands classified as landslide hazard areas, erosion hazard areas, seismic hazard areas, mine hazard areas, and volcanic hazard areas. Critical Aquifer Recharge Areas (CARAs) are highly susceptible to contamination because of high soil permeability and high water table. Development activities such as waste disposal facilities, storage of hazardous substances, utility transmission facilities, and land divisions are regulated according to the Washington Administrative Code.

Flood Hazard Areas. Development in flood hazard areas is regulated to protect the health and safety of its citizens. It accomplishes this goal by defining a Flood Plain Overlay District and limiting construction or reconstruction of structures. The Flood Plain Overlay District is based upon areas identified by Federal Emergency Management Agency as special flood hazards. Frequently flooded areas are those identified in the Federal Emergency Management Agency (FEMA) and approved by the County as within the 100-year flood plain. Development within these areas must comply with the County floodplain management ordinance.

Critical Areas (Geologic Hazard Areas). Geologically hazardous areas are those areas susceptible to erosion, sliding, earthquake or other geological event that pose a threat to the health and safety of the public. Landslide and erosion hazard areas require grading and erosion control. Seismic hazard areas must comply with the Uniform Building Code. Mine hazard areas may require a geotechnical assessment, and development of volcanic hazard areas must comply with FEMA regulations for floodplain management.

Erosion hazard areas are sites designated by the USDA Soil Conservation Service as containing highly erodible or having the potential to become highly erodible due to disturbance of ground cover.

Seismic hazard areas are areas subject to a severe risk of earthquake damage as a result of seismically induced ground shaking, slope failure, differential settlement, soil liquefaction, or surface faulting.

Volcanic hazard areas are areas that have potential risk to life and property by mudflows or flooding as a result of volcanic activity from Mt. St. Helens.

Landslide hazard areas are areas within the County or City that are subject to potential slope failure due to a combination of geologic, topographic and hydrologic factors.

Critical Areas (Fish and Wildlife Habitat). The purpose of this category of ordinance is to protect areas important to fish and wildlife habitat. Examples include areas associated with endangered or threatened species, areas of local importance, spawning area, naturally occurring ponds, and waters of the state. Development activities in areas that are designated for fish and wildlife habitat conservation are regulated.

Flood Damage Prevention. The purpose of this ordinance is to promote the general welfare and to minimize public and private losses due to flood conditions in specific areas. This goal is accomplished by restricting uses that are dangerous to health, safety and property. Development within floodplains must comply with the following standards: altered or relocated waterways within a floodplain must be maintained so that flood-carrying capacity is not diminished, development that threatens to adversely alter the flood of floodwaters or adversely affect a floodway is prohibited, all new construction must be anchored, and all new construction must be from materials resistant to flood damage. The floodplain management ordinance implements the Washington State flood control zone permit program, regulates floodplain development, is intended to minimize the need for emergency rescue and expenditure of public money on flood control project, ensures that those occupying flood hazard areas assume responsibility, and implements FEMA.

Program Significance to Recovery: The various critical areas ordinances referenced above are important to recovery because they regulate environmentally sensitive areas relative to new development activities. It is important that local governments in the Lower Columbia Region protect these sensitive areas utilizing appropriate regulatory tools available to them.

Program Type: Protection

Applicable Subbasins: All

Shoreline Management Act (SMA). Under the Shorelines Act, local jurisdictions are required to develop Shoreline Master Plans comprehensively manage activities within shorelines. A Shoreline Substantial Development Permit (Shoreline Permit) is required for substantial development that occurs within 200 feet of the shoreline or stream having flows over 20 cfs. Substantial development is defined by state law (RCW 90.58.030) and generally includes any development that is valued at more than \$2,500 or interferes with the normal public use of the surface waters. Some types of developments are exempt from shoreline permits such as constructing a single family home or building a dock for your home; however activities must be consistent with regulations. This permit is required in addition to any land use permit (zoning, special use or conditional use) that is required for the project. Shoreline Environment designations and development standards to protect shorelines should be consistent with provisions to protect critical areas (CTED, 2003).

Program Significance to Recovery: Shoreline Master Plans are important to recovery because they represent a layer of regulatory protection that addresses substantial development within riparian areas and floodplains.

Program Type: Protection

Applicable Subbasins: All

Stormwater Management. The purpose of this category of ordinance is to help protect individual property rights, preserve fish habitat, and promote sound development activities that respect and preserve water quality through the Clean Water Act. The provisions are intended guide development activities, and help guide the adequacy of submitted drainage plans. Ecology's Stormwater Management Manual describes design criteria for surface and stormwater discharge locations, analysis of off-site conditions, runoff control, infiltration basins, and water quality control. Other BMPs include runoff treatment, streambank erosion control, erosion and sedimentation control, and wetland quality control.

Program Significance to Recovery: Stormwater Management Ordinances are important to recovery because they represent a layer of regulatory protection that addresses hillslope runoff and water quality.

Program Type: Protection

Applicable Subbasins: All

Growth Management Act (GMA). The planning goals of the GMA (RCW 36.70A.020) focus on issues such as urban growth, transportation, housing and economic development, as well as natural resource lands preservation and environmental protection issues. The environmental planning goals specifically address critical areas, including wetlands, critical aquifer recharge areas, fish and wildlife habitat, frequently flooded areas and geologically hazardous areas. The GMA requires counties and cities to adopt development regulations, reflective of the best available science, that preclude land uses or development deemed incompatible with those critical areas (RCW 36.70A.172) (Parsons, 2001). The GMA additionally requires all local governments to address water quality and quantity in their planning and implementation considerations, including designation and protection of critical areas and aquifer recharge areas and wetlands.

The GMA minimizes clearing and grading activities and limits soil disturbance activities within critical areas. To be consistent with the requirements for critical areas, standards for clearing and grading should be adopted to regulate activities prior to site development approval. An option can be included to limit the percent of a site that can be cleared in keeping with low impact development site planning. Clearing and grading exemptions should not include project areas located within critical areas or buffers, even when the proposed alteration is for less than fifty (50) cubic yards (CTED 2003).

Counties and Cities may regulate certain elements of the Critical Area Ordinance at their discretion including the following:

Mitigation projects are those actions necessary to replace project-induced critical area and associated buffer setback losses. Such actions avoid, minimize, or compensate for adverse impacts to regulated critical areas or their buffers. Mitigation can also include Mitigation Bank credits that are awarded for projects that create new wetlands, or enhance or restore existing disturbed wetlands.

Exemptions from these provisions include emergency actions, existing and on-going agricultural operations, maintenance and repair of existing structures and utilities, modification of existing buildings, navigation aids and boundary marker construction, site investigative work, non-developmental activities such as recreation, activities aimed at controlling *Spartina Alterniflora*, and Forest Practices.

Variations can be granted if special conditions exist peculiar to the land, that a literal interpretation of the provisions would deprive the person of their property rights enjoyed by those who conform to the ordinance, that the special conditions are not the result of actions of the person seeking the variance, that the variance will not confer a special privilege, that the variance is the minimum necessary to afford relief, and that the variance will not create significant impacts to critical areas and resource lands.

Program Significance to Recovery: Growth Management Act Planning is important to recovery because these plans are the foundation and guidance that cities and counties use to regulate population growth and potential impacts that are associated with growth. GMA also requires jurisdictions to 'give special consideration to conservation or protection measures necessary to preserve or enhance anadromous fisheries

Program Type: Protection

Applicable Subbasins: All

Regulations that are distinct to specific Counties and Cities are noted in the following sections on local government:

C.5.1. Skamania County

Comprehensive Plan. Skamania County has adopted a non-GMA comprehensive plan. Other typical County-level ordinances, stormwater management and erosion control, weed control, and clearing and grading are not in place in Skamania County; however, some of the protections are addressed in existing programs. Skamania County has adopted special land use and environmental regulations implementing the Columbia River Gorge National Scenic Area Act for some areas within their jurisdiction. Skamania County Critical Areas Ordinance does not apply within the Scenic Act area.

Areas Ordinance

<i>Wetland</i>	<i>Ponds/Lakes</i>	<i>Streams, Creeks & Rivers</i>
Class I—200'	Class I—150'	Class I—100'
Class II—100'	Class II—100'	Class II—100'
Class III—50'	Class III—50'	Class III—100'
Class IV—25'	Class IV—25'	Class IV—50'
		Class V—25'

Shoreline Management. Skamania County’s Shoreline Management Ordinance protects these shorelines from substantial development and extensive timber harvest within a 200’ zone; the Shoreline Management Ordinance does not preclude development adjacent to shorelines, instead it requires that appropriate permits are obtained and approved.

C.5.2. Clark County

Comprehensive Plan. Clark County is a Growth Management County and is currently in the process of updating its comprehensive plan.

Critical Areas Ordinance. Clark County has the following ordinances that address critical areas:

Critical Aquifer Recharge Areas. Class I and II critical aquifer recharge areas relate to groundwater wells and underlying aquifers, notably the unconsolidated sedimentary aquifer and the Troutdale gravel aquifer. CARA’s are present in most of Clark County west of the Cascade foothills.

Geological Hazards. Protects against excessive sediments entering streams.

Riparian Priority Habitats. Areas extending outward from high water mark to the edge of the one-hundred year floodplain, or the following distances, if greater:

DNR Type 1 & 2 waters:	250'
DNR Type 3 waters:	200'
DNR Type 4 & 5 waters:	150'

Priority Habitats & Species. Areas identified and consistent with the Washington Department of Fish and Wildlife; 1000’ of individual species point sites.

Locally Important Habitats and Species. Areas legislatively designated and mapped by the County because of unusual or unique habitat warranting protection because of qualitative species diversity or habitat system health indicators.

Wetlands. Buffers are determined based upon the category of wetland and the quality of the buffer. Clark County is statutorily required to review and upgrade the ordinance periodically. Adjusted base buffer widths are dependent upon the quality of the wetland and are adjusted by type as follows:

<i>Wetland Type</i>	<i>Buffer widths</i>
Category 1:	300'
Category 2:	200'
Category 3:	100'
Category 4:	50'

<i>Wetland Type</i>	<i>Maximum Buffer</i>
Type A	40%
Type B	30%
Type C	15%
Type D	0%

ESA Program. In response to the listings of threatened fish, Clark County has implemented an Endangered Species Program to address ESA requirements and develop a comprehensive salmon recovery strategy. The strategy involves cooperation among numerous groups, including federal, state, and local governments; citizen groups Native American groups, the business community, and environmental groups. The goal of the programs is to recover threatened and endangered species and to conserve habitats necessary to restore and support healthy, viable populations of native species. The program provides information to citizens and governments to help facilitate decisions on actions that have the potential to impact fish populations. This includes education and outreach programs to encourage salmon-friendly habits and use of best management practices. Clark County has developed a 4(d) Compliance Work Plan to ensure that the County's ordinances respond to statutory mandates surrounding environmental issues. The plan includes reviewing three basins in the County to develop a baseline survey of the biological health of fish in these basins. This information is used by the County to determine how its ordinances, for growth and development, will impact salmon.

Road Operations. Clark County developed a road operations program has obtained compliance under the ESA 4d Limit, Section 10. The program follows a Best Management Practice Manual that was developed in conjunction with Puget Sound jurisdictions and NMFS. The Road Operations Program ensures that Best Management Practices are followed for road construction and maintenance, employee training, research, and monitoring and reporting.

Parks Operations. Clark County park maintenance and operations activities have been reviewed and restructured to reduce risk to watershed health and to enhance habitat where possible. This program is important as parks and open space represent opportunities to conserve important habitat and implement restoration activities.

Conservation Futures. Clark County's Conservation Futures program acquires open space, critical habitat, and parklands. In some cases, the lands acquired are then targeted for restoration activities for salmonids, as well as other fish and wildlife values.

Other Programs. Clark County has a variety of other programs that have important contributions to watershed health and salmonid recovery. They include weed management, education, watershed planning, NPDES stormwater, restoration partnerships, regional networks, and monitoring. Clark County also has several programs in various stages of development or is considering them in concept, including a watershed template, and outreach. The County also inventories and replaces priority barriers associated with its roads.

C.5.3. Cowlitz County

Comprehensive Plan. Cowlitz County adopted a non-GMA Comprehensive Plan on November 1, 1976. It updated its Comprehensive Plan to the minimum requirements of the GMA by adding a critical areas ordinance on June 24, 1996.

Critical Area Ordinance. Cowlitz County has a wetlands ordinance. Wetlands are divided into four classifications and development activities are regulated accordingly. Buffer widths are determined according either to soil type or function for wildlife and fisheries. Buffer widths determined according to soil type range from 40' to 200'. Buffer widths determined according to function and value for wildlife and fisheries range from 75' to 200', depending upon the wetland acreage and special sensitivities such as heritage sites, bogs, and mature forested swamps.

Other Programs. The County has a culvert replacement program and has acquired lands to protect riparian habitat.

C.5.4. Lewis County

Comprehensive Plan. The Lewis County Comprehensive Plan was adopted June 1, 1999. It was amended on December 18, 2000 and April 4, 2002. Lewis County is in the process of becoming compliant with the GMA. The County is required to update its Critical Areas Ordinances by the end of 2005 to be compliant with Best Available Science and the GMA.

Critical Areas Protection (Wetlands). Wetlands are identified through the Corp's Wetland Delineation Manual, and are classified as either Class A (a category I or II wetland under the Department of Ecology rating system) or Class B (a category III or IV wetland under the Department of Ecology rating system). Wetland buffers are determined based on the class of the wetland and the level of intensity of uses of the wetland, whether the area is urban or rural, and whether there is an allowed alteration to the buffer or a buffer enhancement. The types and buffers based on intensity of use and replacement ratios are as follows:

<i>Wetland Type</i>	<i>High Intensity Use</i>	<i>Low Intensity Use</i>
Class A	100'	50'
Class B	50'	50'

<i>Wetland Type</i>	<i>Replacement Ratio</i>
Class A, category 1:	4:1
Class A, category 2:	2:1
Class B:	1.5:1

Critical Areas Protection (Fish Habitat). The County adopts the Department of Natural Resources Official Water Type maps. Streams are classified as types one through five based on water-typing criteria (channel width, gradient, flow, impoundment, fisheries, diversion, and others). Buffer requirements are as follows:

<i>Stream Type</i>	<i>High Intensity Use</i>	<i>Low Intensity Use</i>
Rural Stream Type 1	100'	50'
Rural Stream Type 2	100'	50'
Rural Stream Type 3	100'	50'
Rural Stream Type 4	50''	25'
Rural Stream Type 4	25'	25'
Urban Stream Type 1	100'	50'
Urban Stream Type 2	75'	50'
Urban Stream Type 3	50'	50'
Urban Stream Type 4	25''	25'
Urban Stream Type 5	10''	10'

Critical Areas Protection (Wildlife Habitat). A site is critical wildlife habitat when the habitat exists, is used for at least two consecutive seasons prior to the permit application, and, within urban areas, when the species will likely continue to use the habitat once full urbanization is reached. Lewis County adopts the WDFW Management Recommendations for Washington’s Priority Habitat and Species, as may be amended, for guidelines for habitat protection and buffer creation and maintenance for listed species. Buffers in urban areas take precedence over other critical area buffers; in rural areas the buffers shall be overlapping and the most restrictive will apply. The wildlife habitat criteria are recommended by the Washington State Department of Fish and Wildlife, and are mandatory only to the extent that they are part of a program adopted as a regulation by the WDFW, reasonably ascertainable, and properly applicable.

Critical Areas Protection (Aquifer Recharge Areas). Aquifer recharge areas are categorized as severely, moderately or slightly sensitive. Certain development activities are prohibited, depending upon aquifer category, and whether it is a high or low intensity use.

Flood Damage Prevention. The purpose of the flood damage prevention chapter is to promote the general welfare and to minimize public and private losses due to flood conditions in the areas specified by the provisions. The special flood hazard areas are identified by the Federal Insurance Administration engineering report on the Lewis County.

Stormwater Management. The purpose of the stormwater management chapter is to help protect individual property rights, preserve fish habitat, and promote sound development activities that respect and preserve water quality. The provisions are intended guide development activities, and the adequacy of submitted drainage plans is determined according to the Dept. of Ecology’s Stormwater Management Manual.

Other Programs. Lewis County Public Works program has inventoried culverts on county roads and is replacing and/or upgrading barrier culverts.

C.5.5. Wahkiakum County

Comprehensive Plan. Wahkiakum County is currently in the process of developing its non-GMA Comprehensive Plan. Its status is currently in Planning Commission review and public comment period.

Critical Area Ordinance. The purpose of this chapter is to identify and protect critical areas and protect human health and safety as required by the Growth Management Act (GMA). Critical Areas include wetlands and frequently flooded areas.

Critical Areas (Wetlands). Wahkiakum County defines wetlands as areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient under normal circumstances to

support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are classified according to the Washington State Wetland Rating System for Western Washington, Second Edition. Development with a designated wetland is regulated, and carries buffer requirements. Buffer requirements are based on the category of wetland, and the intensity of the proposed land use. These standards may be modified in certain circumstances.

<i>Wetland Type</i>	<i>High Intensity Use</i>	<i>Low Intensity Use</i>
Category 1	200'	150'
Category 2	150'	100'
Category 3	75'	50'
Category 4	50''	25'

Wetland replacement ratio is based on the Washington State Department of Ecology publication entitled "Wetland Mitigation Replacement Ratios: Defining Equivalency."

<i>Wetland Type</i>	<i>Replacement Ratio</i>
Category 1:	6:1
Category 2 or 3: Forested	3:1
Category 2 or 3: Shrub	2:1
Category 2 or 3: Emergent	2:1
Category 4:	1.25:1

Critical Areas (Fish and Wildlife). Riparian zones are required for all regulated activities adjacent to streams, and are as follows:

<i>Stream Type</i>	<i>High Intensity Use</i>	<i>Low Intensity Use</i>
Stream Type 1	100'	50'
Stream Type 2	100'	50'
Stream Type 3	75'	50'
Stream Type 4 & 5	50''	25'

Frequently Flooded Areas. Frequently flooded areas are those areas identified in the Flood Insurance Study for Wahkiakum County for FEMA as those areas falling within the 100-year floodplain.

Other Programs. The County maintains an active and ongoing program identifying and replacing culverts that are a barrier to fish passage.

C.5.6. Pacific County

Comprehensive Plan. The County adopted its GMA Comprehensive Plan in October, 1998.

Critical Areas Ordinance. Critical areas and resource lands as defined by this ordinance may not be altered in the absence of express approval by Pacific County.

Critical Areas (Wetlands). Wetlands are determined according to the "Washington State Wetlands Identification and Delineation Manual." If Pacific County has reason to believe that a wetland may exist within 100 feet of a proposed development activity, a written determination (by USACE, Dept. of Ecology, or a qualified critical areas professional) must be submitted. Insufficient wetland buffers are treated as a loss of wetlands. If a wetland exists, it must be classified according to the Wetland Rating Classes scale as follows:

<i>Wetland Type</i>	<i>Buffer Width</i>
Class 1:	standard

Class 2:	standard
Class 3:	standard
Class 4:	standard

Wetland Mitigation: Any loss of wetlands shall be mitigated by creating or restoring new wetlands. Ratios of wetlands created or restored to wetlands impacted are as follows:

<i>Wetland Type</i>	<i>Replacement Ratio</i>
Category 1:	4:1
Category 2:	2:1
Category 3 or 4:	1.5:1

Critical Areas (Fish Habitat). Pacific County’s adopted DNR’s Official Water Type Maps. Prohibited activities within stream setbacks include removal of more than 30% of stream bank tree canopy within any ten years, land filling or grading, and land clearing or vegetation removal that results in exposure of bare earth. Standard stream setback width requirements are as follows:

<i>Stream Type</i>	<i>Buffer requirement (setback)</i>
Type 1:	100’
Type 2	100’
Type 3	100’
Type 4	50’
Type 4	25

Critical Areas (Frequently Flooded Areas). Frequently flooded areas are those floodways and associated floodplains designated by FEMA, or by the comprehensive flood management plan adopted by the Pacific County Board of County Commissioners.

Critical Areas (Aquifer Recharge Areas). An aquifer recharge areas is any land within Pacific County that contains soil types as listed in the “Soil Survey of Grays Harbor County Area, Pacific County, and Wahkiakum County, Washington,” 1986, Soil Conservation Service, USDA. These types include beaches, dune sand, netarts fine sand, and orcas peat. Protection standard for new development activities such as solid waste landfills, creosote manufacturing or treatment, and chemical manufacture or reprocessing are not permitted within designated Aquifer Recharge Areas. New residential developments require minimum net land areas when gravity on-site septic systems are proposed, and certain new non-residential development activities require an Aquifer Recharge Area Report.

Critical Areas (Geologically Hazardous Areas). Erosion and Landslide areas: Grading and other construction activities shall not aggravate slope instability, undergrowth shall be preserved, no slash or other foreign material may be used, and ground disturbance minimized. Land use activities must also conform to ground surface erosion control management standards, drainage standards, buffers, and design guidelines as specified in the ordinance.

Critical Areas (Mine Hazard Areas). Development is prohibited within these areas.

C.5.7. City of Camas

Comprehensive Plan. The City of Camas adopted its comprehensive plan in 1994, and updated it in March of 2004.

Environmental Code. While the city has adopted regulations on frequently flooded and geologic hazard areas, it has yet to adopt regulations on wetlands or fish and wildlife habitat under its environmental code.

Erosion Control. The city's erosion control policies are intended to avoid such detrimental effects such as excessive sediment deposits in storm drainage systems and stormwater facilities, damages that occur to fisheries from clogged spawning beds and increased turbidity levels, and runoff sediment deposits in lakes. In general, responsibility for Best Management Practices (BMP) erosion control is that of the property owner and the person holding the development permit. Any person instituting new development upon a small parcel is also required to establish erosion control.

Flood Hazard Control. Camas' flood hazard regulations require water supply systems that are designed to minimize the infiltration of floodwaters into the system and the prohibition of encroachments in special flood hazard areas.

Wetland Standards. The city's wetlands standards are intended to avoid adverse impacts to wetlands and wetland buffers, except where it is demonstrated that such impacts are unavoidable and necessary, or that all economic use of the property would be denied. The standards regulate activities such as excavating, dumping, destruction of vegetation, and activities that would result in a change in water temperature or the water level/table. Wetland buffer zones are required for all activities adjacent to wetlands. The width of the buffer is to be established by the planning manager, and should reflect the sensitivity of the wetland and the type and intensity of human activity proposed. Required buffer width is generally 50'. This may be reduced to 25' for wetlands determined to be of low quality, or expanded to 100' for high quality wetlands.

Municipal Water Supply. The City of Camas supplied water to a population of approximately 12,500 in Clark County in 2000. The City anticipates serving 30,859 people in 2020, with an average day demand of 8.51 mgd. The City's sources of supply are comprised of nine groundwater wells and two surface water sources (Jones and Boulder Creeks).

C.5.8. City of Woodland

Critical Areas Ordinance. According to the standards of the Growth Management Act, the city of Woodland has codified such designated critical areas by map and adopted development regulations to assure the conservation of such areas. The city also requires a critical area permit if the proposed development is located on a critical area or associated buffer. Some of the following regulations may be mitigated or appealed. Violations are a civil infraction, and are subject to the Civil Enforcement Code, Title 2.06.

Critical Areas (Wetlands). Wetlands are divided into four classifications and development activities are regulated accordingly. Buffer widths are determined according to soil type and function for wildlife and fisheries. Buffer widths determined according to soil type range from 40' to 200'. Buffer widths determined according to function and value for wildlife and fisheries range from 75' to 200', depending upon the wetland acreage and special sensitivities such as heritage sites, bogs, and mature forested swamps.

Critical Areas (Category I Critical Aquifer Recharge Areas (CARAs)). These areas highly susceptible to contamination because of high soil permeability and high water table. Development activities such as waste disposal facilities, storage of hazardous substances, utility transmission facilities, and land divisions are regulated according to the Washington Administrative Code. In addition, hydrogeologic testing and site evaluation may be required.

Critical Areas (Municipal Water Supply). The City of Woodland supplied water to a population of approximately 4,000 people in Cowlitz and Clark Counties in 2000. The City anticipates serving 6,933

people in 2020, with an average day demand of 1.28. The City’s single source of supply is a Ranney Well collector that withdraws water adjacent to the Lewis River.

C.5.9. City of Ridgefield

Comprehensive Plan. The city of Ridgefield adopts by reference SEPA provisions. The critical areas are identified on the city’s comprehensive plan map, and described in the sensitive lands chapter of the zoning code.

Zoning. The purpose of the sensitive lands district is to balance the conservation and enhancement of sensitive land while encouraging urban densities and affordable housing. The intent of the district is to achieve no net loss of any of the sensitive lands. The sensitive lands district also protects the attendant buffers.

Critical Areas (Wetlands). The city defines wetlands as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. The code also lists examples of areas that do and areas that do not fall under the definition of wetland, including artificially created wetlands. Ridgefield ranks wetlands according to the Washington state four-tier system, in categories one through four. The city discourages development in wetland areas, and requires a 2:1 ratio replacement rate for wetlands lost due to high failure rate of replacement areas.

<i>Wetland Type</i>	<i>Protected Buffer</i>	<i>Managed Buffer</i>
Category 1	200’	100’
Category 2	100’	50’
Category 3	50’	25’
Category 4	25’’	25’

Critical Areas (Category I and II Aquifer Recharge Areas). Category I aquifer recharge areas are areas where an aquifer that is a source of drinking water is vulnerable to contamination that would affect the potability of the water, the city wellheads, and include lands within a zone of contribution. Development within category I areas is limited. Category II aquifer recharge areas include groundwater in critical aquifer recharge areas based on the Safe Drinking Water Act and the Wellhead Protection Area Program of the Washington Administrative Code (WAC), and provides a list of prohibited activities in these areas.

Critical Areas (Fish and wildlife). These areas are divided into *four* categories.

Riparian Areas - Riparian areas are those areas immediately adjacent to waterways that contain elements of both aquatic and terrestrial ecosystems that mutually influence each other.

<i>Aquatic Soil Stability Buffer</i>	<i>Low</i>	<i>High</i>
Type 1 (shorelines)	300’	300’
Type 2 (perennial or fish bearing)	250’	200’
Type 3 (perennial or fish bearing)	150’	100’
Type 4 (intermittent stream)	150’’	100
Type 5 (intermittent stream with or without a channel)	100’	50’’

Point Source Areas - Point source areas are lands where species designated as endangered, threatened or sensitive have a primary association with that land.

Local Habitat Areas - Habitats of local importance include seasonal range or habitat element with which a given species has a primary association, including areas of species richness, breeding habitat, and winter ranges. People may nominate areas for inclusion on the Sensitive Lands Map.

Priority Habitat Species Areas - Areas designated by state map and buffers.

Slopes - Slopes, including those with a gradient of fifteen percent or greater, are considered constrained lands. Slopes of twenty-five percent or greater are considered unbuildable.

Stormwater. Any development on sensitive lands shall be consistent with the adopted version of the Stormwater Management Manual for the Puget Sound Basin, Washington State Department of Ecology.

Municipal Water Supply. The City of Ridgefield supplied water to a population of approximately 2,000 people in Clark County in 2000. The City anticipates serving 15,000 people in 2020, with an average day demand of 3.70 mgd. The City’s supply consists of three active wells and two standby wells located in Abrams Park, near Gee Creek.

C.5.10. City of Longview

Comprehensive Plan. The City’s Comprehensive Plan was adopted in 1993 and is currently in the process of being updated.

Critical Areas Ordinance (Wetlands). Standard wetland setback width requirements are as follows:

<i>Wetland Type</i>	<i>Maximum Buffer</i>	<i>Minimum Buffer</i>
Category 1	300’	200’
Category 2	200’	200’
Category 3	100’	50’
Category 4	50’’	25’

Critical Areas (Fish Habitat). Setback widths for fish habitat protection depend on the species present and its listing status under ESA. General guidelines are as follows:

<i>Fish Habitat Type</i>	<i>Buffer requirements (setback)</i>
Class 1 (TES species present)	250’; or 1000’ point location
Class 2 (species/Habitat of local importance)	Consult Habitat Management Plan
Category 3 and 4 (Naturally occurring ponds/waters of State)	Consult with WDFW

Stream Buffers. Setback widths are categorized as follows and include an assessment of high or low mass wasting potential.

<i>Stream Type</i>	<i>Buffer requirement (setback)</i>
Type 1	250’
Type 2 (5’ to 20’)	200’
Type 3 (<5’)	100’
Type 4 & 5 (low mass wasting)	150’
Type 4 & 5 (high mass wasting)	225’

Critical Areas (Floodplain Management). The purpose of the chapter is to promote public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to protect human life and health and to minimize expenditure of public money and costly flood control projects.

Critical Areas (Shorelines Management). The City adopts by reference the Shorelines Master Program for Cowlitz County.

Stormwater. All Construction, excavation and creation of impervious surfaces must conform to guidelines established by the Stormwater Code.

Municipal Water Supply. The City of Longview supplied water to a population of approximately 39,000 people in 2000. The City anticipates serving approximately 47,000 people in 2020, with an average day demand of 10.23 mgd. The City's system serves primarily residential, commercial, and industrial customers, including the Port of Longview and Weyerhaeuser Company. The City diverts water from the Cowlitz River east of the City and provides treatment at the Longview-Kelso Regional Water Treatment Plant, which is co-owned with the Cowlitz PUD.

C.5.11. City of Kelso

Comprehensive Plan. The City of Kelso's Comprehensive Plan was adopted on September 2, 1980.

Shorelines. Shoreline management is accomplished through the adoption of the shorelines management master program for the County, prepared by the Cowlitz-Wahkiakum Council of Governments.

Floodplain Management. The city finds that the losses due to flood hazards adversely affect the general welfare, and are exacerbated by areas of obstruction and inadequate flood proofing. The purpose of the flood management ordinance is to promote the general welfare, and to minimize public and private losses due to flood conditions by describing methods of reducing flood losses. The city restricts uses that are dangerous to health, safety and property due to water or erosion hazards; controls the alteration of natural floodplains, stream channels and natural protective barriers; controls the filling, grading, dredging and other development that may increase flood damage; and regulates the construction of flood barriers.

Critical Areas (Wetlands). Wetlands are classified according to four categories. The minimum required buffer widths are as follows:

<i>Wetland Type</i>	<i>Minimum Buffer</i>
Category 1	200'
Category 2	100'
Category 3	50'
Category 4	50''

Wetland mitigation standards also require minimum ratios of replacement.

<i>Wetland Type</i>	<i>Replacement Ratio</i>
Category 1	6:1
Category 2 & 3	At least 2:1; not to exceed 3:1
Category 4	1:1

Stormwater. The purpose of the stormwater management utility measure is to counter the potential hazard to the general welfare of the city posed by stormwater runoff. The city finds that the development of real property, through the creation of impervious surface area, is an appropriate basis for determining an individual parcel's contribution to the problem of stormwater runoff. Natural and manmade stormwater facilities and conveyances together constitute a stormwater drainage system and effective regulation and control of stormwater through formation by the city of a stormwater utility

requires the transfer to the utility of all stormwater facilities and conveyances and related rights belonging to the city.

Municipal Water Supply. The City of Kelso supplied water to a population of approximately 13,000 people in 2000. Kelso anticipates serving 18,500 people in 2020, with an average day demand of 5.54 mgd. The existing supply for the City of Kelso is derived from a Ranney well, which is hydraulically connected to the Cowlitz River.

C.5.12. City of Kalama

Comprehensive Plan. The City of Kalama adopted their Comprehensive Plan in 1994 and is currently in the process of updating it.

Critical Areas Protection. The city of Kalama's critical areas protection is a response to the state mandated Growth Management Act (GMA). This chapter of the city code is designed to encourage landowners to protect critical areas. The GMA requires the city to adopt development regulations affecting certain types of land to assure the conservation of such areas.

Critical Areas (Wetlands). Wetlands are divided into four classifications and development activities are regulated accordingly. Buffer widths are determined according to soil type and function for wildlife and fisheries. Buffer widths determined according to soil type range from 40' to 200'. Buffer widths determined according to function and value for wildlife and fisheries range from 75' to 200', depending upon the wetland acreage and special sensitivities such as heritage sites, bogs, and mature forested swamps.

Erosion Control. The erosion control ordinance provides that the property owner and the person undertaking the activity are the responsible parties. This entails sediment removal from roadways, stabilization of denuded areas, protection of water bodies, sediment traps, and storm drain inlet protection, among other things. Enforcement of these requirements corresponds with the degree of impact of erosion from the site on natural and manmade water bodies. The director may utilize a combination of enforcement mechanisms, including civil and criminal penalties.

Municipal Water Supply. The City of Kalama supplied water to a population of approximately 3,000 people in 2000. These include residents of the City as well as some unincorporated lands in Cowlitz County. The City anticipates serving 6,847 people in 2020, with an average day demand of 1.47 mgd. The City's single source of supply is a Ranney Well collector that withdraws water adjacent to the Kalama River.

C.5.13. City of Vancouver

Comprehensive Plan. The City of Vancouver's Comprehensive Plan was adopted under the GMA in October of 2000.

Erosion Control. The purpose of erosion control measures is to minimize erosion from land development and land-disturbing activities for the general public welfare and to prevent erosion and sedimentation of water bodies. Some of the specific requirements of erosion control include sediment removal from roadways, stabilization of denuded areas, protection of water bodies, sediment traps, and storm drain inlet protection. Erosion control plans must be submitted to the city prior to clearing, grading or construction for any projects requiring a city permit or any land-disturbing activity.

Stormwater Control. The purpose of stormwater control measures is to promote public health and safety by preventing surface and ground water quality degradation and erosion and sedimentation of water bodies caused by development activities. It is also meant to maintain existing groundwater levels, in-stream flows, and available water supply volumes. The city has designated standard Best

Management Practices (BMPs) for the treatment of stormwater, including infiltration basins and trenches, roof downspout systems, constructed wetlands or wet ponds, and others.

Environmental Districts. The environmental districts preserve, protect and enhance sensitive fish and wildlife habitat, including habitat in areas where industrial development is permitted by prohibiting impervious surfaces, structures or buildings within these areas. The planning official may permit development activities within environmental districts, after consultation with State and Federal resource management agencies.

Critical Areas (Wetlands). City policy also requires wetland planning to maintain natural wetland functions, including the avoidance of net loss of wetlands. Wetlands planning does not apply to exempted wetlands. Wetlands are classified into five categories in order to determine replacement standards and buffer requirements. Base buffer width is also adjusted based on four buffer classifications. Both are described as follows:

<i>Wetland Type</i>	<i>Buffer</i>
Category 1	300'
Category 2	200'
Category 3	100'
Category 4	50''
Category 5	0'

<i>Wetland Type</i>	<i>Maximum Buffer</i>
Type A	40%
Type B	30%
Type C	15%
Type D	0%

Critical Areas (Geologic Hazard Areas). Geologic hazard areas include landslide hazard areas, steep slope areas, earthquake hazard areas, and unconsolidated fill areas. Provisions require a 50' vegetated buffer from the top and along the sides of the landslide hazard area or steep slope, a 25' vegetated buffer from the toe of the landslide hazard area or steep slope, and that existing native vegetation and mature trees on slopes greater than 40% must be conserved. Steep slope in particular comprises a percentage of the sixteen square miles of the city of Vancouver and the lands to the northeast.

Critical Areas (Municipal Water Supply). The City of Vancouver supplied water to a population of approximately 194,000 people in 2000, or roughly 60 percent of the total Clark County population. The City anticipates serving approximately 261,000 people in 2020, with an average day demand of 33.50 mgd. The City's sources of supply are comprised of 41 wells located at 11 water stations throughout the City. These water stations are located in the Burnt Bridge Creek basin.

C.5.14. City of Washougal

Comprehensive Plan. The City of Washougal's comprehensive plan was developed under the GMA.

Critical Areas (Wetlands). The ordinance applies to activities generating the need for subdivision, building permits and grading permits as those activities relate to wetlands or wetland buffers. Wetland buffers are determined based upon the category of the wetland.

<i>Wetland Type</i>	<i>Buffer</i>
Category 1	60'
Category 2	30'
Category 3	0"

Critical Areas (Municipal Water Supply). The City of Washougal supplied water to a population of approximately 9,000 people in Clark County in 2000. The City anticipates serving 17,222 people in 2020, with an average day demand of 2.80 mgd. The City receives its water supply from five wells that withdraw water from the shallow alluvial aquifer in the Washougal basin.

C.5.15. City of Battle Ground

Comprehensive Plan. The city of Battle Ground’s comprehensive planning occurs under the state Growth Management Act.

Critical Areas Ordinance. Battle Ground’s Critical Area Ordinances (CAOs) are those identified by the Revised Code of Washington (RCW) §36.70A.060. The RCW allows local departments of trade and economic activity, in collaboration with the state department of ecology, to classify the critical areas. Battle Ground’s municipal code foregoes this classification of critical areas. Critical areas are instead referenced only in terms of categorical exemptions such as minor new construction, minor land use decisions, and natural resources management. Further, property owners are allowed to transfer development potential that is reduced on one portion of a site due to critical area regulations to other portions of the site in order to maintain urban densities. Battle Ground’s CAOs are currently under review and potential adoption.

Critical Areas (Wetlands). The provisions of the wetlands ordinance apply to any proposal for a project involving nonexempt wetland or wetland buffer. This includes, among other things, the construction of structures, stormwater management facilities, and the destruction of native vegetation. Exempted wetland include small wetlands that are less than one acre in area, artificial wetlands, riparian areas regulated under the Shorelines Management Act, category two wetlands, and activities permitted by the U.S. Army Corps of Engineers. Wetland Rating System: wetlands are determined to be one of two categories.

<i>Wetland Type</i>	<i>Buffer</i>
Category 1	90'
Category 2	0'

Stormwater. The purpose of the Stormwater Ordinance is to prevent surface and groundwater degradation and erosion, to protect the quality of waters for beneficial uses, to maintain existing groundwater levels and instream flows. These provisions apply to development activities that involve the creation of more than 2,500 square feet of impervious surface, the addition of more than 1,000 square feet of new impervious surfaces, or the replacement of existing structures exceeding 5,000 square feet. The provisions also apply to drainage projects, but exclude residential short plats. Stormwater plans require approval by the director of the city of Battle Ground public works department and all projects are required to provide treatment of stormwater runoff according to specified BMPs. Stormwater management also encompasses erosion control requirements.

Municipal Water Supply. The City of Battle Ground supplied water to a population of approximately 9,000 people in Clark County in 2000. The City anticipates serving 29,000 people in 2020, with an average day demand of 3.48 mgd. The City’s sources of supply consist of seven groundwater wells in Salmon Creek and East Fork Lewis basins.

C.5.16. Small Cities and Towns

A variety of small cities and towns within the Lower Columbia Region have environmental codes that protect critical areas. They include Packwood, Randle, Morton, Mossyrock, Toledo, Winlock, Vader, Castle Rock, Cathlamet, North Bonneville, Chinook, and Yacolt. Protection of critical areas is important elements of these small cities and towns as population growth occurs over time.

C.5.17. Special Districts

Clark Conservation District (Clark CD)

Clark CD is one of 48 non-regulatory conservation districts in Washington State. Clark CD's geographic boundaries are the same as Clark County. Clark CD's links local resource needs with technical and financial resources to assist landowners solve on-the-ground conservation needs. Clark CD utilizes several fund sources to assist agricultural landowners, including Centennial Clean Water Funds and U.S. Department of Agriculture Conservation Reserve and Enhancement Program (CREP). Clark CD receives Centennial Clean Water funding to assist agricultural landowners in the development of farm plans. Farm plans capture goals, optimize use, protect sensitive areas, and conserve resources. Most of Clark CD's efforts are directed to Salmon Creek and the Lewis Basins; however, much of the Washougal Subbasin is within the service area.

Program Significance to Recovery: Agriculture-related programs implemented by Clark Conservation District are important to recovery because they represent the primary landowner-scale efforts to improve watershed processes and habitat conditions due to agriculture related impacts.

Program Type: Protection, Education, and Restoration

Applicable Subbasins: Bonneville Tributaries, Washougal, East & North Fork Lewis

Cowlitz/Wahkiakum Conservation Districts

The Cowlitz/Wahkiakum CD provides technical assistance, cost-share assistance, project and water quality monitoring, community involvement and education, and support of local stakeholder groups within the two county service areas. The CD is involved in a variety of projects, including fish passage (four culvert projects design, management, and construction), landowner assistance (three pasture management plans, six forest management plans, eleven CREP projects, and a tide gate assessment). It also has an environmental incentive program and is sponsoring an education program for area teachers. Finally, the Cowlitz/Wahkiakum CD is monitoring 65 stream sites for key environmental parameters.

Program Significance to Recovery: Agriculture-related programs implemented by Cowlitz/Wahkiakum CD are important to recovery because they represent the primary landowner-scale efforts to improve watershed processes and habitat conditions due to agriculture related impacts.

Program Type: Protection, Education, and Restoration

Applicable Subbasins: North Fork Lewis, Cowlitz, Mill/Germany/Abernathy, Elochoman, and Grays

Lewis Conservation District (Lewis CD)

The Lewis Conservation District provides technical assistance, cost-share assistance, and project monitoring in WRIA 26. Current programs are primarily concerned with the Chehalis River; however the conservation district has developed projects in the Cowlitz Subbasin, including Yellowjacket Creek instream work and culvert replacement projects in Olequa and Salmon Creeks. Lewis CD works with agricultural landowners through CREP and farm planning activities. Finally, the Lewis CD performs limited educational activities.

Program Significance to Recovery: Agriculture-related programs implemented by Lewis CD are important to recovery because they represent the primary landowner-scale efforts to improve watershed processes and habitat conditions due to agriculture related impacts.

Program Type: Protection, Education, and Restoration

Applicable Subbasins: Cowlitz

Underwood Conservation District (UCD)

The Underwood CD provides technical assistance, cost-share assistance, project and water quality monitoring, community involvement and education, and support of local stakeholder groups within the district. UCD implements a wide variety of programs, including conservation and restoration projects, water quality monitoring, a spring tree sales program, education and outreach activities, and support for local watershed committees. Funding for UCD activities comes primarily from the Washington Conservation Commission and the Bonneville Power Administration's Fish and Wildlife Program. Fish habitat restoration activities in the Wind are cooperative with the Columbia River Research Laboratory, the Gifford Pinchot National Forest, and the Washington Department of Fish and Wildlife. UCD is currently working on stream stabilization and reforestation along the private land sections of the Wind River, near the mouth and north of Stabler as well as restoration in Upper Trout Creek and the Sand Hill landslide renovation.

UCD has been monitoring water quality since the early 1990s in the Wind and White Salmon Subbasins and a good data baseline has been established, despite some funding interruptions. Data will serve as a baseline for comparison when anadromous fish are restored. Monitoring activities include: shallow groundwater monitoring, streamflow gauging, and an analysis of nutrients levels in the stream.

Program Significance to Recovery: Agriculture-related programs implemented by Underwood CD are important to recovery because they represent the primary landowner-scale efforts to improve watershed processes and habitat conditions due to agriculture related impacts.

Program Type: Protection, Education, and Restoration

Applicable Subbasins: Wind, Little White

Clark Public Utilities

Water Program. Clark Public Utilities (CPU) is a municipal corporation organized under the laws of the state of Washington for the intended purpose of supplying power and water to its ratepayers. CPU received authorization to provide wastewater service by a county wide vote in 1989. Currently, CPU provides wastewater services to the City of LA Center. CPU supplied water to a population of 77,000 people in 2000, or roughly 20% of the total Clark County population. CPU anticipates serving 113,355 people in 2020, with an average day demand of 14.19 mgd. CPU source of water consists of 33 groundwater wells located throughout their service area, including the East Fork Lewis, Salmon Creek

and Lacamas Creek. CPU initiates restoration projects in the Salmon Creek watershed and has an extensive water quality monitoring program.

Program Significance to Recovery: Clark Public Utilities' Water Program is important to recovery because the need for increased water supplies for new population growth in the region is directly related to availability of fish habitat. Development of a regional source of supply in the Vancouver Lake Lowlands is vital for watershed health as growth occurs.

Program Type: Protection, Education, and Restoration

Applicable Subbasins: Salmon Creek, East Fork Lewis, and Washougal

C.6. Regional and Non-Governmental Programs

C.6.1. Lower Columbia Fish Recovery Board

The Lower Columbia Fish Recovery Board encompasses five counties in the Lower Columbia River Region. The 15-member board has four main programs, including habitat protection and restoration activities, watershed planning for water quantity, quality, habitat, and instream flows, facilitating the development of an integrated recovery plan for the Washington portion of the Lower Columbia Evolutionarily Significant Units, and conducting public outreach activities.

Habitat Program. The LCFRB is designated as Lead Entity for the Lower Columbia Region as authorized by the Washington Salmon Recovery Act, RCW 77.85 (referred to as HB-2496). This entails identifying and prioritizing habitat restoration and protection projects in the service area. To this end, the LCFRB has developed a Regional Habitat Strategy to guide the selection and implementation of habitat projects from the state Salmon Recovery Funding Account and other funding sources. To date, the LCFRB has helped local sponsors gain funding for 186 habitat projects totaling over \$47.6 million. These awards include state, federal and local grants and were leveraged with 23.5 million dollars of local match and in-kind resources.

Watershed Planning. The LCFRB is the Lower Columbia region's Lead Agency for watershed planning efforts established by the state legislature in 1998 through the Watershed Planning Act, RCW 90.82 (referred to as HB 2514). As of 2008 the Planning Units have adopted Watershed Management Plans and Detailed Implementation Plans for the Gray-Elochoman and Cowlitz basins and the Salmon-Washougal and Lewis basins. The watershed planning effort is integrated into recovery planning through cross-membership among committees and the Board, as well as, providing recovery planning efforts with technical and policy direction relative to water quantity, instream flows, and water quality. Recovery planning, on the other hand, is providing watershed and habitat conditions information to the watershed planning process. In coordination with Ecology both Planning Units will complete their stream flow rules by 2010.

Recovery Planning. The LCFRB has a statutory mandate to implement the habitat portion of the approved recovery plan. To this end, they coordinated the development of a recovery plan for federally-listed ESA salmonids. Plan elements include habitat, harvest, hydroelectric, hatcheries, out-of-basin effects, and ecological interactions. In 2006 the Washington portion of the Oregon/Washington Lower Columbia Plan was approved through the NOAA Federal Register Process. Work is currently underway to finalize the domain plan which includes the Oregon portion of the plan and the estuary module.

Public Outreach. The LCFRB recognizes that public support is a key component in forging a lasting commitment to restoring threatened fish populations to healthy, sustainable levels. Public support and participation are dependent on the access to good information and the ability to engage in the decision-making process. To this end, the Board has developed a public involvement and outreach program that includes maintaining an internet website, broadcasting regular event notices and conducting local public meetings.

Program Significance to Recovery: Programs implemented by the Lower Columbia Fish Recovery Board are important to recovery because they collectively represent global planning efforts that establish the course of protection, education, and restoration efforts in the region.

Program Type: Protection, Education, and Restoration

Applicable Subbasins: All

C.6.2. National Fish and Wildlife Foundation

The National Fish and Wildlife Foundation is a private, non-profit organization established by Congress in 1984 to conserve healthy populations of fish, wildlife and plants through partnerships, sustainable solutions, and better education. The Foundation meets these goals by awarding matching grants comprised of federal and non-federal funds to projects benefiting conservation education, habitat protection and restoration, and natural resource management. Protection of healthy rivers and wetland systems is among the Foundation's investment goals and strategies. Also included in the Foundation's goals and strategies is the conservation of keystone wildlife species of special concern; protection of forests, grasslands, and oceans; promotion of conservation education programs.

Program Significance to Recovery: The National Fish and Wildlife Foundation is important to recovery because it represents an important fund source for habitat protection, education, and restoration.

Program Type: Protection, Education, and Restoration

Applicable Subbasins: All

C.6.3. Lower Columbia Fisheries Enhancement Group (LCFEG)

In 1990, the Washington State Legislature created the Regional Fisheries Enhancement Group Program (RFEG) to involve local communities, citizen volunteers, and landowners in the state's salmon recovery efforts.

Through these collaborative efforts, RFEGs help lead their communities in successful restoration, education and monitoring projects. Every group is a separate, nonprofit organization led by their own board of directors and operational funding from a portion of commercial and recreational fishing license fees administered by the WDFW, and other sources. Specific habitat restoration projects are typically funded through grants from governmental and private entities.

The mission of the Lower Columbia RFEG (LCFEG) is to restore salmon runs in the Lower Columbia River region through habitat restoration, education and outreach, and developing regional and local partnerships. Their service area includes all or part of Skamania, Clark, Cowlitz, Lewis, Wahkiakum and Pacific Counties. Current and recent projects include a nutrient assessment of the Wind, Washougal and Lewis River watersheds, restoration activities on Schoolhouse Creek in Washougal, the replacement of two fish passage barriers in the Grays River watershed and one in Campen Creek, and the renovation of an acclimation pond on the South Fork Toutle.

Program Significance to Recovery: The Lower Columbia Fisheries Enhancement Group is important to recovery because it represents an entity that is perfectly suited to implement habitat restoration projects. If the LCFEG develops more infrastructure and capacity, it will have a primary role in implementing projects.

Program Type: Protection, Education, and Restoration

Applicable Subbasins: All

C.6.4. Lower Columbia River Estuary Partnership (LCREP)

The Lower Columbia River Estuary Partnership is a bi-state, public-private initiative and a member of the national estuary program. It is implementing a comprehensive management plan for the 146 miles of the Lower Columbia River and estuary. There are seven priority issues outlined in the plan, including 169 proposed measures. The measures are based on an assessment of scientific studies, the visions and objectives developed for each of the seven priority issues, and significant input from citizens of the Lower Columbia River and estuary. The Management Plan has no regulatory authority, and relies upon voluntary participation.

Program Significance to Recovery: The Lower Columbia River Estuary Partnership is important to recovery because they represent an important source of funding for restoration, education, and protection projects.

Program Type: Protection, Education, and Restoration

Applicable Subbasins: All

C.6.5. Columbia River Estuary Study Taskforce (CREST) – Regional Planning

CREST is a council of local governments serving as a forum for collaboration and regional planning that provides technical assistance to local governments and implements restoration and protection of the Columbia River Estuary (river mile 0-46). CREST supports K-12 environmental and marine educational activities, helps citizens' gain access to relevant information, and coordinates activities among various branches of government. CREST developed the Columbia River Estuary Regional Management Plan that contains an inventory of physical, biological, and cultural characteristics of the estuary, as well management recommendations that was adopted in local comprehensive plans and shoreline master programs.

Program Significance to Recovery: The Columbia River Estuary Study Taskforce is important to recovery because of its planning efforts in the Estuary, as well as its partnerships with local governments and Sea Resources in the Chinook River.

Program Type: Planning

Applicable Subbasins: All

C.6.6. Volunteers/Non-Profit Organizations

There are a variety of non-profit and volunteer organizations that individually and collectively are very important for recovery of listed salmonids. Examples of these groups include the Cowlitz Game and Anglers, Friends of the Cowlitz, Friends of the East Fork, Fish First, Lower Columbia Fly Fishers, Wind River Watershed Council, the Columbia Land Trust, Ducks Unlimited, Skamania Landing Homeowners Association, and the Grays River Habitat Enhancement District. These groups are unique, but they all share the common trait of developing and implementing habitat restoration projects. One reason why these groups are collectively so important is because they form a unique link between public/private funding sources and landowners. This link with landowners (or the absence of a link) is often the limiting factor for effectively implementing projects.

Program Significance to Recovery: Non-profit organizations and volunteers are important to recovery because they implement habitat restoration projects in conjunction with landowners, often times in circumstances that governmental agencies cannot.

Program Type: Restoration and Education

Applicable Subbasins: All