



# Project Report December 8, 2006

## Strategic Plan

### Objectives:

Increase the quantity and improve the quality of aquatic and riparian habitat on Service lands.

9 projects found

13310-A-166 - <a href="#">Evaluate Factors Limiting Columbia River Gorge Chum Salmon Populations</a>	
<b>Facility</b>	Columbia River Fisheries Program Office
<b>Expended</b>	\$0
<b>Objective</b>	Recover fish and other aquatic resource populations protected under the Endangered Species Act.
<b>Primary Benefited Species</b>	Chum salmon ( <a href="#">Oncorhynchus keta</a> )
<b>Primary Benefited Population</b>	<a href="#">Lower Gorge Chum Salmon</a>
<b>Plans</b>	Federal Columbia River Power System 2002 Biological Opinion Columbia Gorge Subbasin Plan Lower Columbia Salmon Recovery And Fish & Wildlife Subbasin Plan: Volume II, Chapter A – Lower Columbia Mainstem and Estuary for Washington State - 2004
<b>Keyword</b>	Monitoring and Assessment
<b>Need Number</b>	N-002
<b>Partners</b>	Bonneville Power
<p><b>Accomplishment Summary</b></p> <p>Estimated abundance, timing, and characteristics of adult and juvenile chum salmon in Hardy Creek and Hamilton Springs; monitored early juveniles using emergence traps.</p> <p><b>Description</b></p> <p><b>The importance to the Resource:</b></p> <p>Chum salmon, which are listed as threatened under the Endangered Species Act, consistently spawn in a limited number of areas and tributaries in the Columbia River basin. Suitable spawning habitat in one such tributary, Hardy Creek, is entirely located on Pierce National Wildlife Refuge.</p> <p><b>The problem:</b></p> <p>Factors limiting Chum salmon abundance in tributaries of Pierce National Wildlife Refuge are currently unknown. This information is needed to direct habitat restoration efforts or habitat modifications on refuge property</p> <p><b>The objective:</b></p> <p>Objective of this work is to develop a better understanding of chum salmon life history requirements so that opportunities to improve production through habitat restoration or creation may be assessed (e.g., evaluating the</p>	

Administration (\$263888)  
Pierce National Wildlife  
Refuge

### Accomplishments

Number of habitat assessments completed	1.0
Number of population assessments completed	3
Number of other Fishery Management Plan tasks implemented for populations of management concern.	1

potential contribution of the artificial spawning channel at Pierce NWR).

#### **The method:**

Combination of fish abundance (spawning adults, migrating fry) and habitat parameter monitoring (temperature, dissolved oxygen, substrate composition) will be used to develop habitat suitability indices.

#### **Further description:**

The CRFPO has monitored adult and juvenile chum salmon in Hardy Creek since 1997, and began monitoring adult and juvenile chum salmon in Hamilton Springs and adult salmon movement in the Columbia River in 1999. The goal of the project is to provide a better understanding of life history requirements and factors affecting chum salmon in the Columbia River Gorge, and investigate approaches to increase spawning habitat. Objectives of the project are: 1) Assess movement of adult chum salmon among three spawning areas (Hamilton Springs, Hardy Creek, and the mainstem Columbia River); 2) Determine abundance and biological characteristics of adult chum salmon; 3) Estimate chum smolt abundance in Hardy Creek, Hardy Creek Spawning Channel and Hamilton Springs; and 4) Evaluate habitat parameters associated with chum salmon spawning success. All work conducted at Hardy Creek and the constructed spawning channel is located on Pierce National Wildlife Refuge. The project is consistent with action agency commitments for implementation of the 2004 FCRPS BiOp and monitoring recommended in the Lower Columbia River Subbasin Plan. The project receives funding from the Bonneville Power Administration.

**13310-A-169 - [Malheur National Wildlife Refuge Stream Improvement Biological Verification and Monitoring](#)**

<b>Facility</b>	Columbia River Fisheries Program Office	<p><b>Accomplishment Summary</b></p> <p>Conducted habitat restoration post-construction survey to describe fish and aquatic macroinvertebrate communities at reference and treatment sample sites. This was the second post-construction survey conducted. Fish community appears more diverse throughout study area and higher densities of redband trout associated with restoration sites.</p> <p><b>Description</b></p> <p><b>The importance to the Resource:</b></p> <p>The goal of the project is to evaluate biological responses to stream habitat improvements on the Blitzen River. The primary fish species intended to benefit from the work is redband trout, a sensitive aquatic species. Improved habitat conditions for this species will contribute toward the prevention of listing.</p> <p><b>The problem:</b></p> <p>Habitat in the Blitzen River has been degraded by such activities as overgrazing, channelization, and water management. Improvements to aquatic and riparian habitats were planned for a 4-km reach to benefit the aquatic community.</p> <p><b>The objective:</b></p> <p>Establish baseline dataset by describing habitats and fish and aquatic macroinvertebrate communities before planned habitat improvements are performed and compare fish and aquatic macroinvertebrate communities between control and treatment sites (i.e., reaches without and with habitat improvements).</p>
<b>Expended</b>	\$28055	
<b>Objective</b>	Maintain diverse, self-sustaining fish and other aquatic resource populations.	
<b>Primary Benefited Species</b>	Rainbow trout ( <a href="#">Oncorhynchus mykiss</a> )	
<b>Primary Benefited Population</b>	Not specified	
<b>Plans</b>	Columbia River Basin Fish and Wildlife Program (NPPC 2000)	
<b>Keyword</b>	Monitoring and Assessment	
<b>Need Number</b>	N-002	
<b>Partners</b>	Malheur National Wildlife Refuge Oregon Department of Fish and Wildlife	
<b>Accomplishments</b>		
Number of habitat assessments completed	1.0	
Number of miles of in-stream habitat assessed	2.0	
Number of population assessments completed	1	

	<p><b>The <i>method</i>:</b></p> <p>Pre-construction monitoring occurred in 2002. Post-construction monitoring occurred in 2003 and 2005. Monitoring was conducted at treatment (habitat improvement) and control (status quo) sites and included documenting changes in biological and physical parameters.</p>
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13310-A-175 - [Columbia Basin Fish and Wildlife Authority and Habitat Initiative Activities](#)

<b>Facility</b>	Columbia River Fisheries Program Office	<p><b>Accomplishment Summary</b></p> <p>Coordinated with partners to develop proposals for funding by the Western Native Trout Initiative. Initiated development of projects to assess tidal marsh restoration at NWRs, and secured funding from the National Fish and Wildlife Foundation to assess 88-acre marsh restoration project at a NWR. Participated on teams to review habitat restoration proposals to the Community Salmon Fund in Washington. Assessed restoration potential of 180-acre parcel purchased by Columbia Land Trust.</p> <p><b>Description</b></p> <p><b>The importance to the Resource:</b></p> <p>National Wildlife Refuges and partner's lands in watersheds provide opportunities to manage and restore fishery, habitat, and other aquatic resources. Restoration actions on refuges and partner lands may contribute to recovering listed species, reversing population declines, and protecting habitats. Monitoring is needed to assess effects.</p> <p><b>The problem:</b></p> <p>Opportunities for fish and aquatic habitat restoration, as well as appropriate monitoring and assessment of restoration actions, exist at National Wildlife Refuges and associated watersheds. The lack of information concerning specific areas and personnel to perform coordination may hinder opportunities to implement restoration actions.</p> <p><b>The objective:</b></p> <p>The objective is to provide fisheries assistance concerning restoration, coordination, and</p>
<b>Expended</b>	\$68903	
<b>Objective</b>	Develop and improve long-term partnerships with States, Tribes, other Federal agencies, non-governmental organizations, and other Service Programs to develop collaborative conservation strategies for aquatic resources.	
<b>Primary Benefited Species</b>	Chinook salmon or king salmon ( <a href="#">Oncorhynchus tshawytscha</a> )	
<b>Primary Benefited Population</b>	Not specified	
<b>Plans</b>	Conservation of Columbia Basin Fish, Final Basinwide Salmon Recovery Strategy, 12/2000 (All H Paper) National Fish Habitat Action Plan	
<b>Keyword</b>	Habitat	
<b>Need Number</b>	N-002	
<b>Partners</b>	Bandon Marsh National Wildlife Refuge Columbia Land Trust Confederated Tribes of Siletz Indians Ducks Unlimited Gee Creek Watershed Group Julia Butler Hansen National Wildlife Refuge (\$5000) Nestucca Bay National	

Wildlife Refuge  
 Oregon Department of  
 Fish and Wildlife  
 Ridgefield National  
 Wildlife Refuge  
 The Nature  
 Conservancy  
 Washington Department  
 of Fish and Wildlife

aquatic resources to a variety of partners (e.g., other Service programs, tribes, states, and other groups) that are implementing activities supportive of the National Fish Habitat Action Plan.

**The method:**

The CRFPO provided staff to establish working relationships with other service programs and partners involved in watershed planning and habitat restoration. These relationships allowed staff to develop proposals affecting aquatic habitat restoration, coordinate with those involved in restoration projects, and assist in watershed planning.

**Further description:**

The CRFPO has performed coordination for activities of several groups and processes involved in habitat restoration that is supportive of the NWPCF Fish and Wildlife Program and National Fish Habitat Action Plan. Staff participated on teams to review habitat restoration proposals for Washington's Community Salmon Fund, coordinated with ODFW to develop proposals for the Western Native Trout Initiative, and was successful in securing funding from the Northwest Native Fish Fund, administered by the National Fish and Wildlife Foundation. The funding is to assess a tidal marsh restoration project at Nestucca Bay NWR. The CRFPO is assessing habitat restoration potential of a 180-acre parcel of property adjacent to Julia Butler Hansen NWR that was acquired by the Columbia Land Trust. Staff are coordinating with multiple partners, including refuges, tribes, and conservation organizations, to assist in and develop comprehensive approaches for evaluating a 430-acre tidal marsh restoration project that is planned for implementation during 2009 at Bandon Marsh NWR, as well as

**Accomplishments**

Number of habitat assessments completed	1.0
Number of acres of wetland habitat assessed	180.0
Number of population assessments completed	35
Number of other Recovery Plan tasks implemented for T&E populations	1

	<p>assisting the new Gee Creek Watershed Coordinator. Staff kept partners informed of emerging developments in the National Fish Habitat Action Plan.</p>
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13310-A-206 - [Restoration of Aquatic Habitat and Monitoring on Refuges](#)

<b>Facility</b>	Columbia River Fisheries Program Office
<b>Expended</b>	\$80743
<b>Objective</b>	Increase the quantity and improve the quality of aquatic and riparian habitat on Service lands.
<b>Primary Benefited Species</b>	(0) Multiple Species
<b>Primary Benefited Population</b>	Not specified
<b>Plans</b>	Conservation of Columbia Basin Fish, Final Basinwide Salmon Recovery Strategy, 12/2000 (All H Paper) National Wildlife Refuge System Improvement Act of 1997
<b>Keyword</b>	Service Lands
<b>Need Number</b>	N-002
<b>Partners</b>	National Wildlife Refuges and friends groups

**Accomplishments**

Number of population assessments completed	28
Number of other Recovery Plan tasks implemented for T&E populations	1
Number of other Fishery Management Plan tasks implemented for populations of	3

**Accomplishment Summary**

Developed proposals to address aquatic habitat and monitoring needs at National Wildlife Refuges that were identified at the NWR-CRFPO workshop; Provided technical assistance on various planning, habitat, and monitoring issues; Conducted surveys of fish and aquatic habitats; Coordinated with partners in developing approaches to conduct and monitor habitat restoration projects at refuges, Participated in cross-program and partnership activities affecting refuges.

**Description**

**The importance to the Resource:**

National Wildlife Refuges and associated watersheds provide opportunities to manage and restore fishery, habitat, and other aquatic resources. Such opportunities may contribute to recovering listed species, reversing population declines, and protecting habitats. Monitoring effects of restoration activities is essential for informed management.

**The problem:**

Opportunities for fish and aquatic habitat restoration, as well as adequate monitoring and assessment of restoration actions, at National Wildlife Refuges are diminished due to lack of specific information concerning aquatic resources and access to personnel with fisheries expertise.

**The objective:**

The objective is to provide National Wildlife Refuges with fisheries assistance concerning aquatic resource issues such as habitat restoration projects and approaches to monitor and assess fish and aquatic habitats, which will

Number of other Fishery Management Plan tasks implemented for populations of management concern.	3	contribute management decisions and refuge planning.
		<p><b>The method:</b></p>
		<p>The CRFPO provided refuges with fisheries staff time and resources to assist refuge managers in a variety of ways such as attending coordination and technical work meetings, conducting fish and habitat assessments, and developing plans and proposals to implement and monitor restoration actions.</p>
		<p><b>Further description:</b></p>
		<p>The Columbia River Fisheries Program Office and National Wildlife Refuges (i.e., those within the geographic area of responsibility of the CRFPO--Columbia River basin below McNary Dam, Oregon waters excluding the Klamath River basin, small tributaries of Willapa NWR) held a workshop to discuss aquatic resource issues and needs at refuges. Several needs were identified that the CRFPO could provide assistance to refuges, including fisheries assistance concerning habitat restoration and monitoring. Examples of assistance that the CRFPO provided to refuges to address needs during FY06 include: Conducting surveys in various habitats at Steigerwald Lake NWR to determine fish species composition; Providing equipment and assistance to personnel at Tualatin NWR to conduct surveys required by a biological opinion for a wetland restoration project; Coordinating among partners to develop proposals for assessing tidal marsh restoration projects at two Oregon Coast refuges for which funding was secured for one NWR from the National Fish and Wildlife Federation, and providing comments concerning aquatic habitats and resources for developing Comprehensive Conservation Plans at three NWRs.</p>

13310-A-207 - [Aquatic Monitoring on Lower Columbia River Islands](#)

<b>Facility</b>	Columbia River Fisheries Program Office	<p><b>Accomplishment Summary</b></p> <p>Conducted fish and habitat surveys at two islands on National Wildlife Refuges to collect baseline information for proposed modification of tidegates intended to improve habitat for juvenile salmonids</p> <p><b>Description</b></p> <p><b>The importance to the Resource:</b></p> <p>Slough habitats function as important rearing areas for juvenile anadromous fish and provide sources of invertebrate production and organic matter that is transported to the lower Columbia River.</p> <p><b>The problem:</b></p> <p>Levees and tidegates were constructed at Julia Butler Hansen NWR during the early-to-mid 1900s, and have restricted fish access to slough and former tidal marsh habitats. Although the refuge is managed primarily for Columbian white-tailed deer, improvements to fish access to aquatic habitats can be made that are compatible with current management.</p> <p><b>The objective:</b></p> <p>Objective of the project is to assess habitat variables and fish use relative to tidegate operation at Julia Butler Hansen and reference sites at Lewis and Clark NWR. This information will be used to evaluate the effects of tidegate modifications and potential increase access of juvenile fish to rearing habitat.</p> <p><b>The method:</b></p> <p>The project will use an approach that compares physical and biological variables between conditions existing both pre- and post-</p>					
<b>Expended</b>	\$0						
<b>Objective</b>	Increase the quantity and improve the quality of aquatic and riparian habitat on Service lands.						
<b>Primary Benefited Species</b>	Chinook salmon or king salmon ( <a href="#">Oncorhynchus tshawytscha</a> )						
<b>Primary Benefited Population</b>	Not specified						
<b>Plans</b>	Biological and Conference Opinions for the Columbia River Channel Improvements Project National Wildlife Refuge System Improvement Act of 1997						
<b>Keyword</b>	Monitoring and Assessment						
<b>Need Number</b>	N-002						
<b>Partners</b>	Julia Butler Hansen National Wildlife Refuge Lewis and Clark National Wildlife Refuge U.S. Army Corps of Engineers (\$147224)						
<p><b>Accomplishments</b></p> <table border="1"> <tr> <td>Number of habitat assessments completed</td> <td>1.0</td> </tr> <tr> <td>Number of population assessments completed</td> <td>4</td> </tr> <tr> <td>Number of other Recovery Plan tasks</td> <td>1</td> </tr> </table>			Number of habitat assessments completed	1.0	Number of population assessments completed	4	Number of other Recovery Plan tasks
Number of habitat assessments completed	1.0						
Number of population assessments completed	4						
Number of other Recovery Plan tasks	1						

implemented for T&E populations		<p>construction of modified tidegates and additional points of access, as well as comparisons with conditions at appropriate reference sites at the refuge not affected by levees and tidegates.</p> <p><b>Further description:</b></p> <p>The Army Corps of Engineers has proposed a restoration project at Tenasillahe Island, located at Julia Butler Hanson NWR, intended to benefit juvenile salmonids. If hydraulic analyses indicate that habitat for listed Columbia white-tailed deer will not be negatively affected, activities of the interim phase include modifications to tidegates and construction of controlled water inlets to improve water exchange and juvenile salmonid passage between island sloughs and the Columbia River. Possible long-term activities include breaching dikes on the island to restore tidal circulation, which are contingent upon delisting of the deer and a positive compatibility determination with refuge purposes. The CRFPO conducted preliminary surveys to describe habitat and fish presence and distribution in sloughs on Tenasillahe Island and at an adjacent island lacking dikes and tidegates. These data will contribute to establishing a baseline to which data collected after construction will be compared to evaluate the effects of restoration activities.</p>
Number of other Fishery Management Plan tasks implemented for populations of management concern.	2	

14330-A-064 - [Aquatic Resource Management on National Wildlife Refuges in Idaho](#)

<b>Facility</b>	Idaho Fisheries Resource Office	<p><b>Accomplishment Summary</b></p> <p>We increased Refuge coordination efforts by contacting all refuges in Idaho and Eastern Washington to inquire about aquatic resource needs. We then physically met with refuge staff to present our programs capabilities and potential sources for funding including FONS, FRIMA, FPP, and the NFHI. We discussed aquatic issues for each refuge and identified where we could assist them with funding or technical assistance. As a result, we prepared 5 FONS proposals for refuge related projects.</p> <p><b>Description</b></p> <p><b>The importance to the Resource:</b></p> <p>There are 7 NWRs in Idaho that have varied needs and/or opportunities for aquatic resource enhancement, restoration, or protection of sensitive fish stocks.</p> <p><b>The problem:</b></p> <p>Existing aquatic issues at refuges include fish passage, aquatic nuisance species control/eradication, and activities associated with the recovery and conservation of ESA listed Kootenai White Sturgeon and Bull Trout.</p> <p><b>The objective:</b></p> <p>To aid in the recovery and conserve of aquatic species, the Idaho Fisheries Resource Office will work with refuge managers to assess the status of aquatic resources on Idaho Refuges, and develop and implement appropriate management actions for conservation of these aquatic resources.</p> <p><b>The method:</b></p> <p>IFRO staff will meet with refuge personnel, and</p>	
<b>Expended</b>	\$32000		
<b>Objective</b>	Develop and improve long-term partnerships with States, Tribes, other Federal agencies, non-governmental organizations, and other Service Programs to develop collaborative conservation strategies for aquatic resources.		
<b>Primary Benefited Species</b>	(0) Multiple Species		
<b>Primary Benefited Population</b>	Not specified		
<b>Plans</b>	DOI Executive Order #13112 (Invasive Species) U.S. Fish and Wildlife Service Refuge Manual		
<b>Keyword</b>	Management		
<b>Need Number</b>	N-002		
<b>Partners</b>			
<p><b>Accomplishments</b></p> <table border="1"> <tr> <td>Number of other Fishery Management Plan tasks implemented for populations of management concern.</td> <td>2</td> </tr> </table>			Number of other Fishery Management Plan tasks implemented for populations of management concern.
Number of other Fishery Management Plan tasks implemented for populations of management concern.	2		

	<p>discuss opportunities to collaborate on refuge projects. Individual projects will get developed and entered into the FONS database in order to secure funding for aquatic resource actions. Opportunities will also be explored for land acquisitions that could secure habitats for listed species.</p>
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13231-A-027 - [Hatchery Review Team Participation by Lower Columbia River Fish Health Ctr](#)

<b>Facility</b>	Lower Columbia River Fish Health Center	<p><b>Accomplishment Summary</b></p> <p>Fish health expertise was contributed to the Hatchery Review Team's analysis and recommendations of Warm Springs National Fish Hatchery (NFH), the Leavenworth NFH Complex, and Eagle Creek NFH.</p> <p><b>Description</b></p> <p><b>The <i>importance</i> to the Resource:</b></p> <p>All USFWS National Fish Hatcheries in the Pacific NW are undergoing a scientific review of their effectiveness in managing fisheries, fulfilling mitigation needs, and to ensure that they meet the critical missions and enhance needs of states, tribes and federal agencies, now and into the future.</p> <p><b>The <i>problem</i>:</b></p> <p>Not all hatcheries are effectively achieving the best results needed.</p> <p><b>The <i>objective</i>:</b></p> <p>There is a need to thoroughly investigate and review the stocks being reared in NW hatcheries to ensure that they are producing the fish stocks best suited for their basins.</p> <p><b>The <i>method</i>:</b></p> <p>A team of experts from USFWS and NMFS gather information, inspect each hatchery and make recommendations for each hatchery. All information is supplied via the hatchery review team website.</p>
<b>Expended</b>	\$15678	
<b>Objective</b>	Develop and improve long-term partnerships with States, Tribes, other Federal agencies, non-governmental organizations, and other Service Programs to develop collaborative conservation strategies for aquatic resources.	
<b>Primary Benefited Species</b>	(0) Multiple Species	
<b>Primary Benefited Population</b>	Not specified	
<b>Plans</b>	Conservation of Columbia Basin Fish, Final Basinwide Salmon Recovery Strategy, 12/2000 (All H Paper)	
<b>Keyword</b>	Management	
<b>Need Number</b>	N-002	
<b>Partners</b>	<p>Confederated Tribes of The Warm Springs</p> <p>National Oceanic and Atmospheric Administration, Fisheries</p> <p>Oregon Department of Fish and Wildlife</p> <p>U. S. Forest Service</p> <p>Washington Department of Fish and Wildlife</p> <p>Yakama Indian Nation</p>	

**Accomplishments**

Number of other Recovery Plan tasks implemented for T&E populations	4
Number of applied science and technology tasks implemented as prescribed by Recovery Plans. (PART)	1

13330-A-103 - [Restoring fish passage into upper Icicle Creek](#)

<b>Facility</b>	Mid-columbia River Fisheries Resource Office	<p><b>Accomplishment Summary</b></p> <p>We continued efforts to resolve issues and ESA compliance necessary to implement Phase II of the Icicle Creek Restoration Project at Leavenworth NFH. Biological The project, to restore fish passage and improve habitat conditions in Icicle Creek, has been unfortunately delayed to legal action and inability to resolve issues from certain parties.</p> <p><b>Description</b></p> <p><b>The importance to the Resource:</b></p> <p>Restoring fish passage in Icicle Creek (past Leavenworth NFH) will help populations of ESA-listed steelhead and bull trout as well as non-listed native species.</p> <p><b>The problem:</b></p> <p>Leavenworth NFH has blocked most fish passage to areas upstream of the hatchery since construction about 1940. We have been pursuing long-term solutions but until certain issues are resolved with respect to the long term solution we will continue to seek opportunities to improve passage conditions.</p> <p><b>The objective:</b></p> <p>To provide passage opportunities to all non-hatchery fish into areas of Icicle Creek upstream of Leavenworth NFH without compromising hatchery broodstock collection or the Yakama Nation tribal fishery. as natural</p> <p><b>The method:</b></p> <p>We continue to meet with all parties to resolve disagreements regarding the optimum passage solution at the hatchery.</p>	
<b>Expended</b>	\$200000		
<b>Objective</b>	Recover fish and other aquatic resource populations protected under the Endangered Species Act.		
<b>Primary Benefited Species</b>	Rainbow trout ( <a href="#">Oncorhynchus mykiss</a> )		
<b>Primary Benefited Population</b>	<a href="#">Wenatchee River (UCWEN) population, part of the Upper-Columbia River steelhead ESU.</a>		
<b>Plans</b>	Bull Trout Draft Recovery Plan, Chapter 21 Leavenworth Hatchery Genetics Management Plan USFWS Biological Opinion for the Operations and Maintenance of Leavenworth National Fish Hatchery		
<b>Keyword</b>	Fish Passage		
<b>Need Number</b>	N-002		
<b>Partners</b>	Leavenworth National Fish Hatchery U.S. Bureau of Reclamation Washington Department of Fish and Wildlife		
<p><b>Accomplishments</b></p> <table border="1"> <tr> <td>Number of miles re-opened to fish passage</td> <td>1.2</td> </tr> </table>			Number of miles re-opened to fish passage
Number of miles re-opened to fish passage	1.2		

Number of habitat assessments completed	1.0
Number of miles of in-stream habitat assessed	3.0
Number of population assessments completed	1
Number of other Recovery Plan tasks implemented for T&E populations	4
Number of applied science and technology tasks implemented as prescribed by Fishery Management Plans. (PART)	1

**Further description:**

In FY 2006, the Mid-Columbia River Fishery Resource Office (MCRFRO) continued extensive effort working with partner's including Leavenworth National Fish Hatchery (LNFH), the Bureau of Reclamation, National Marine Fisheries Service, the Yakama Nation, Ecological Services, and the Washington Department of Fish and Wildlife to resolve disagreements over long-term passage solutions at the hatchery. Some short-term passage improvements have been implemented this year which are providing benefit to ESA-listed and native non-listed fish.

13330-A-114 - [Crab Creek In-stream and Riparian Habitat Restoration](#)

<b>Facility</b>	Mid-columbia River Fisheries Resource Office	<p><b>Accomplishment Summary</b></p> <p>In fiscal year 2006 a habitat survey was conducted and a restoration plan was completed. The Crab Creek Instream and Riparian Habitat Assessment and Restoration Plan will guide future actions necessary for the improvement of in-stream and riparian conditions on the Columbia National Wildlife Refuge Complex.</p> <p><b>Description</b></p> <p><b>The importance to the Resource:</b></p> <p>The Crab Creek Instream and Riparian Habitat Assessment and Restoration Plan, completed in FY2006, will guide future actions to restore fish passage and enhance or restore riparian habitat conditions along a 14 mile stretch of Crab Creek located on NWR lands benefiting numerous aquatic and terrestrial species..</p> <p><b>The problem:</b></p> <p>A lack of funding and expertise precluded effective remedial actions to restore fish passage and enhance degraded habitat conditions on Crab Creek within the Columbia NWR.</p> <p><b>The objective:</b></p> <p>This project provided the funding necessary for a detailed survey of the stream and riparian habitat conditions on Crab Creek. Survey data was used to complete the restoration plan cited above. The restoration plan prioritized actions necessary to restore fish passage and enhance or restore riparian habitats.</p> <p><b>The method:</b></p> <p>A comprehensive survey was conducted and</p>	
<b>Expended</b>	\$44000		
<b>Objective</b>	Increase the quantity and improve the quality of aquatic and riparian habitat on Service lands.		
<b>Primary Benefited Species</b>	Chinook salmon or king salmon ( <a href="#">Oncorhynchus tshawytscha</a> )		
<b>Primary Benefited Population</b>	Not specified		
<b>Plans</b>	Crab Creek Subbasin Plan Crab Creek Instream and Riparian Habitat Assessment and Restoration Plan		
<b>Keyword</b>	Habitat		
<b>Need Number</b>	N-002		
<b>Partners</b>	Columbia National Wildlife Refuge Complex		
<p><b>Accomplishments</b></p> <table border="1"> <tr> <td>Number of other Fishery Management Plan tasks implemented for populations of management concern.</td> <td>3</td> </tr> </table>			Number of other Fishery Management Plan tasks implemented for populations of management concern.
Number of other Fishery Management Plan tasks implemented for populations of management concern.	3		

report finished.

**Further description:**

The Crab Creek In-Stream and Riparian Habitat Project is a cooperative effort between the Mid-Columbia Fishery Resource Office, Columbia National Wildlife Refuge Complex, Natural Resource Conservation Service, Othello Conservation District, Bureau of Reclamation, Ducks Unlimited and two landowners. The project area consists of 14 miles of in-stream and riparian habitat. The majority (12 miles) of property is on Service refuge lands. In fiscal year 2006 we completed phase 1 of the project. A consulting firm (BioAnalysts) was contracted and they surveyed 14 miles of Crab Creek. BioAnalysts then completed a restoration plan which addressed stream, riparian, and upland restoration needs throughout the project area. This is a three phase project. Phase 1 was completed in FY2006. Implementation will occur in phases 2 & 3. Species to be benefited from this project potentially include Chinook salmon, steelhead, native trout, waterfowl and neotropical song birds.