

*Endangered Species Act  
2004/2004–2008 Implementation Plan  
for the  
Federal Columbia River Power System*



*Appendix*



US Army Corps  
of Engineers



*November 2003*

# Appendix A – List of Projects by H-category for each ESU

The tables in this Appendix identify projects that are expected to benefit specific ESA-listed ESUs. The hydrosystem, hatcheries, harvest, RM&E and resident fish reports are sorted by strategy and/or substrategy. The habitat reports provide further project-level detail for each ESU, are sorted by subbasin, and indicate whether the projects provide near-term benefits (flow, screening, and barriers) and/or long-term benefits (conservation easements and riparian buffers).

<b>Table of Contents</b>	<b>Page(s)</b>
2004 Hydro Projects .....	1 – 14
2004 Hatchery Projects.....	15 – 17
2004 Harvest Projects .....	18
2004 RM&E Projects .....	19 – 29
<b>2004 Tributary Habitat Projects – Jeopardized ESUs</b>	
Upper Columbia River Steelhead .....	30 – 31
Snake River Basin Steelhead.....	32 – 35
Mid Columbia River Steelhead .....	36 – 39
Upper Columbia River Spring Chinook.....	40 – 41
Snake River Spring/Summer Chinook .....	42 – 45
Snake River Fall Chinook.....	46
Columbia River Chum .....	47
Snake River Sockeye .....	48
<b>2004 Tributary Habitat Projects – Non Jeopardized ESUs</b>	
Lower Columbia River Chinook .....	49
Upper Willamette River Chinook.....	50
Lower Columbia River Steelhead .....	51
Upper Willamette River Steelhead.....	52
2004 Mainstem and Estuary Projects.....	53
2004 Resident Fish Projects .....	54 – 56

# 2004 Hydro Projects

Strategy / Substrategy			Agency	SR	SR	LCR	UWR	UCR	CR	SR	UCR	SR	LCR	UWR	MCR	CR	KRWS
				Fall	Spr / Sum			Spr		Sockeye	Stlhd	Stlhd	Stlhd	Stlhd	Stlhd	Bull Trout	

## Hydro

### No Strategy Assigned for this Project and this Category

#### No SubStrategy Assigned for this Project and this Category

2078		AFEP; Kelt Research, Unaccounted Adult Loss and Straying and Marine Mammal Monitoring	CORPS	X	X	X		X		X	X	X	X		X		
6025		ESA Coordination--Libby Dam	CORPS														X
245	1987-127-00	Smolt Monitoring by Federal and Non-Federal Agencies	BPA	X	X					X		X					
246	1987-401-00	Assessment of Smolt Condition: Biological and Environmental Interactions	BPA														
266	1989-098-02	Idaho Supplementation Studies - salmon	BPA		X												
248	1990-080-00	Columbia River Basin PIT Tag Information System	BPA	X	X	X	X	X	X	X	X	X	X	X	X		
382	1990-080-01	Pit Tag Purchases (Placeholder)	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X	X
251	1991-051-00	Monitoring and Evaluation Statistical Support	BPA	X	X	X	X	X	X	X	X	X	X	X	X		
146	1993-056-00	Research on Captive Broodstock Programs for Pacific Salmon	BPA		X					X							
53	1998-010-03	Spawning Distribution of Fall Chinook Salmon Released as Yearlings above Lower Granite Dam	BPA	X													
440	2000-055-00	Enhanced Conservation Enforcement for Fish & Wildlife, Watersheds of the Nez Perce	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X	X
439	2000-056-00	Protect Anadromous Salmonids in the Mainstem Corridor	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8002	CENWW CRFM	Little Goose Survival/Efficiency Study	CORPS	X	X					X		X					
8003	CENWW CRFM	Ice Harbor North Shore Auxiliary Water Supply – Bearing Replacement	CORPS	X	X					X		X					
8004	CENWW CRFM	Ice Harbor North Shore Auxiliary Water Supply – Sump Modifications	CORPS	X	X					X		X					
8005	CENWW CRFM	Lower Monumental Juvenile PIT Tag Detector On the Main Fish Transportation Flume	CORPS	X	X					X		X					
8006	CENWW CRFM	Lower Monumental Juvenile Fish Barge Loading Improvements - Dewaterer	CORPS	X	X					X		X					
8007	CENWW CRFM	Ice Harbor Juvenile PIT Tag Detector on the Main Fish Transportation Flume	CORPS	X	X					X		X					

**Hydro**

**No Strategy Assigned for this Project and this Category**

8008	CENWW CRFM	System - Adult Fish Transition Pool and Weir Modifications and Evaluations	CORPS	X	X			X		X	X	X									X
8011	CENWW CRFM	Ice Harbor Removable Spillway Weir	CORPS	X	X					X		X									
8013	CENWW CRFM	Lower Monumental RSW/BGS	CORPS	X	X					X		X									
8018	CENWW CRFM	Ice Harbor Removable Spillway Weir - Construction/EDC/S&A	CORPS	X	X					X		X									
2119	CENWW OM	Juvenile Salmon Temperature Studies	CORPS	X	X	X		X		X	X	X	X	X		X					X

Strategy / Substrategy

*SR* *SR*  
*Fall* *Spri /*  
*Chinook* *Sum* *LCR* *UWR* *UCR*  
*Chinook* *Chinook* *Chinook* *Chum* *Sockeye* *UCR* *SR* *UCR* *SR* *LCR* *UWR* *MCR* *CR*  
*Trout* *KRWS*

**Hydro**

**1. Configure Dam Facilities to Enhance Juvenile & Adult Fish Passage & Survival**

No SubStrategy Assigned for this Project and this Category

8001	CENWW CRFM	McNary Spillway Gate Rehabilitation	CORPS		X		X												
8014	CENWW CRFM	Lower Monumental Spillway - Parapet Walls	CORPS																

**Hydro**

**1. Configure Dam Facilities to Enhance Juvenile & Adult Fish Passage & Survival**

**1.1 Mainstem juvenile passage enhancement**

2082		Bonneville 2nd PH surface bypass (corner collector)	CORPS	X	X	X		X	X	X	X	X				X	
2084		Bonneville 2nd PH FGE improvements	CORPS	X	X	X		X	X	X	X	X				X	
2089		Bonneville 2nd PH gatewell debris removal	CORPS	X	X	X		X	X	X	X	X				X	
2095		John Day Screens	CORPS	X	X				X	X	X					X	
2098		The Dalles sluiceway outfall relocation and emergency AWS	CORPS	X	X			X		X	X					X	
2100		Turbine passage studies	CORPS	X	X	X		X	X	X	X	X				X	X
2103		Bonneville 1st PH FGE	CORPS	X	X	X		X	X	X	X	X				X	
2104		Bonneville 1st PH Surface Bypass	CORPS	X	X	X		X	X	X	X	X				X	
2105		Bonneville 1st PH JBS improvements	CORPS	X	X	X		X	X	X	X	X				X	
2106		Bonneville 2nd PH JBS improvements	CORPS	X	X	X		X	X	X	X	X				X	
2109		The Dalles surface bypass and forebay passage improvements	CORPS	X	X			X		X	X					X	
247	1989-107-00	Statistical Support for Salmonid Survival Studies	BPA	X	X	X	X	X	X	X	X	X	X	X		X	
322	1990-077-00	Northern Pikeminnow Management Program	BPA	X	X	X	X	X	X	X	X	X	X	X		X	X
253	1994-033-00	Fish Passage Center	BPA		X	X		X									
2011	CENWW CRFM	System - Cylindrical Dewatering Evaluation	CORPS	X	X	X		X	X		X	X				X	
2026	CENWW CRFM	Ice Harbor Survival/Efficiency Study	CORPS	X	X				X		X						
2034	CENWW CRFM	Little Goose Extended Submerged Bar Screens	CORPS	X	X				X		X						X
2040	CENWW CRFM	Lower Granite Extended Submerged Bar Screens	CORPS	X	X				X		X						X
2047	CENWW CRFM	Lower Monumental Extended Submerged Bar Screens	CORPS	X	X				X		X						X
2049	CENWW CRFM	Lower Monumental Juvenile Bypass System Outfall and Divider Wall Evaluations	CORPS	X	X				X		X						X
2053	CENWW CRFM	System - Lower Snake River Juvenile Bypass System Improvements	CORPS	X	X				X		X						X
2054	CENWW CRFM	McNary Extended Submerged Bar Screens	CORPS	X	X			X	X	X	X					X	
2056	CENWW CRFM	McNary Forebay Temperature Improvements	CORPS	X													
2058	CENWW CRFM	McNary Juvenile Fish Facility Debris	CORPS	X	X			X	X	X	X					X	
2061	CENWW CRFM	McNary Survival/Efficiency Study	CORPS	X	X			X	X	X	X					X	

**Hydro**

**1. Configure Dam Facilities to Enhance Juvenile & Adult Fish Passage & Survival**

2067	CENWW CRFM	System - Evaluation of Juvenile Fish Separators	CORPS	X	X	X		X	X	X	X	X		X		
2121	CENWW CRFM	Lower Monumental Survival/Efficiency Study	CORPS	X	X				X		X					X

**1.2 Mainstem adult passage enhancement**

2083		Bonneville 2nd PH fish unit trash rake	CORPS	X	X	X		X	X	X	X	X		X		
2085		Bonneville 2nd PH emergency AWS	CORPS	X	X	X		X	X	X	X	X		X		
2091		John Day salmon holding and jumping	CORPS	X	X			X		X	X			X		
2092		John Day Ladder Temperature	CORPS	X	X			X		X	X			X		
2093		John Day N. Shore AWS	CORPS	X	X			X		X	X			X		
2102		Adult PIT tag program (Bonneville Dam)	CORPS	X	X	X		X	X	X	X	X		X		
247	1989-107-00	Statistical Support for Salmonid Survival Studies	BPA	X	X	X	X	X	X	X	X	X	X	X		
253	1994-033-00	Fish Passage Center	BPA		X	X		X								
2017	CENWW CRFM	System - Fish Ladder Temperature Evaluation	CORPS	X	X	X		X	X	X	X	X		X		
2033	CENWW CRFM	Little Goose Auxiliary Water Supply	CORPS	X	X				X		X					
2046	CENWW CRFM	Lower Monumental Auxiliary Water Supply	CORPS	X	X				X		X					

**Hydro**

**1. Configure Dam Facilities to Enhance Juvenile & Adult Fish Passage & Survival**

**1.3 Measures that address temperature/dissolve gas**

2081		Bonneville Spillway Flow Deflectors	CORPS	X	X	X		X	X	X	X	X		
2092		John Day Ladder Temperature	CORPS	X	X			X	X	X			X	
2094		John Day surface bypassspillway improvements	CORPS	X	X			X	X	X			X	
2107		The Dalles spillway survival improvement	CORPS	X	X			X	X	X				
6014	131	Fixed TDG Monitoring Stations, Chief Joseph Dam	CORPS					X	X					
6015	131	Total Dissolved Gas Monitors, Chief Joseph Dam	CORPS					X	X					
6024	131	Total Dissolved Gas Monitoring, Libby Dam	CORPS											X
6020	133	System TDG Model Development Coordination, Chief Joseph Dam	CORPS					X	X				X	
6019	143	System Water Temperature Modeling, Chief Joseph Dam [Snake River]	CORPS	X	X			X	X					
2035	CENWW CRFM	Little Goose Flow Deflectors and Divider Wall Evaluations	CORPS	X	X			X	X					X
2041	CENWW CRFM	Lower Granite Flow Deflectors and Divider Wall Evaluations	CORPS	X	X			X	X					X
2048	CENWW CRFM	Lower Monumental Flow Deflectors	CORPS	X	X			X	X					X
2055	CENWW CRFM	McNary Flow Deflectors and Divider Wall Evaluations	CORPS	X	X			X	X	X			X	
2056	CENWW CRFM	McNary Forebay Temperature Improvements	CORPS	X										
2014	CENWW OM	Modify Dworshak National Fish Hatchery System 1 Reuse System	CORPS	X	X			X	X					
2127	CENWW OM	Review of Forebay Monitors Lower Granite to McNary	CORPS	X	X			X	X	X			X	
2128	CENWW OM	Dworshak Dissolved Gas Abatement Study	CORPS		X				X					
2129	CENWW OM	Temperature Modeling Plan Alternative Snake River Operations	CORPS	X	X			X	X					



**Hydro**

**1. Configure Dam Facilities to Enhance Juvenile & Adult Fish Passage & Survival**

**1.4 Project configuration RME**

2086		Bonneville adult fallback	CORPS	X	X	X		X	X	X	X	X		X
2088		Bonneville juvenile fish studies	CORPS	X	X	X		X	X	X	X	X		X
2096		John Day survival and passage efficiency studies	CORPS	X	X			X	X	X				X
2097		Adult Lamprey Passage	CORPS											
2099		The Dalles project survival study	CORPS	X	X			X	X	X				X
2100		Turbine passage studies	CORPS	X	X	X		X	X	X	X		X	X
2101		Adult migration studies	CORPS	X	X	X		X	X	X			X	
127	2000-017-00	Kelt Reconditioning Research	BPA							X			X	
131	2001-003-00	Installation of Adult PIT-tag Detection Systems	BPA	X	X	X		X	X	X	X		X	
2011	CENWW CRFM	System - Cylindrical Dewatering Evaluation	CORPS	X	X	X		X	X		X	X		X
2017	CENWW CRFM	System - Fish Ladder Temperature Evaluation	CORPS	X	X	X		X	X	X	X		X	
2026	CENWW CRFM	Ice Harbor Survival/Efficiency Study	CORPS	X	X				X		X			
2045	CENWW CRFM	Lower Granite Surface Bypass and Collection	CORPS	X	X				X		X			
2067	CENWW CRFM	System - Evaluation of Juvenile Fish Separators	CORPS	X	X	X		X	X	X	X		X	
2121	CENWW CRFM	Lower Monumental Survival/Efficiency Study	CORPS	X	X				X		X			X
2120	CENWW OM	Juvenile salmon transportation evaluations	CORPS	X	X			X	X	X	X		X	

**3.1 Operations of FCRPS fish facilities**

2028	CENWP	Non-Routine Maintenance of John Day Lock and Dam Fish Passage Facilities	CORPS	X	X			X		X	X		X	X
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Hydro

2. Manage Water to Enhance Juvenile & Adult Fish Survival

No SubStrategy Assigned for this Project and this Category

6018	136; 134	Chief Joseph Gas Abatement	CORPS					X					X	X	
6034	36; 8.1.h; 8.1.l	Variable December 31 flood control target at Libby Dam; new volume forecast procedure	CORPS	X	X	X		X	X	X	X	X	X		X
6000	8.1.b; 8.1.d; NMFS 22; 8.2.a.6	Upper Columbia Alternative Flood Control and Fisheries Operations EIS Preparation	CORPS	X	X	X		X	X	X	X	X	X	X	X
2128	CENWW OM	Dworshak Dissolved Gas Abatement Study	CORPS		X							X			
2129	CENWW OM	Temperature Modeling Plan Alternative Snake River Operations	CORPS	X	X				X			X			

1.1 Mainstem juvenile passage enhancement

2041	CENWW CRFM	Lower Granite Flow Deflectors and Divider Wall Evaluations	CORPS	X	X				X			X			X
2048	CENWW CRFM	Lower Monumental Flow Deflectors	CORPS	X	X				X			X			X

1.4 Project configuration RME

2061	CENWW CRFM	McNary Survival/Efficiency Study	CORPS	X	X			X	X	X	X		X		
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**Hydro**

**2. Manage Water to Enhance Juvenile & Adult Fish Survival**

**2.1 Reservoir operations to enhance fish survival**

2004		Albeni Falls Operation	CORPS					X						X
2009		Chum Flows Below Bonneville Dam	CORPS					X						
2015		Dworshak Operations	CORPS	X	X	X		X	X	X	X	X		X
2030		John Day Minimum Pool Operation	CORPS	X	X			X		X	X			X
2032		Libby Operations Anadromous	CORPS	X	X	X		X	X	X	X	X		X
2052		Lower Snake projects Minimum Operating Pool operation	CORPS	X	X			X		X				
2064		Operate Turbine units at 1% efficiency range	CORPS	X	X	X		X	X	X	X	X		X
2068		Shift Flood Control to Maximize Snake River Water Storage	CORPS	X	X	X		X	X	X	X	X		X
2124		Revise Storage Diagrams for Libby	CORPS	X	X	X		X	X	X	X	X		X
6024	131	Total Dissolved Gas Monitoring, Libby Dam	CORPS											X
6020	133	System TDG Model Development Coordination, Chief Joseph Dam	CORPS					X		X				X
6019	143	System Water Temperature Modeling, Chief Joseph Dam [Snake River]	CORPS	X	X			X		X				
4081	Hy14.HGH.01.000.00	Hungry Horse Operations--VARQ operations	USBR	X	X			X		X	X	X		X

**Hydro**

**2. Manage Water to Enhance Juvenile & Adult Fish Survival**

**2.2 System flow mgmt to enhance fish survival**

2020		Flow Objectives at McNary	CORPS	X	X	X		X	X	X	X		X						
2021		Flow Objectives at Lower Granite	CORPS	X	X	X		X	X	X	X		X						
2065		Priest Rapids Flow Objective	CORPS		X	X		X	X	X	X		X						
2109		The Dalles surface bypass and forebay passage improvements	CORPS	X	X			X	X	X									X
6014	131	Fixed TDG Monitoring Stations, Chief Joseph Dam	CORPS					X		X									
6015	131	Total Dissolved Gas Monitors, Chief Joseph Dam	CORPS					X		X									
2014	CENWW OM	Modify Dworshak National Fish Hatchery System 1 Reuse System	CORPS	X	X				X		X								
2127	CENWW OM	Review of Forebay Monitors Lower Granite to McNary	CORPS	X	X			X	X	X	X								X
4077	Hy14.GCL.01.000.00	Grand Coulee Operations	USBR	X	X			X	X	X	X								X
4081	Hy14.HGH.01.000.00	Hungry Horse Operations--VARQ operations	USBR	X	X			X	X	X	X								X
4080	Hy23.BNK.01.000.00	Banks Lake Operations	USBR	X				X		X									

**2.3 Spill operations for project passage**

2132		Spill for Juvenile Fish Passage	CORPS	X	X	X		X	X	X	X		X						
2061	CENWW CRFM	McNary Survival/Efficiency Study	CORPS	X	X			X	X	X	X								X

**2.4 Transmission reinforcement in support of spill**

308		Grand Coulee Bell 500-kV Transmission Line	BPA		X														
309		Hungry Horse Transmission Stability Study	BPA																X
310		Libby Transmission Stability Study	BPA																X
312		Schultz-Wautoma 500-kV Transmission Line	BPA		X	X		X											

**Hydro**

**2. Manage Water to Enhance Juvenile & Adult Fish Survival**

**2.5 Other actions to enhance water management**

192	Canadian Treaty Storage Agreement - Request/Negotiate Additional Storage	BPA		X	X		X								X
193	Non-Treaty Storage Agreement with Canada-Request Additional Storage	BPA		X	X		X								X
2010	Coordinate Water Management Decisions with TMT	CORPS	X	X	X		X	X	X	X	X		X	X	X
2117	Evaluate Flood Control Operations to Reduce River Ecosystem Effects	CORPS	X	X	X		X	X	X	X	X		X	X	X
2122	Request/Negotiate 1 MAF of Treaty storage with BC Hydro	CORPS	X	X	X		X	X	X	X	X		X	X	X
2123	Up to 3.5 MAF flow augmentation from Canadian storage in July and August	CORPS	X	X	X		X	X	X	X	X		X		
4063	Hy30.TUL.01.000.00 Tualatin Project ESA Consultation with NMFS	USBR					X								X
4057	Hy27.PNW.01.000.00 Reclamation Water Contracts	USBR													
4058	Hy28.PNW.01.000.01 Pursue water conservation at USBR projects	USBR													
4059	Hy29.PNW.01.100.02 Investigate Unauthorized Use of USBR Water	USBR													
4061	Hy30.DES.01.000.00 Deschutes Project ESA Consultation with NMFS	USBR											X	X	
4110	Hy30.OKN.01.000.00 Okanogan Project ESA Consultation	USBR					X		X					X	
4064	Hy30.UMA.01.000.00 Umatilla Project ESA Consultation with NMFS	USBR											X	X	
4066	Hy31.CBP.01.100.00 Banks Lake Drawdown EIS	USBR	X				X		X						
4067	Hy32.USN.01.100.00 Water Acquisition from Reclamation's Snake River Projects	USBR	X	X			X	X	X	X			X	X	
4068	Hy37.CBP.01.200.00 Columbia Basin Project Wasteway and Drain Investigation	USBR											X		
4115	Hy38.CBP.01.001.00 Burbank #2&#3Pumps	USBR					X		X				X		
4113	Hy39.CBP.01.300.00 Columbia R. Return Flow WQ Monitoring Study	USBR					X		X				X		

<i>SR Fall Chinook</i>	<i>SR Spri/ Sum Chinook</i>	<i>LCR Chinook</i>	<i>UWR Chinook</i>	<i>UCR Spri Chinook</i>	<i>CR Chum</i>	<i>SR Sockeye</i>	<i>UCR Stlhd</i>	<i>SR Stlhd</i>	<i>LCR Stlhd</i>	<i>UWR Stlhd</i>	<i>MCR Stlhd</i>	<i>CR Bull Trout</i>	<i>KRWS</i>
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**Hydro**

**3. Operate & Maintain Fish Passage Facilities to Enhance Fish Survival**

**1.1 Mainstem juvenile passage enhancement**

2111	CENWP	Operation and Maintenance of Bonneville Lock and Dam Fish Passage Facilities	CORPS	X	X	X		X	X	X	X	X		X	X
2055	CENWW CRFM	McNary Flow Deflectors and Divider Wall Evaluations	CORPS	X	X			X	X	X	X			X	

**1.2 Mainstem adult passage enhancement**

2111	CENWP	Operation and Maintenance of Bonneville Lock and Dam Fish Passage Facilities	CORPS	X	X	X		X	X	X	X	X		X	X
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**3.1 Operations of FCRPS fish facilities**

2064		Operate Turbine units at 1% efficiency range	CORPS	X	X	X		X	X	X	X	X		X	
2132		Spill for Juvenile Fish Passage	CORPS	X	X	X		X	X	X	X	X		X	
2029	CENWP	Operation and Maintenance of John Day Lock and Dam Fish Passage Facilities	CORPS	X	X			X	X	X	X			X	X
2071	CENWP	Operation and Maintenance of The Dalles Lock and Dam Fish Passage Facilities	CORPS	X	X			X	X	X	X			X	X
2006	CENWW OM	Avian Predation Measures at Mainstem Columbia and Snake River Projects	CORPS	X	X			X	X		X			X	
2019	CENWW OM	Fish Passage Plan Development and Implementation	CORPS	X	X	X		X	X	X	X	X		X	X
2025	CENWW OM	Operation and Maintenance of Ice Harbor Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X				X
2037	CENWW OM	Operation and Maintenance of Little Goose Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X				X
2044	CENWW OM	Operation and Maintenance of Lower Granite Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X				X
2051	CENWW OM	Operation and Maintenance of Lower Monumental Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X				X
2060	CENWW OM	Operation and Maintenance of McNary Lock and Dam Fish Passage Facilities	CORPS	X	X			X	X	X	X			X	
2072	CENWW OM	Improve Operations of Adult Fishway Main Entrances	CORPS	X	X	X		X	X	X	X	X		X	

**Hydro**

**3. Operate & Maintain Fish Passage Facilities to Enhance Fish Survival**

**3.2 Routine maintenance on fish/wildlife facility**

253	1994-033-00	Fish Passage Center	BPA		X	X		X						
2029	CENWP	Operation and Maintenance of John Day Lock and Dam Fish Passage Facilities	CORPS	X	X			X	X	X		X	X	
2071	CENWP	Operation and Maintenance of The Dalles Lock and Dam Fish Passage Facilities	CORPS	X	X			X	X	X		X	X	
2025	CENWW OM	Operation and Maintenance of Ice Harbor Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X			X
2037	CENWW OM	Operation and Maintenance of Little Goose Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X			X
2044	CENWW OM	Operation and Maintenance of Lower Granite Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X			X
2051	CENWW OM	Operation and Maintenance of Lower Monumental Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X			X
2060	CENWW OM	Operation and Maintenance of McNary Lock and Dam Fish Passage Facilities	CORPS	X	X			X	X	X		X		
2069	CENWW OM	Spare Parts for Fish Passage Facilities	CORPS	X	X	X		X	X	X	X	X	X	X

**3.3 Non-routine maintenance-fish & wildlife facility**

2007	CENWP	Non-Routine Maintenance of Bonneville Lock and Dam Fish Passage Facilities	CORPS	X	X	X		X	X	X	X	X	X	X
2013	CENWW OM	Automated Alarm System for Adult Collection Channel Diffuser Systems	CORPS	X	X	X		X	X	X	X	X	X	X
2024	CENWW OM	Non-Routine Maintenance of Ice Harbor Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X			X
2036	CENWW OM	Non-Routine Maintenance of Little Goose Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X			X
2043	CENWW OM	Non-Routine Maintenance of Lower Granite Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X			X
2050	CENWW OM	Non-Routine Maintenance of Lower Monumental Lock and Dam Fish Passage Facilities	CORPS	X	X				X		X			X
2059	CENWW OM	Non-Routine Maintenance of McNary Lock and Dam Fish Passage Facilities	CORPS	X	X			X	X	X	X		X	
2066	CENWW OM	Remove Obstructions from Turbine Environments	CORPS	X	X	X		X	X	X	X	X	X	

**Hydro**

**3. Operate & Maintain Fish Passage Facilities to Enhance Fish Survival**

**3.4 Juvenile fish transport actions/enhance fish**

2083		Bonneville 2nd PH fish unit trash rake	CORPS	X	X	X		X	X	X	X	X							
2084		Bonneville 2nd PH FGE improvements	CORPS	X	X	X		X	X	X	X	X							
2085		Bonneville 2nd PH emergency AWS	CORPS	X	X	X		X	X	X	X	X							
2086		Bonneville adult fallback	CORPS	X	X	X		X	X	X	X	X							
2088		Bonneville juvenile fish studies	CORPS	X	X	X		X	X	X	X	X							
2089		Bonneville 2nd PH gatewell debris removal	CORPS	X	X	X		X	X	X	X	X							
2031	CENWW OM	Corps of Engineers' Juvenile Fish TransportationProgram	CORPS	X	X			X		X	X								
2120	CENWW OM	Juvenile salmon transportation evaluations	CORPS	X	X			X		X	X								

**3.5 Operations RME**

127	2000-017-00	Kelt Reconditioning Research	BPA								X								
2012	CENWW CRFM	System - Delayed Mortality of Juvenile Salmonids	CORPS	X	X	X		X		X	X	X							
2061	CENWW CRFM	McNary Survival/Efficiency Study	CORPS	X	X			X		X	X								
2072	CENWW OM	Improve Operations of Adult Fishway Main Entrances	CORPS	X	X	X		X	X	X	X	X							



# 2004 Hatchery Projects

Strategy / Substrategy	SR		LCR	UWR	UCR	CR	SR	UCR	SR	LCR	UWR	MCR	CR	KRWS
	Fall	Sum												
	Chinook	Chinook	Chinook	Chinook	Chinook	Chum	Sockeye	Stlhd	Stlhd	Stlhd	Stlhd	Stlhd	Bull Trout	

**Hatchery**

**No Strategy Assigned for this Project and this Category**

**No SubStrategy Assigned for this Project and this Category**

204	1989-098-00	Idaho Supplementation Studies - salmon													
205	1989-098-01	Idaho Supplementation Studies - salmon													
266	1989-098-02	Idaho Supplementation Studies - salmon													
143	1991-071-00	Snake River Sockeye Salmon Habitat and Limmological Research													
146	1993-056-00	Research on Captive Broodstock Programs for Pacific Salmon													
39	1998-007-03	Grande Ronde Supplementation - Catharine Creek and Upper Grande Ronde M&E													
273	1998-020-00	Assess Fish Habitat and Salmonids in the Walla Walla Watershed in Washington													
244	2001-019-00	Little Catherine and Lick Creek Restoration													
198	2001-053-00	Re-Introduction of Lower Columbia River Chum Salmon into Duncan Creek													
325	2002-053-00	Assess Salmonids in the Asotin Creek Watershed													

**Hatchery**

**1. Implement a Safety-Net Program as an Interim Measure to Avoid Extinction**

**1.1 Safety Net**

375	1983-350-00	Nez Perce Tribal Hatchery	BPA	X									
46	1988-053-01	Northeast Oregon Hatchery Project	BPA		X					X			
32	1988-053-05	Northeast Oregon Hatchery Project	BPA		X					X			
142	1990-093-00	Genetic Analysis of Onchorhynchus nerka (Modified to Include Chinook Salmon)	BPA		X			X					
144	1991-072-00	Redfish Lake Sockeye Salmon Captive Broodstock Program	BPA					X					
145	1992-040-00	Redfish Lake Sockeye Salmon Captive Broodstock Rearing and Research	BPA					X					
157	1996-010-05	Pittsburgh Landing Fall Chinook Acclimation Facility	BPA	X									
155	1996-043-00	Johnson Creek Artificial Propagation & Enhancement	BPA		X								
287	1996-067-00	Manchester Spring Chinook Broodstock Project	BPA		X								
285	1997-001-00	Idaho Chinook Salmon Captive Rearing	BPA		X								
156	1997-038-00	Listed Stock Chinook Salmon Gamete Preservation	BPA		X					X			
36	1998-007-02	Grande Ronde Supplementation - Lostine River Spring Chinook	BPA		X								
384	1998-007-02	Grande Ronde Supplementation: Lostine River O&M and M&E	BPA		X								
38	1998-007-03	Grande Ronde Satellite Facility O&M	BPA		X					X			
40	1998-007-04	Grande Ronde Spring Chinook Supplementation Program	BPA		X								
284	1998-010-01	Grande Ronde Basin Spring Chinook Salmon Captive Broodstock Program	BPA		X								
158	1998-010-06	Captive Broodstock Artificial Propagation	BPA		X								
159	1998-010-07	Captain John Rapid's Fall Chinook Acclimation Facility	BPA	X									
174	1998-010-08	Big Canyon Fall Chinook Acclimation Facility	BPA	X									
274	2000-019-00	Tucannon River Spring Chinook Captive Broodstock Program	BPA		X								
148	2001-049-00	Safety-Net Coordinator	BPA		X					X			
150	2002-004-00	Safety-Net Artificial Propagation Program - CRITFC	BPA		X					X			
151	2002-004-01	Safety-Net Artificial Propagation Program - NPT	BPA		X					X			
152	2002-004-02	Safety-Net Artificial Propagation Program (SNAP) - IDFG	BPA		X					X			

**Hatchery**

**1. Implement a Safety-Net Program as an Interim Measure to Avoid Extinction**

153	2002-004-03	Safety-Net Artificial Propagation Program - SBT	BPA		X							X							
149	2002-004-04	Safety-Net Artificial Propagation Program - WDFW	BPA		X							X							

**2. Reduce Potential Harmful Effects of Artificial Production to Aid Recovery Through Hatc**

**2.1 Develop HGMPs/Reform**

282	2002-047-00	Artificial Production Review Evaluation (APRE)	BPA	X	X	X	X	X		X	X	X	X	X	X	X		X	
396	2003-005-00	Hatchery and Genetics Management Plan	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X			
4055	Ht169.CBP.01.100.00	HGMP Funding & Development-Leavenworth	USBR					X											
4056	Ht171.CBP.03.200.00	HGMPs Implementation - Leavenworth	USBR					X											

**3. Contribute to the Development and Implementation of a Comprehensive Marking Plan**

**No SubStrategy Assigned for this Project and this Category**

175	1982-013-01	Coded-Wire Tag Recovery Program	BPA	X	X	X	X	X	X	X	X	X	X	X	X				
177	1982-013-04	Annual Stock Assessment-Coded Wire Tag Program (WDFW)	BPA			X													

# 2004 Harvest Projects

Strategy / Substrategy	SR Fall Chinook	SR Spri / Sum Chinook	LCR Chinook	UWR Chinook	UCR Spri Chinook	CR Chum	SR Sockeye	UCR Stlhd	SR Stlhd	LCR Stlhd	UWR Stlhd	MCR Stlhd	CR Bull Trout	KRWS

## Harvest

### No Strategy Assigned for this Project and this Category

#### No SubStrategy Assigned for this Project and this Category

382	1990-080-01	Pit Tag Purchases (Placeholder)	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X
440	2000-055-00	Enhanced Conservation Enforcement for Fish & Wildlife, Watersheds of the Nez Perce	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X
439	2000-056-00	Protect Anadromous Salmonids in the Mainstem Corridor	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X

### 1. Develop Fishing Techniques to Enable Fisheries to Target Non-listed Fish While Reduci

#### 1.1 Gear efficacy testing and fishery integration on the mai

304	2001-007-00	Evaluate Live Capture Selective Harvest Methods	BPA		X		X	X			X	X		X		
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#### 2.2 Alternative modeling systems that work in the context

304	2001-007-00	Evaluate Live Capture Selective Harvest Methods	BPA		X		X	X			X	X		X		
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### 3. Support Sustainable Fisheries for the Meaningful Exercise of Tribal Fishing Rights and

#### 3.2 Potential alternative/terminal fishing locations

300	1993-060-00	Select Area Fishery Evaluation	BPA		X	X		X								
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# 2004 RME Projects

<i>Strategy / Substrategy</i>				<i>SR</i>	<i>SR</i>		<i>UCR</i>		<i>SR</i>	<i>UCR</i>	<i>SR</i>	<i>LCR</i>	<i>UCR</i>	<i>MCR</i>	<i>CR</i>	
				<i>Fall</i>	<i>Spr /</i>	<i>LCR</i>	<i>UCR</i>	<i>CR</i>	<i>SR</i>	<i>UCR</i>	<i>SR</i>	<i>LCR</i>	<i>UCR</i>	<i>MCR</i>	<i>Bull</i>	<i>KRWS</i>
				<i>Chinook</i>	<i>Chinook</i>	<i>Chinook</i>	<i>Chinook</i>	<i>Chum</i>	<i>Sockeye</i>	<i>Stlhd</i>	<i>Stlhd</i>	<i>Stlhd</i>	<i>Stlhd</i>	<i>Stlhd</i>	<i>Trout</i>	

**RME**

**No Strategy Assigned for this Project and this Category**

**No SubStrategy Assigned for this Project and this Category**

2102		Adult PIT tag program (Bonneville Dam)	CORPS	X	X	X		X	X	X	X	X		X		
130	1983-319-00	New Marking and Monitoring Techniques	BPA	X	X	X		X	X	X	X	X		X		
2	1988-115-25	Yakima/Klickitat Fisheries Project (YKFP) Design and Const. - Yakima Basin Only	BPA											X	X	
3	1988-120-25	Yakima/Klickitat Fisheries Project (YKFP) Management	BPA											X	X	
438	1989-024-01	Evaluate Juvenile Salmonid Outmigration and Survival in the Lower Umatilla River Basin	BPA											X		
382	1990-080-01	Pit Tag Purchases (Placeholder)	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X
142	1990-093-00	Genetic Analysis of Onchorhynchus nerka (Modified to Include Chinook Salmon)	BPA		X				X							
10	1995-064-25	Policy/Technical Involvement and Planning in the Yakima/Klickitat Fisheries Project	BPA											X	X	
12	1997-013-25	Yakima/Klickitat Fisheries Project Operations and Maintenance	BPA											X	X	
156	1997-038-00	Listed Stock Chinook Salmon Gamete Preservation	BPA		X						X					
38	1998-007-03	Grande Ronde Satellite Facility O&M	BPA		X						X					
127	2000-017-00	Kelt Reconditioning Research	BPA								X			X		
440	2000-055-00	Enhanced Conservation Enforcement for Fish & Wildlife, Watersheds of the Nez Perce	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X
439	2000-056-00	Protect Anadromous Salmonids in the Mainstem Corridor	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X
199	2002-012-00	Lower Columbia River Habitat Assessment and Mapping	BPA	X	X	X	X	X	X	X	X	X	X	X		
326	2002-054-00	Protect and Restore the Asotin Creek Watershed	BPA		X						X				X	
412	2002-078-00	Evaluate the Effects of Hyporheic Discharge on Egg Pocket Water Temperature in Snake River Fall Chinook Salmon Spawning Areas	BPA	X												
395	2003-003-00	Use a Multi-Watershed Approach to Increase the Rate of Learning from Columbia Basin Watershed Restoration Projects	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X
415	2003-008-00	Preserve and Restore Columbia River Estuary Islands to Enhance Juvenile Salmonid and Columbian White-tailed Deer Habitat.	BPA	X	X	X	X	X	X	X	X	X	X	X		

**RME**

**No Strategy Assigned for this Project and this Category**

417	2003-010-00	Historic habitat opportunities and food-web linkages of juvenile salmon in the Columbia River estuary: Implications for managing flows and restoration	BPA	X	X	X	X	X	X	X	X	X	X	X	X		
2029	CENWP	Operation and Maintenance of John Day Lock and Dam Fish Passage Facilities	CORPS	X	X			X		X	X	X			X	X	
2071	CENWP	Operation and Maintenance of The Dalles Lock and Dam Fish Passage Facilities	CORPS	X	X			X		X	X	X			X	X	
2111	CENWP	Operation and Maintenance of Bonneville Lock and Dam Fish Passage Facilities	CORPS	X	X	X		X	X	X	X	X	X		X	X	
2063	CENWW CRFM	System - Multiple Bypass Accumulative Impacts	CORPS	X	X			X		X	X	X			X		
8008	CENWW CRFM	System - Adult Fish Transition Pool and Weir Modifications and Evaluations	CORPS	X	X			X		X	X	X			X		
2005	CENWW OM	Adult Fish Counting at Mainstem Columbia and Snake River Projects	CORPS	X	X	X		X	X	X	X	X	X		X	X	
2025	CENWW OM	Operation and Maintenance of Ice Harbor Lock and Dam Fish Passage Facilities	CORPS	X	X					X		X				X	
2037	CENWW OM	Operation and Maintenance of Little Goose Lock and Dam Fish Passage Facilities	CORPS	X	X					X		X				X	
2044	CENWW OM	Operation and Maintenance of Lower Granite Lock and Dam Fish Passage Facilities	CORPS	X	X					X		X				X	
2051	CENWW OM	Operation and Maintenance of Lower Monumental Lock and Dam Fish Passage Facilities	CORPS	X	X					X		X				X	
2060	CENWW OM	Operation and Maintenance of McNary Lock and Dam Fish Passage Facilities	CORPS	X	X			X		X	X	X			X		
2120	CENWW OM	Juvenile salmon transportation evaluations	CORPS	X	X			X		X	X	X			X		

**RME**

**1. Status Monitoring**

**No SubStrategy Assigned for this Project and this Category**

52	1997-030-00	Listed Stock Chinook Salmon Escapement Monitoring	BPA		X																
325	2002-053-00	Assess Salmonids in the Asotin Creek Watershed	BPA		X							X									X
406	2003-114-00	An acoustic tracking array for studying ocean survival and movements of Columbia River salmon	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
2090	CENWP	Estuary research, Salmon survival & acoustic tag R&D	CORPS	X	X	X		X	X	X	X	X	X	X							

**1.1 System Monitoring**

245	1987-127-00	Smolt Monitoring by Federal and Non-Federal Agencies	BPA	X	X					X		X										
34	1990-005-01	Umatilla Natural Production M&E	BPA												X		X				X	
250	1991-028-00	Monitoring Smolt Migrations of Wild Snake River Spring/Summer Salmon	BPA		X																	
269	1991-073-00	Idaho Natural Production Monitoring and Evaluation	BPA		X							X										
252	1993-029-00	Estimate Survival for the Passage of Juvenile Salmonids Through Dams and Reservoirs of the Lower Snake and Columbia Rivers Short BPA Title: Survival Estimates Through Dams and Reservoirs	BPA		X	X																
9	1995-063-25	Yakima/Klickitat Fisheries Project (YKFP) Monitoring And Evaluation - Yakima Subbasin	BPA																		X	X
24	1995-063-35	Yakima/Klickitat Fisheries Project Monitoring And Evaluation (Klickitat Only)	BPA																		X	X
255	1997-015-01	Title Present Scope: Imnaha River Smolt Monitoring Program. Title for proposed expanded scope: Imnaha Smolt Survival and Smolt to Adult Return Rate Quantification	BPA		X																	
84	1999-020-00	Analyze the Persistence and Spatial Dynamics of Snake River Chinook Salmon	BPA		X																	
323	2000-012-00	Evaluate Factors Limiting Columbia River Gorge Chum Salmon Populations	BPA							X												
42	2000-039-00	Walla Walla Natural Production M&E	BPA																		X	X
4075	RME181.CBP.02.100.01	Digital Satellite Imagery Project	USBR									X									X	
4185	RME181.CBP.03.100.01	Application of Advanced Remote Sensing in the Columbia River Basin	USBR									X									X	

**RME**

**1. Status Monitoring**

**1.2 Tributary Habitat Monitoring**

4070		Fish Production/Flow Analysis	USBR		X						X						X	
143	1991-071-00	Snake River Sockeye Salmon Habitat and Limmological Research	BPA				X											
255	1997-015-01	Title Present Scope: Imnaha River Smolt Monitoring Program. Title for proposed expanded scope: Imnaha Smolt Survival and Smolt to Adult Return Rate Quantification	BPA		X													
126	1998-016-00	Salmonid Productivity, Escapement, Trend, and Habitat Monitoring in the Oregon Portion of the Columbia Plateau Province	BPA														X	
115	1998-019-01	Wind River Watershed USGS	BPA											X				
116	1998-019-02	Wind River Watershed Monitoring	BPA											X				
273	1998-020-00	Assess Fish Habitat and Salmonids in the Walla Walla Watershed in Washington	BPA														X	X
329	2002-049-00	Evaluate Factors Influencing Bias and Precision of Chinook Salmon Redd Counts	BPA		X													
166	2002-068-00	Evaluating stream habitat using the Nez Perce Tribe Fisheries/Watershed Watershed Monitoring and Evaluation Plan	BPA	X	X								X					X
435	2003-017-00	Develop and Implement an Integrated Status and Effectiveness Monitoring Program for Salmonids and their Habitat in Three Pilot Subbasins	BPA		X		X	X		X	X	X	X	X	X			



**RME**

**1. Status Monitoring**

**1.3 Hydro Corridor Monitoring**

245	1987-127-00	Smolt Monitoring by Federal and Non-Federal Agencies	BPA	X	X				X		X					
246	1987-401-00	Assessment of Smolt Condition: Biological and Environmental Interactions	BPA													
247	1989-107-00	Statistical Support for Salmonid Survival Studies	BPA	X	X	X	X	X	X	X	X	X	X	X	X	
251	1991-051-00	Monitoring and Evaluation Statistical Support	BPA	X	X	X	X	X	X	X	X	X	X	X	X	
252	1993-029-00	Estimate Survival for the Passage of Juvenile Salmonids Through Dams and Reservoirs of the Lower Snake and Columbia Rivers Short BPA Title: Survival Estimates Through Dams and Reservoirs	BPA		X	X										
108	1996-019-00	Second-Tier Database Support	BPA	X	X	X		X		X	X	X	X		X	
54	1998-010-04	Monitoring and Evaluation of Yearling Snake River Fall Chinook Salmon Outplanted Upstream of Lower Granite Dam	BPA	X												
55	1999-003-01	Evaluate Spawning Of Fall Chinook And Chum Salmon Just Below The Four Lowermost Columbia River Mainstem Dams	BPA			X		X								
131	2001-003-00	Installation of Adult PIT-tag Detection Systems	BPA	X	X	X		X		X	X	X	X		X	
2119	CENWW OM	Juvenile Salmon Temperature Studies	CORPS	X	X	X		X		X	X	X	X		X	

**1.4 Estuary/Ocean Monitoring**

195	1998-014-00	Ocean Survival of Salmonids	BPA	X	X	X	X	X	X	X	X	X	X	X	X	
2116	CENWP	Current and historic linkages in the lower Columbia River and Estuary	CORPS	X	X	X		X	X	X	X	X	X		X	

**2.2 Habitat Actions**

129	2002-033-00	John Day Recovery Monitoring	BPA													X
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**2.4 Hatchery Actions**

37	1998-007-02	Grande Ronde Supplementation - Lostine River Spring Chinook M&E	BPA		X											
82	1999-018-00	Characterize and quantify residual steelhead in the Clearwater River, Idaho	BPA								X					

**RME**

**2. Action Effectiveness Monitoring and Research**

**No SubStrategy Assigned for this Project and this Category**

37	1998-007-02	Grande Ronde Supplementation - Lostine River Spring Chinook M&E	BPA		X									
82	1999-018-00	Characterize and quantify residual steelhead in the Clearwater River, Idaho	BPA							X				
406	2003-114-00	An acoustic tracking array for studying ocean survival and movements of Columbia River salmon	BPA	X	X	X	X	X	X	X	X	X	X	X
2116	CENWP	Current and historic linkages in the lower Columbia River and Estuary	CORPS	X	X	X		X	X	X	X			X
4128	RME181.JDB.03.100.04	John Day Basin Water Management GIS Database	USBR										X	X

**1.2 Tributary Habitat Monitoring**

129	2002-033-00	John Day Recovery Monitoring	BPA											X
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**1.3 Hydro Corridor Monitoring**

252	1993-029-00	Estimate Survival for the Passage of Juvenile Salmonids Through Dams and Reservoirs of the Lower Snake and Columbia Rivers Short BPA Title: Survival Estimates Through Dams and Reservoirs	BPA		X	X								
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**2.1 Hydro Actions**

2079		Regional Database	CORPS	X	X	X		X	X	X	X	X		X
247	1989-107-00	Statistical Support for Salmonid Survival Studies	BPA	X	X	X	X	X	X	X	X	X	X	X
47	1991-029-00	The effects of summer flow augmentation on the migratory behavior and survival of juvenile Snake River fall chinook salmon	BPA	X										
251	1991-051-00	Monitoring and Evaluation Statistical Support	BPA	X	X	X	X	X	X	X	X	X	X	X
108	1996-019-00	Second-Tier Database Support	BPA	X	X	X		X	X	X	X			X
131	2001-003-00	Installation of Adult PIT-tag Detection Systems	BPA	X	X	X		X	X	X	X			X
64	2002-032-00	Investigating passage of ESA-listed juvenile fall chinook salmon at Lower Granite Dam during winter when the fish bypass system is inoperable	BPA	X										

**RME**

**2. Action Effectiveness Monitoring and Research**

**2.2 Habitat Actions**

277	2001-055-00	Salmonid response to fertilization: an experimental evaluation of alternative methods of fertilization	BPA		X											X	X
435	2003-017-00	Develop and Implement an Integrated Status and Effectiveness Monitoring Program for Salmonids and their Habitat in Three Pilot Subbasins	BPA		X		X	X			X	X	X	X	X	X	
4183	RME181.JDB.03.100.06	RME Data Management Plan John Day Basin Pilot: Detailed Needs Assessment for Sub-Basin Research and Evaluation	USBR													X	X
4072	RME183.JDB.03.100.02	Indexing Carrying Capacity of Samonids on the Basis of Stream Temperature - John Day Basin	USBR													X	X
4184	RME183.MET.03.100.07	Methow Basin Monitoring Coordination Contract	USBR					X			X						X

**2.4 Hatchery Actions**

154	1983-350-03	New Perce Tribal Hatchery; M & E	BPA	X	X												
381	1990-005-00	Umatilla Fish Hatchery Monitoring and Evaluation	BPA														
34	1990-005-01	Umatilla Natural Production M&E	BPA										X	X	X		
283	1992-026-04	Investigate Early Life History of Spring Chinook Salmon and Summer Steelhead in the Grande Ronde River Basin	BPA		X						X						
9	1995-063-25	Yakima/Klickitat Fisheries Project (YKFP) Monitoring And Evaluation - Yakima Subbasin	BPA													X	X
24	1995-063-35	Yakima/Klickitat Fisheries Project Monitoring And Evaluation (Klickitat Only)	BPA													X	X
39	1998-007-03	Grande Ronde Supplementation - Catharine Creek and Upper Grande Ronde M&E	BPA		X						X						
53	1998-010-03	Spawning Distribution of Fall Chinook Salmon Released as Yearlings above Lower Granite Dam	BPA	X													
54	1998-010-04	Monitoring and Evaluation of Yearling Snake River Fall Chinook Salmon Outplanted Upstream of Lower Granite Dam	BPA	X													
453	2003-058-00	A Tool for Evaluating Risks and Benefits of Reform Actions in Hatchery	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X	X
452	2003-062-00	Proposal to Evaluate Reproductive Success of Natural-Origin, Hatchery-Origin, and Kelt Steelhead in the Columbia River Basin	BPA	X	X				X	X	X				X		

**RME**

**2. Action Effectiveness Monitoring and Research**

**3.1 Hydro Research**

246 1987-401-00 Assessment of Smolt Condition: Biological and Environmental Interactions BPA

**3.4 Hatchery Research**

246 1987-401-00 Assessment of Smolt Condition: Biological and Environmental Interactions BPA

**RME**

**3. Critical Uncertainty Research**

**No SubStrategy Assigned for this Project and this Category**

286	1991-055-00	NATURES [Formerly Supplementation Fish Quality (Yakima)]	BPA		X	X		X						
392	2002-075-00	Technical Recovery Team (TRT) Tasks	BPA	X	X			X	X	X	X			X
406	2003-114-00	An acoustic tracking array for studying ocean survival and movements of Columbia River salmon	BPA	X	X	X	X	X	X	X	X	X	X	X
2090	CENWP	Estuary research, Salmon survival & acoustic tag R&D	CORPS	X	X	X		X	X	X	X	X		X
2116	CENWP	Current and historic linkages in the lower Columbia River and Estuary	CORPS	X	X	X		X	X	X	X	X		X

**1.1 System Monitoring**

52	1997-030-00	Listed Stock Chinook Salmon Escapement Monitoring	BPA		X									
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**3.1 Hydro Research**

2079		Regional Database	CORPS	X	X	X		X	X	X	X	X		X
247	1989-107-00	Statistical Support for Salmonid Survival Studies	BPA	X	X	X	X	X	X	X	X	X	X	X
251	1991-051-00	Monitoring and Evaluation Statistical Support	BPA	X	X	X	X	X	X	X	X	X	X	X
252	1993-029-00	Estimate Survival for the Passage of Juvenile Salmonids Through Dams and Reservoirs of the Lower Snake and Columbia Rivers Short BPA Title: Survival Estimates Through Dams and Reservoirs	BPA		X	X								
108	1996-019-00	Second-Tier Database Support	BPA	X	X	X		X	X	X	X	X		X
131	2001-003-00	Installation of Adult PIT-tag Detection Systems	BPA	X	X	X		X	X	X	X	X		X
2012	CENWW CRFM	System - Delayed Mortality of Juvenile Salmonids	CORPS	X	X	X		X	X	X	X	X		X
2119	CENWW OM	Juvenile Salmon Temperature Studies	CORPS	X	X	X		X	X	X	X	X		X

**RME**

**3. Critical Uncertainty Research**

**3.4 Hatchery Research**

246	1987-401-00	Assessment of Smolt Condition: Biological and Environmental Interactions	BPA													
140	1989-096-00	Genetic Monitoring and Evaluation Program for Supplemented Populations of Salmon and Steelhead in the Snake River Basin	BPA							X						
204	1989-098-00	Idaho Supplementation Studies - salmon	BPA								X					
205	1989-098-01	Idaho Supplementation Studies - salmon	BPA								X					
266	1989-098-02	Idaho Supplementation Studies - salmon	BPA								X					
267	1989-098-03	Idaho Supplementation Studies - salmon	BPA								X					
34	1990-005-01	Umatilla Natural Production M&E	BPA									X	X	X		
141	1990-052-00	Performance/Stock Productivity Impacts of Hatchery Supplementation	BPA									X				
268	1990-055-00	Idaho Supplementation Studies - steelhead - previously 1989-098-00	BPA									X				
146	1993-056-00	Research on Captive Broodstock Programs for Pacific Salmon	BPA						X							
9	1995-063-25	Yakima/Klickitat Fisheries Project (YKFP) Monitoring And Evaluation - Yakima Subbasin	BPA										X	X		
24	1995-063-35	Yakima/Klickitat Fisheries Project Monitoring And Evaluation (Klickitat Only)	BPA										X	X		
37	1998-007-02	Grande Ronde Supplementation - Lostine River Spring Chinook M&E	BPA								X					
39	1998-007-03	Grande Ronde Supplementation - Catharine Creek and Upper Grande Ronde M&E	BPA								X					
147	2000-071-00	Analyzing Behavioral Changes During Salmonid Domestication	BPA			X	X	X	X		X	X	X		X	
288	2001-047-00	Reintroduction success of steelhead from captive propagation and release strategies	BPA													
281	2002-030-00	Develop Progeny Marker for Salmonids to Evaluate Supplementation	BPA										X			
63	2002-031-00	Growth Rate Modulation in Spring Chinook Salmon Supplementation	BPA													
450	2003-050-00	Evaluation of the Reproductive Success of Wild and Hatchery Steelhead in Natural and Hatchery Environments	BPA	X	X	X	X	X	X	X	X	X	X	X	X	X
451	2003-060-00	Evaluating Relative Reproductive Success of Natural- and Hatchery-Origin Snake River Fall Chinook Spawners Upstream of Lower Granite Dam	BPA	X												

**RME**

**3. Critical Uncertainty Research**

448	2003-063-00	Natural Reproductive Success and Demographic Effects of Hatchery- Origin Steelhead in Abernathy Creek, Washington	BPA															
												X						

**5. Data Management System**

**No SubStrategy Assigned for this Project and this Category**

2079		Regional Database	CORPS	X	X	X		X	X	X	X	X		X				
175	1982-013-01	Coded-Wire Tag Recovery Program	BPA	X	X	X	X	X	X	X	X	X	X	X	X			
109	1988-108-04	Pacific Northwest Hydropower Data Base and Analysis System (NWHS)	BPA	X	X	X	X	X	X	X	X	X	X	X	X			
136	1988-108-04	StreamNet (CIS/NED)	BPA	X	X	X	X	X	X	X	X	X	X	X				
248	1990-080-00	Columbia River Basin PIT Tag Information System	BPA	X	X	X	X	X	X	X	X	X	X	X				
252	1993-029-00	Estimate Survival for the Passage of Juvenile Salmonids Through Dams and Reservoirs of the Lower Snake and Columbia Rivers Short BPA Title: Survival Estimates Through Dams and Reservoirs	BPA		X	X												
108	1996-019-00	Second-Tier Database Support	BPA	X	X	X		X		X	X	X	X					
110	1998-011-00	Montana Natural Heritage Program	BPA														X	X
111	2001-017-00	Idaho Conservation Data Center	BPA	X	X				X			X						

**6. Regional Coordination**

**No SubStrategy Assigned for this Project and this Category**

108	1996-019-00	Second-Tier Database Support	BPA	X	X	X		X		X	X	X	X					
392	2002-075-00	Technical Recovery Team (TRT) Tasks	BPA	X	X			X		X	X	X						

**1.1 System Monitoring**

4074	RME183.CBP.02.100 .02	Effectiveness Monitoring Prioritization Project	USBR		X	X		X										X
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**Jeopardized ESU: Upper Columbia River Steelhead** (priority ranking #1 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Entiat	4130	Ha149.ENT.03.300.01	Whitehall Unscreened Surface Pump Elimination	USBR		X			
Entiat	4124	Ha149.ENT.03.400.01	Entiat 4 Mile Push-up Dam Replacement and Screen	USBR		X	X		
Methow	4002		Beaver Creek Water Acquisitions	USBR	X				
Methow	4010		Gold Creek Screen and Diversion	USBR		X	X		
Methow	4030		Methow Valley Irrigation District Twisp River Pump Exchange	USBR	X				
Methow	4093	Ha149.MET.02.300.01	Methow Valley Irrigation District West Canal Fish Screens	USBR		X			
Methow	4095	Ha149.MET.02.300.02	Methow Valley Irrigation District East Canal Fish Screens	USBR		X			
Methow	4026	Ha149.MET.02.400.01	Marracci/Washington Department of Fish and Wildlife Diversion Reconstruction	USBR			X		
Methow	4003	Ha149.MET.02.400.02	Campbell Diversion Reconstructions	USBR			X		
Methow	4034	Ha149.MET.02.400.04	Methow Valley Irrigation District East Canal Diversion	USBR			X		
Methow	4035	Ha149.MET.02.400.05	Methow Valley Irrigation District West Canal Diversion	USBR			X		
Methow	4096	Ha149.MET.02.400.06	Twisp Valley Power and Irrigation Diversion	USBR			X		
Methow	4037	Ha149.MET.03.120.01	Instream Flows Monitoring & Simulation	USBR	X				
Methow	4163	Ha149.MET.03.120.03	Okanogan County Gaging Stations	USBR	X				
Methow	4122	Ha149.MET.03.400.07	Black Canyon Diversion Dam and Screen	USBR		X	X		
Methow	4009	Ha149.MET.03.400.08	Fulton Diversion Structure	USBR			X		
Methow	4005	Ha149.MET.03.400.09	Chewuch Ditch Diversion Structure	USBR		X	X		
Methow	4165	Ha149.MET.03.400.10	Wolf Creek Diversion Renovation	USBR			X		
Methow	4160	Ha149.MET.03.400.11	Aspen Meadows Diversion Dam Reconstruction	USBR			X		
Methow	4162	n/a	Chewuch Basin Water Acquisition	USBR	X				
Methow	4164	n/a	Creveling Ditch Screen	USBR	X	X			
Wenatchee	4004		Chelan County/Wenatchee IFIM Study	USBR	X				



**Jeopardized ESU: Upper Columbia River Steelhead** (priority ranking #1 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Wenatchee	4006		Chumstick Diversions	USBR			X		
Wenatchee	4033		Mission Diversions	USBR			X		
Methow	94	1996-034-01	Methow Valley Irrigation District Rehabilitation	BPA	X	X			
Okanogan	96	1996-042-00	Restore and Enhance Anadromous Fish Populations and Habitat in Salmon Creek	BPA			X	X	X
Okanogan	100	2000-001-00	Anadromous Fish Habitat & Passage in Omak Creek	BPA			X		
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Umatilla	342	1995-060-01	Iskuulpa Watershed Wildlif - /Protect & Enhance Wildlife Habitats in the Squaw Creek Watershed	BPA				X	
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				

**Jeopardized ESU: Snake River Basin Steelhead** (priority ranking #2 based on lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Asotin	334	1994-018-05	Asotin Creek Model Watershed Placeholder	BPA					X
Asotin	290	1997-086-00	Asotin Watershed Upland BMP's	BPA					
Asotin	291	1999-002-00	Asotin Watershed Project Implementation	BPA					X
Asotin	296	2000-053-00	Asotin Creek Riparian Planting	BPA					X
Asotin	297	2000-054-00	Asotin Creek Riparian Fencing Projects	BPA					X
Asotin	298	2000-067-00	Asotin Creek Channel, Floodplain and Riparian Restoration	BPA					X
Lemhi	4014		L-18 Headgate	USBR	X				
Lemhi	4015		L-20 Headgate	USBR	X				
Lemhi	4136		L-22 Diversion Replacement	USBR			X		
Lemhi	4137		L-22 Headgate Replacement	USBR	X				
Lemhi	4138		L-28 Diversion Replacement	USBR			X		
Lemhi	4139		L-28 Headgate Replacement	USBR	X				
Lemhi	4024		L-9 Diversion Replacement	USBR			X		
Lemhi	4025		L-9 Headgate	USBR	X				
Lemhi	4023	Ha149.LEM.01.200.01	L-6/S14 Water Exchange	USBR	X				
Lemhi	4098	Ha149.LEM.02.120.02	Lemhi River Flow Characterization Study	USBR	X				
Lemhi	4189	Ha149.LEM.03.120.03	Big Timber Creek PHABSIM Study	USBR	X				
Lemhi	4181	Ha149.LEM.03.120.04	IDWR Lemhi Water Budget Model Update	USBR	X				
Lemhi	4187	Ha149.LEM.03.300.02	L3 Wasteway Fish Screen	USBR		X			
Lemhi	4125	Ha149.USA.03.120.02	Idaho Streamflow Procurement	USBR	X				
Asotin	324	2002-050-00	Asotin County Riparian Buffer and Couse and Tenmile Creeks Protection and Implementation Project	BPA					X
Asotin	326	2002-054-00	Protect and Restore the Asotin Creek Watershed	BPA					
Clearwater	67	1993-035-01	Enhance Fish, Riparian, and Wildlife Habitat Within the Red River Watershed	BPA				X	
Clearwater	73	1996-077-02	Protect and Restore Lolo Creek Watershed	BPA			X		X
Clearwater	74	1996-077-03	Protecting and Restoring the Waw'aatamnia (Fishing)(Squaw) Creek to 'Imnaamatnoon (Legendary Bear)(Papoose) Creek Watersheds Analysis Area	BPA			X	X	
Clearwater	75	1996-077-05	Restore McComas Meadows/Meadow Creek Watershed	BPA					X
Clearwater	76	1996-086-00	Clearwater Focus Program	BPA					
Clearwater	77	1997-060-00	Clearwater Subbasin Focus Watershed Program - NPT	BPA					

**Jeopardized ESU: Snake River Basin Steelhead** (priority ranking #2 based on lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Clearwater	78	1999-014-00	Little Canyon Creek Subwatershed-Steelhead Trout Habitat Improvement Project	BPA					
Clearwater	79	1999-015-00	Restoring Anadromous Fish Habitat in Big Canyon Watershed	BPA				X	X
Clearwater	80	1999-016-00	Protect and Restore Big Canyon Creek Watershed	BPA			X	X	X
Clearwater	81	1999-017-00	Protect and Restore Lapwai Creek Watershed	BPA			X	X	X
Salmon	2130	CENWW CAP	Salmon River Aquatic Ecosystem Restoration	CORPS	X		X		
Clearwater	86	2000-035-00	Rehabilitate Newsome Creek Watershed - South Fork Clearwater River	BPA			X		
Clearwater	87	2000-036-00	Protect & Restore Mill Creek	BPA			X		X
Upper Salmon	4146		East Fork Salmon 15-17 Diversion Consolidation	USBR			X		
Upper Salmon	4099	Ha149.USA.02.120.01	Upper Salmon Basin Flow Characterization Study	USBR	X				
Upper Salmon	4170	Ha149.USA.03.120.03	Upper Salmon River, Valley, and Elk Creek PHABSIM Studies	USBR	X				
Upper Salmon	4180	Ha149.USA.03.120.04	IDWR Upper Salmon Water Budget Model	USBR	X				
Upper Salmon	4132	Ha149.USA.03.200.04a	HC-3 Headgate	USBR	X				
Upper Salmon	4169	Ha149.USA.03.300.01	Salmon River @ Squaw Creek Screen Improvement	USBR		X			
Upper Salmon	4186	Ha149.USA.03.300.02	Gini Canal Siphon	USBR			X		
Upper Salmon	4133	Ha149.usa.03.400.04b	HC-3 Irrigation diversion replacement	USBR			X		
Clearwater	333	2002-061-00	Potlatch River Watershed Restoration	BPA					X
Clearwater	168	2002-070-00	Restoring anadromous fish habitat in the Lapwai Creek watershed	BPA				X	X
Clearwater	443	2002-072-00	Restore and Protect Red River Watershed	BPA			X	X	
Clearwater	442	2002-074-00	Protect and Restore Crooked Fork Creek to Colt Killed Analysis Area	BPA			X	X	
Grande Ronde	208	1984-025-00	Joseph Creek, Grande Ronde River	BPA				X	X
Grande Ronde	209	1992-026-01	Grande Ronde Model Watershed - Planning	BPA					X
Grande Ronde	213	1992-026-01	Grande Ronde Model Watershed - LaGrande Ranger District FY01 Projects	BPA					
Grande Ronde	214	1992-026-01	Grande Ronde Model Watershed - Wallowa Valley Ranger District FY01 Projects	BPA					X

**Jeopardized ESU: Snake River Basin Steelhead** (priority ranking #2 based on lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Grande Ronde	217	1992-026-01	Grande Ronde Model Watershed - Lostine Watershed Assessment	BPA					
Grande Ronde	219	1992-026-01	Grande Ronde Model Watershed - Indian Creek/Trick Runoff and Buffering System	BPA					
Grande Ronde	220	1992-026-01	Grande Ronde Model Watershed - Rangeland Drill/Watershed Restoration and Enhancement	BPA					
Grande Ronde	361	1992-026-01	Grande Ronde Model Watershed Program	BPA	X		X	X	X
Grande Ronde	366	1992-026-01	Mainstem Grande Ronde River Habitat Enhancement Project Phase 2: Upper Mainstem Grande Ronde River	BPA	X		X	X	X
Grande Ronde	368	1992-026-01	Grande Ronde Model Watershed - Wallowa County CREP Coordination	BPA				X	X
Grande Ronde	370	1992-026-01	Grande Ronde Model Watershed - Grande Ronde Valley Stream Gauging	BPA	X				
Grande Ronde	401	1996-080-00	Nez Perce NE Oregon Wildlife Project: Helm Tract	BPA				X	
Grande Ronde	398	1996-083-00	Grande Ronde Basin Watershed Restoration Project - Longley Meadows Restoration	BPA				X	X
Grande Ronde	403	1997-025-00	Implement the Wallowa County/Nez Perce Tribe Salmon Recovery Plan	BPA					
Grande Ronde	227	1999-058-00	Upper Grande Ronde and Catherine Creek Watershed Restoration	BPA					X
Grande Ronde	229	1999-070-00	Wallowa County Gauging Station	BPA	X				
Grande Ronde	233	1999-079-00	Beaver Creek Fish Passage	BPA			X		X
Grande Ronde	234	1999-081-00	East End Road Obliteration and Sediment Reduction	BPA					
Grande Ronde	235	2000-059-00	USFS Marr Flat Allotment and Big Sheep/Imnaha Fisheries Enhancement	BPA					X
Grande Ronde	236	2000-061-00	Upper Wildcat and Joseph Creek Watershed Improvement	BPA					X
Grande Ronde	238	2000-063-00	Meadow Creek Riparian Pasure Fence	BPA					X
Grande Ronde	239	2000-064-00	Conservation Reserve Enhancement Program	BPA				X	
Grande Ronde	240	2000-065-00	Meadow Creek/Habberstad fish habitat Enhancement	BPA					X
Grande Ronde	241	2000-066-00	McCoy Creek-Alta Cunha Rances Riparian Restoration	BPA					X

**Jeopardized ESU: Snake River Basin Steelhead** (priority ranking #2 based on lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Grande Ronde	242	2000-069-00	Grande Ronde River Basin - Culvert Replacements	BPA			X		
Grande Ronde	244	2001-019-00	Little Catherine and Lick Creek Restoration	BPA					X
Grande Ronde	327	2002-055-00	Oregon Plan Blue Mountain Province Fish Screening/Fish Passage	BPA					
Imnaha	402	2001-043-00	Acquire 27,000 Camp Creek Ranch at Zumwalt Prairie	BPA				X	
Salmon	66	1992-026-03	Upper Salmon Basin Watershed Project Administration/Implementation Support	BPA	X	X	X		X
Salmon	69	1994-015-00	Idaho Fish Screen Improvement	BPA		X	X		
Salmon	69	1994-015-00	Idaho Fish Screen Improvement	BPA		X	X		
Salmon	70	1994-017-00	Idaho Model Watershed Habitat Improvement Project	BPA	X		X	X	X
Salmon	71	1994-050-00	Salmon River Habitat Enhancement M & E	BPA					X
Salmon	83	1999-019-00	Holistic Restoration of the Twelvemile Reach of the Salmon River near Challis, Idaho	BPA					X
Salmon	91	2001-052-00	Restoration of Anadromous Fish Access to Hawley Creek	BPA		X	X		
Salmon	330	2002-058-00	Riparian Conservation Easement Purchase of Scarrow Property on Lake Creek a Tributary to the Secesh River, Idaho	BPA					
Salmon	331	2002-059-00	Restoration of the Yankee Fork Salmon River	BPA	X		X		
Salmon	164	2002-066-00	Holistic Restoration of Habitat on Non-federal Lands, Middle Salmon-Panther Watershed, Idaho	BPA				X	
Salmon	167	2002-069-00	Protect and Restore Little Salmon River	BPA					
Salmon	168	2002-070-00	Restoring anadromous fish habitat in the Lapwai Creek watershed	BPA				X	X
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Tucannon	270	1994-018-06	Implement Tucannon River Model Watershed Plan to Restore Salmonid Habitat (Work contracted under 1999-001-00, 1999-057-00)	BPA	X	X		X	X
Tucannon	271	1994-018-07	Garfield County Sediment Reduction and Riparian Improvement Program - (proposal) - funded under: 1999-021-00, 1999-059-00, 1997-088-00 (closed, but some 088 activities carried into 021 and 059 contracts)	BPA					X
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				
Willamette	446	1992-068-00	Implement Willamette Basin Mitigation Program	BPA					X

**Jeopardized ESU: Mid-Columbia River Steelhead** (priority ranking #3 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Deschutes	2135		Trout Creek Section 206	CORPS			X		
Middle Fork John Day	4088	Ha149.MJD.02.400.01	Oxbow Ranch- Ruby Creek Diversion Removal	USBR			X		
Middle Fork John Day	4031	Ha149.MJD.03.120.01	Middle Fork John Day Gaging Stations	USBR	X				
Middle Fork John Day	4032	Ha149.MJD.03.120.02	Middle Fork John Day Flow Characterization Studies	USBR	X				
North Fork John Day	4036		North Fork John Day River Flow Characterization Studies	USBR	X				
Upper John Day	4039		Strawberry Creek Complex Screen Replacement	USBR		X	X		
Upper John Day	4040	Ha149.UJD.03.120.01	Upper John Day River Gaging stations	USBR	X				
Upper John Day	4041	Ha149.UJD.03.120.02	Upper John Day Flow Characterization Studies	USBR	X				
Upper John Day	4191	Ha149.UJD.03.200.01	Cummings Creek Flow Restoration	USBR	X				
Upper John Day	4118	Ha149.UJD.03.400.01	RM 234-05 Diversion Design	USBR			X		
Upper John Day	4086	n/a	3 Beech Creek RM 5-04	USBR		X	X		
Upper John Day	4151	n/a	4 South Fork RM 5.7-05	USBR			X		
Upper John Day	4156	n/a	Reynolds Creek RM 1.5-07	USBR			X		
Upper John Day	4158	n/a	RM 219-07	USBR			X		
Upper John Day	4150	n/a	RM 229-04	USBR		X	X		
Upper John Day	4155	n/a	RM 266.5-06	USBR			X		
Upper John Day	4154	n/a	RM 269-06	USBR			X		

**Jeopardized ESU: Mid-Columbia River Steelhead** (priority ranking #3 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Upper John Day	4153	n/a	Roberts Creek RM .5-06	USBR			X		
Walla Walla	2136	CENWW	Walla Walla GI Feasibility Study	CORPS	X		X		
All Idaho Subbasins	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Deschutes	399	1999-006-00	Restoration of Riparian Habitat in Bakeoven / Deep Creeks	BPA				X	X
Deschutes	189	2002-019-00	Establish Riparian Buffer Systems	BPA					X
John Day	112	1984-021-00	Protect and Enhance John Day Anadromous Fish	BPA				X	X
John Day	113	1993-066-00	NE Oregon Pump Screening	BPA		X	X		
John Day	114	1998-017-00	Eliminate Gravel Push-up Dams in Lower North Fork John Day	BPA			X		
John Day	4001	1998-018-00	John Day Watershed Restoration Program	BPA	X		X		X
John Day	117	1998-022-00	Pine Creek Ranch Acquisition	BPA				X	X
John Day	118	1999-010-00	Mitigate Effects Of Runoff & Erosion On Salmonid Habitat In Pine Hollow and Jackknife	BPA					X
John Day	119	2000-015-00	Oxbow Ranch Acquisition	BPA	X		X	X	X
John Day	120	2000-031-00	North Fork John Day River Subbasin Anadromous Fish Habitat Enhancement Project	BPA				X	X
John Day	122	2001-040-00	Wagner Ranch Acquisition	BPA				X	X
John Day	123	2001-041-00	Forrest Ranch Acquisition	BPA	X			X	X
John Day	188	2002-015-00	Provide Coordination and Technical Assistance to Watershed Councils and Individuals in Sherman County, Oregon	BPA					X
John Day	206	2002-034-00	Wheeler SWCD Riparian Buffer Planning and Implementation	BPA					X
John Day	207	2002-035-00	Gilliam SWCD Riparian Buffers	BPA					X
Klickitat	26	1997-056-00	Lower Klickitat Riparian and In-Channel Habitat Enhancement Project	BPA	X	X	X		
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				

**Jeopardized ESU: Mid-Columbia River Steelhead** (priority ranking #3 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Umatilla	29	1983-436-00	Umatilla Passage O&M	BPA		X	X		
Umatilla	29	1983-436-00	Umatilla Passage O&M	BPA		X	X		
Umatilla	203	1987-100-01	Umatilla River Anadromous Fish Habitat Enhancement Project	BPA				X	X
Umatilla	178	1987-100-02	Umatilla Subbasin Fish Habitat Improvement	BPA					X
Umatilla	30	1988-022-00	Umatilla River Fish Passage Operations	BPA		X	X		
Umatilla	275	2001-011-00	Habitat Diversity in Alluvial Rivers	BPA	X				
Umatilla	441	2001-015-00	Echo Meadow Project - Winter Artificial Recharge to Cool Rivers	BPA	X				
Umatilla	190	2002-026-00	Morrow County Buffer Initiative	BPA					X
Walla Walla	35	1996-011-00	Juvenile Screens and Smolt Traps at Walla Walla River	BPA		X	X		
Walla Walla	272	1996-046-01	Walla Walla River Basin Fish Habitat Enhancement	BPA				X	X
Walla Walla	273	1998-020-00	Assess Fish Habitat and Salmonids in the Walla Walla Watershed in Washington	BPA	X				
Walla Walla	41	2000-033-00	Walla Walla River Fish Passage Operations	BPA		X	X		
Walla Walla	43	2001-039-00	Walla Walla Basin Screening	BPA		X			
Walla Walla	278	2001-061-00	Touchet River Flow Acquisition	BPA	X				
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				
Willamette	446	1992-068-00	Implement Willamette Basin Mitigation Program	BPA					X
Yakima	4	1991-057-00	Fabricate and Install Yakima Basin Phase II Fish Screens	BPA		X			
Yakima	5	1991-075-00	Yakima Phase II Screens - Construction	BPA		X			
Yakima	6	1992-009-00	Operate & Maintain (O&M) Yakima Basin Phase II Fish Screens	BPA		X			
Yakima	7	1992-062-00	Yakama Nation - Riparian/Wetlands Restoration	BPA			X	X	X
Yakima	8	1995-033-00	O&M Of Yakima Phase II Fish Facilities*	BPA		X			
Yakima	11	1996-035-01	Status Watershed Restoration	BPA	X			X	X
Yakima	13	1997-051-00	Yakama Nation Yakima/Klickitat Fisheries Project (YKFP) Yakima Side Channels	BPA				X	X
Yakima	14	1997-053-00	Toppenish-Simcoe Instream Flow Restoration and Assessment	BPA	X			X	X
Yakima	15	1998-033-00	Restore Upper Toppenish Watershed	BPA			X	X	X
Yakima	16	1998-034-00	Yakama Nation Yakima/Klickitat Fisheries Project (YKFP) Reestablish Safe Access into Tributaries of the Yakima Subbasin	BPA	X	X	X		
Yakima	17	1999-013-00	Ahtanum Creek Watershed Assessment	BPA	X				X
Yakima	279	2001-064-00	Improve Stream Flow and Passage for Simcoe Creek Steelhead	BPA	X		X		
Yakima	280	2002-020-00	Fabricate and Install New Huntsville Mill Fish Screen	BPA		X			
Yakima	19	2002-022-00	YKFP Big Creek Passage & Screening	BPA		X	X		



**Jeopardized ESU: Mid-Columbia River Steelhead** (priority ranking #3 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Yakima	21	2002-025-00	Yakima Tributary Access and Habitat Program (Objective 1: Early Actions)	BPA					X
Yakima	22	2002-038-00	Protect Normative Structure and Function of Critical Aquatic and Terrestrial Habitat	BPA				X	X
Yakima	320	2003-001-00	Yakima-Klickitat Fisheries Project - Manastash Creek Fish Passage and Screening	BPA		X	X		

**Jeopardized ESU: Upper Columbia River Spring Chinook** (priority ranking #4 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Entiat	4124	Ha149.ENT.03.400.01	Entiat 4 Mile Push-up Dam Replacement and Screen	USBR		X	X		
Methow	4002		Beaver Creek Water Acquisitions	USBR	X				
Methow	4010		Gold Creek Screen and Diversion	USBR		X	X		
Methow	4030		Methow Valley Irrigation District Twisp River Pump Exchange	USBR	X				
Methow	4093	Ha149.MET.02.300.01	Methow Valley Irrigation District West Canal Fish Screens	USBR		X			
Methow	4095	Ha149.MET.02.300.02	Methow Valley Irrigation District East Canal Fish Screens	USBR		X			
Methow	4026	Ha149.MET.02.400.01	Marracci/Washington Department of Fish and Wildlife Diversion Reconstruction	USBR			X		
Methow	4003	Ha149.MET.02.400.02	Campbell Diversion Reconstructions	USBR			X		
Methow	4034	Ha149.MET.02.400.04	Methow Valley Irrigation District East Canal Diversion	USBR			X		
Methow	4035	Ha149.MET.02.400.05	Methow Valley Irrigation District West Canal Diversion	USBR			X		
Methow	4096	Ha149.MET.02.400.06	Twisp Valley Power and Irrigation Diversion	USBR			X		
Methow	4037	Ha149.MET.03.120.01	Instream Flows Monitoring & Simulation	USBR	X				
Methow	4163	Ha149.MET.03.120.03	Okanogan County Gaging Stations	USBR	X				
Methow	4009	Ha149.MET.03.400.08	Fulton Diversion Structure	USBR			X		
Methow	4005	Ha149.MET.03.400.09	Chewuch Ditch Diversion Structure	USBR			X		
Methow	4165	Ha149.MET.03.400.10	Wolf Creek Diversion Renovation	USBR			X		
Methow	4160	Ha149.MET.03.400.11	Aspen Meadows Diversion Dam Reconstruction	USBR			X		
Methow	4162	n/a	Chewuch Basin Water Acquisition	USBR	X				
Methow	4164	n/a	Creveling Ditch Screen	USBR	X	X			
Wenatchee	4004		Chelan County/Wenatchee IFIM Study	USBR	X				
Wenatchee	4006		Chumstick Diversions	USBR			X		
Wenatchee	4033		Mission Diversions	USBR			X		

**Jeopardized ESU: Upper Columbia River Spring Chinook** (priority ranking #4 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Wenatchee	4121	Ha149.WEN.03.400.02	Peshastin Irrigation District Lower Diversion	USBR			X		
Methow	94	1996-034-01	Methow Valley Irrigation District Rehabilitation	BPA	X	X			
Okanogan	96	1996-042-00	Restore and Enhance Anadromous Fish Populations and Habitat in Salmon Creek	BPA			X	X	X
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Umatilla	342	1995-060-01	Iskuulpa Watershed Wildlif - /Protect & Enhance Wildlife Habitats in the Squaw Creek Watershed	BPA				X	
Umatilla	190	2002-026-00	Morrow County Buffer Initiative	BPA					X
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				
Willamette	446	1992-068-00	Implement Willamette Basin Mitigation Program	BPA					X

**Jeopardized ESU: Snake River Spring-Summer Chinook** (priority ranking # 5 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Lemhi	4014		L-18 Headgate	USBR	X				
Lemhi	4015		L-20 Headgate	USBR	X				
Lemhi	4136		L-22 Diversion Replacement	USBR			X		
Lemhi	4137		L-22 Headgate Replacement	USBR	X				
Lemhi	4138		L-28 Diversion Replacement	USBR			X		
Lemhi	4139		L-28 Headgate Replacement	USBR	X				
Lemhi	4024		L-9 Diversion Replacement	USBR			X		
Lemhi	4025		L-9 Headgate	USBR	X				
Lemhi	4023	Ha149.LEM.01.200.01	L-6/S14 Water Exchange	USBR	X				
Lemhi	4097	Ha149.LEM.02.120.00	L5 Streamflow Gaging Station	USBR	X				
Lemhi	4098	Ha149.LEM.02.120.02	Lemhi River Flow Characterization Study	USBR	X				
Lemhi	4189	Ha149.LEM.03.120.03	Big Timber Creek PHABSIM Study	USBR	X				
Lemhi	4181	Ha149.LEM.03.120.04	IDWR Lemhi Water Budget Model Update	USBR	X				
Lemhi	4187	Ha149.LEM.03.300.02	L3 Wasteway Fish Screen	USBR		X			
Lemhi	4125	Ha149.USA.03.120.02	Idaho Streamflow Procurement	USBR	X				
Salmon	2130	CENWW CAP	Salmon River Aquatic Ecosystem Restoration	CORPS	X		X		
Upper Salmon	4146		East Fork Salmon 15-17 Diversion Consolidation	USBR			X		
Upper Salmon	4099	Ha149.USA.02.120.01	Upper Salmon Basin Flow Characterization Study	USBR	X				
Upper Salmon	4170	Ha149.USA.03.120.03	Upper Salmon River, Valley, and Elk Creek PHABSIM Studies	USBR	X				
Upper Salmon	4180	Ha149.USA.03.120.04	IDWR Upper Salmon Water Budget Model	USBR	X				
Upper Salmon	4132	Ha149.USA.03.200.04a	HC-3 Headgate	USBR	X				
Upper Salmon	4169	Ha149.USA.03.300.01	Salmon River @ Squaw Creek Screen Improvement	USBR		X			
Upper Salmon	4186	Ha149.USA.03.300.02	Gini Canal Siphon	USBR			X		

**Jeopardized ESU: Snake River Spring-Summer Chinook** (priority ranking # 5 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Upper Salmon	4133	Ha149.usa.03.400.04b	HC-3 Irrigation diversion replacement	USBR			X		
Asotin	334	1994-018-05	Asotin Creek Model Watershed Placeholder	BPA					X
Asotin	326	2002-054-00	Protect and Restore the Asotin Creek Watershed	BPA					
Clearwater	67	1993-035-01	Enhance Fish, Riparian, and Wildlife Habitat Within the Red River Watershed	BPA				X	
Clearwater	74	1996-077-03	Protecting and Restoring the Waw'aatamnima (Fishing)(Squaw) Creek to 'Imnaamatnoon (Legendary Bear)(Papoose) Creek Watersheds Analysis Area	BPA			X	X	
Clearwater	76	1996-086-00	Clearwater Focus Program	BPA					
Clearwater	77	1997-060-00	Clearwater Subbasin Focus Watershed Program - NPT	BPA					
Clearwater	78	1999-014-00	Little Canyon Creek Subwatershed-Steelhead Trout Habitat Improvement Project	BPA					
Clearwater	79	1999-015-00	Restoring Anadromous Fish Habitat in Big Canyon Watershed	BPA				X	X
Clearwater	86	2000-035-00	Rehabilitate Newsome Creek Watershed - South Fork Clearwater River	BPA			X		
Clearwater	87	2000-036-00	Protect & Restore Mill Creek	BPA			X		X
Clearwater	333	2002-061-00	Potlatch River Watershed Restoration	BPA					X
Clearwater	333	2002-061-00	Potlatch River Watershed Restoration	BPA					X
Clearwater	333	2002-061-00	Potlatch River Watershed Restoration	BPA					X
Clearwater	443	2002-072-00	Restore and Protect Red River Watershed	BPA			X	X	
Clearwater	442	2002-074-00	Protect and Restore Crooked Fork Creek to Colt Killed Analysis Area	BPA			X	X	
Grande Ronde	208	1984-025-00	Joseph Creek, Grande Ronde River	BPA				X	X
Grande Ronde	209	1992-026-01	Grande Ronde Model Watershed - Planning	BPA					X
Grande Ronde	213	1992-026-01	Grande Ronde Model Watershed - LaGrande Ranger District FY01 Projects	BPA					
Grande Ronde	214	1992-026-01	Grande Ronde Model Watershed - Wallowa Valley Ranger District FY01 Projects	BPA					X
Grande Ronde	217	1992-026-01	Grande Ronde Model Watershed - Lostine Watershed Assessment	BPA					
Grande Ronde	219	1992-026-01	Grande Ronde Model Watershed - Indian Creek/Trick Runoff and Buffering System	BPA					
Grande Ronde	220	1992-026-01	Grande Ronde Model Watershed - Rangeland Drill/Watershed Restoration and Enhancement	BPA					

**Jeopardized ESU: Snake River Spring-Summer Chinook** (priority ranking # 5 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Grande Ronde	361	1992-026-01	Grande Ronde Model Watershed Program	BPA	X		X	X	X
Grande Ronde	366	1992-026-01	Mainstem Grande Ronde River Habitat Enhancement Project Phase 2: Upper Mainstem Grande Ronde River	BPA	X		X	X	X
Grande Ronde	368	1992-026-01	Grande Ronde Model Watershed - Wallowa County CREP Coordination	BPA				X	X
Grande Ronde	370	1992-026-01	Grande Ronde Model Watershed - Grande Ronde Valley Stream Gauging	BPA	X				
Grande Ronde	398	1996-083-00	Grande Ronde Basin Watershed Restoration Project - Longley Meadows Restoration	BPA				X	X
Grande Ronde	403	1997-025-00	Implement the Wallowa County/Nez Perce Tribe Salmon Recovery Plan	BPA					
Grande Ronde	227	1999-058-00	Upper Grande Ronde and Catherine Creek Watershed Restoration	BPA					X
Grande Ronde	229	1999-070-00	Wallowa County Gauging Station	BPA	X				
Grande Ronde	233	1999-079-00	Beaver Creek Fish Passage	BPA			X		X
Grande Ronde	234	1999-081-00	East End Road Obliteration and Sediment Reduction	BPA					
Grande Ronde	235	2000-059-00	USFS Marr Flat Allotment and Big Sheep/Imnaha Fisheries Enhancement	BPA					X
Grande Ronde	236	2000-061-00	Upper Wildcat and Joseph Creek Watershed Improvement	BPA					X
Grande Ronde	238	2000-063-00	Meadow Creek Riparian Pasure Fence	BPA					X
Grande Ronde	239	2000-064-00	Conservation Reserve Enhancement Program	BPA				X	
Grande Ronde	240	2000-065-00	Meadow Creek/Habberstad fish habitat Enhancement	BPA					X
Grande Ronde	241	2000-066-00	McCoy Creek-Alta Cunha Rances Riparian Restoration	BPA					X
Grande Ronde	242	2000-069-00	Grande Ronde River Basin - Culvert Replacements	BPA			X		
Grande Ronde	244	2001-019-00	Little Catherine and Lick Creek Restoration	BPA					X
Grande Ronde	327	2002-055-00	Oregon Plan Blue Mountain Province Fish Screening/Fish Passage	BPA					

**Jeopardized ESU: Snake River Spring-Summer Chinook** (priority ranking # 5 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Imnaha	402	2001-043-00	Acquire 27,000 Camp Creek Ranch at Zumwalt Prairie	BPA				X	
Salmon	66	1992-026-03	Upper Salmon Basin Watershed Project Administration/Implementation Support	BPA	X	X	X		X
Salmon	69	1994-015-00	Idaho Fish Screen Improvement	BPA		X	X		
Salmon	70	1994-017-00	Idaho Model Watershed Habitat Improvement Project	BPA	X		X	X	X
Salmon	71	1994-050-00	Salmon River Habitat Enhancement M & E	BPA					X
Salmon	83	1999-019-00	Holistic Restoration of the Twelvemile Reach of the Salmon River near Challis, Idaho	BPA					X
Salmon	91	2001-052-00	Restoration of Anadromous Fish Access to Hawley Creek	BPA		X	X		
Salmon	330	2002-058-00	Riparian Conservation Easement Purchase of Scarrow Property on Lake Creek a Tributary to the Secesh River, Idaho	BPA					
Salmon	331	2002-059-00	Restoration of the Yankee Fork Salmon River	BPA	X		X		
Salmon	164	2002-066-00	Holistic Restoration of Habitat on Non-federal Lands, Middle Salmon-Panther Watershed, Idaho	BPA				X	
Salmon	167	2002-069-00	Protect and Restore Little Salmon River	BPA					
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Tucannon	270	1994-018-06	Implement Tucannon River Model Watershed Plan to Restore Salmonid Habitat (Work contracted under 1999-001-00, 1999-057-00)	BPA	X	X		X	X
Umatilla	342	1995-060-01	Iskuulpa Watershed Wildlif - /Protect & Enhance Wildlife Habitats in the Squaw Creek Watershed	BPA				X	
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				
Willamette	446	1992-068-00	Implement Willamette Basin Mitigation Program	BPA					X

**Jeopardized ESU - Snake River Fall Chinook** (priority ranking # 6 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Clearwater	80	1999-016-00	Protect and Restore Big Canyon Creek Watershed	BPA			X	X	X
Clearwater	81	1999-017-00	Protect and Restore Lapwai Creek Watershed	BPA			X	X	X
Clearwater	333	2002-061-00	Potlatch River Watershed Restoration	BPA					X
Clearwater	168	2002-070-00	Restoring anadromous fish habitat in the Lapwai Creek watershed	BPA				X	X
Imnaha	402	2001-043-00	Acquire 27,000 Camp Creek Ranch at Zumwalt Prairie	BPA				X	
Salmon	168	2002-070-00	Restoring anadromous fish habitat in the Lapwai Creek watershed	BPA				X	X
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Tucannon	270	1994-018-06	Implement Tucannon River Model Watershed Plan to Restore Salmonid Habitat (Work contracted under 1999-001-00, 1999-057-00)	BPA	X	X		X	X
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				
Willamette	446	1992-068-00	Implement Willamette Basin Mitigation Program	BPA					X



**Jeopardized ESU: Columbia River Chum** (priority ranking #7 per lambda and 2003 Check-in Report)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Columbia Lower	2165		Steigerwald NWR, Section 1135	CORPS	X				
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				
Willamette	446	1992-068-00	Implement Willamette Basin Mitigation Program	BPA					X
Yakima	1	1985-062-00	Passage Improvement Evaluation - Phase II Screens	BPA		X			

**Jeopardized ESU: Snake River Sockeye** (not ranked)

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Salmon	2130	CENWW CAP	Salmon River Aquatic Ecosystem Restoration	CORPS	X		X		
Upper Salmon	4099	Ha149.USA.02.120.01	Upper Salmon Basin Flow Characterization Study	USBR	X				
Upper Salmon	4125	Ha149.USA.03.120.02	Idaho Streamflow Procurement	USBR	X				
Salmon	143	1991-071-00	Snake River Sockeye Salmon Habitat and Limmological Research	BPA					
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				
Willamette	446	1992-068-00	Implement Willamette Basin Mitigation Program	BPA					X

### Threatened ESU: Lower Columbia River Chinook

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Fifteenmile	186	2001-021-00	Fifteenmile Creek Riparian Buffers - Wasco County	BPA					X
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Umatilla	342	1995-060-01	Iskuulpa Watershed Wildlif - /Protect & Enhance Wildlife Habitats in the Squaw Creek Watershed	BPA				X	
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				
Willamette	446	1992-068-00	Implement Willamette Basin Mitigation Program	BPA					X

## Threatened ESU: Upper Willamette River Chinook

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				

## Threatened ESU: Lower Columbia River Steelhead

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Deschutes	184	1998-028-00	Trout Creek Watershed Improvement Project	BPA					X
Fifteenmile	185	2001-020-00	Fifteenmile Creek Riparian Fencing / Physical stream Survey Project	BPA				X	X
Fifteenmile	186	2001-021-00	Fifteenmile Creek Riparian Buffers - Wasco County	BPA					X
Hood	183	1998-021-00	Hood River Fish Habitat Project	BPA			X	X	X
John Day	182	1994-042-00	Trout Creek Habitat Restoration Project	BPA					X
Systemwide	397	2002-013-01	Water Entity Project (RPA 151/ A-8) Columbia Basin Water Transactions Program (2002-013-01)	BPA	X				
Umatilla	342	1995-060-01	Iskuulpa Watershed Wildlif - /Protect & Enhance Wildlife Habitats in the Squaw Creek Watershed	BPA				X	
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				
Willamette	446	1992-068-00	Implement Willamette Basin Mitigation Program	BPA					X
Wind	386	1998-019-00	Wind River Watershed Restoration	BPA					

## Threatened ESU: Upper Willamette Steelhead

Subbasin	DB ID	Agency Project #	Project Title	Agency	Flow (RPAs 149, 151)	Screens	Barriers	Protect riparian habitat (RPA 150)	Riparian buffers (RPA 153)
Willamette	445	1991-078-00	Burlington Bottoms Wildlife Mitigation Project	BPA	X				
Willamette	446	1992-068-00	Implement Willamette Basin Mitigation Program	BPA					X
Willamette	306	2001-036-00	Ames Creek Restoration	BPA					

**FY 2004 Projects in the Columbia River estuary and lower mainstem subbasins**

ESU Benefitted	DB ID	Agency Project #	ProjectTitle	Agency	Barriers	Wetlands	Research
All	2090	CENWP	Estuary research Salmon Survival and acoustic tag R&D	Corps			X
All	2112	CENWP	Brownsmead, Estuary, Section 1135	Corps	X	X	
All	2113	CENWP	Estuary Restoration 536 Program	Corps		X	
All	2114	CENWP	Estuary General Investigation Study	Corps		X	
All	2115	CENWP	Estuary mapping	Corps			X
All	2116	CENWP	Current and historic linkages in the lower Columbia River and Estuary	Corps			X
All	2134	CENWP	SW Washington Streams Section 206	Corps		X	
All	2143	CENWP	Crims Island Restoration	Corps		X	
All	2163		Chinook River Estuary Restoration, Section 536	Corps		X	
All	2164		Julia Butler Hansen, NWR, Section 536	Corps		X	
All	2166	CENWP	Estuary Research, Evaluation of ocean entry timing, physical & biological characteristics & ARR	Corps			X
Columbia River Chum Salmon	2145	CENWP	Ives Island Project	Corps			
Columbia River Chum Salmon	2162		Lena's Lake, Pierce NWR, Section 536	Corps			

# 2004 Resident Fish Projects

<i>Strategy / Substrategy</i>				<i>SR</i> <i>Fall</i> <i>Chinook</i>	<i>SR</i> <i>Spr /</i> <i>Sum</i> <i>Chinook</i>	<i>LCR</i> <i>Chinook</i>	<i>UWR</i> <i>Chinook</i>	<i>UCR</i> <i>Spr</i> <i>Chinook</i>	<i>CR</i> <i>Chum</i>	<i>SR</i> <i>Sockeye</i>	<i>UCR</i> <i>Stlhd</i>	<i>SR</i> <i>Stlhd</i>	<i>LCR</i> <i>Stlhd</i>	<i>UWR</i> <i>Stlhd</i>	<i>MCR</i> <i>Stlhd</i>	<i>CR</i> <i>Bull</i> <i>Trout</i>	<i>KRWS</i>	
<b>Resident Fish</b>																		
<b>No Strategy Assigned for this Project and this Category</b>																		
<b>No SubStrategy Assigned for this Project and this Category</b>																		
2144		Libby - Flood Control Procedures	CORPS															
6025		ESA Coordination--Libby Dam	CORPS															X
6003	11.A.1.3.C	Evaluate TDG below Albeni Falls Dam	CORPS															X
6034	36; 8.1.h; 8.1.l	Variable December 31 flood control target at Libby Dam; new volume forecast procedure	CORPS	X	X	X		X	X	X	X	X	X		X			X
6002	8.2.a.4; 8.2.a.5; 8.2.a.6; 8.2.a.7; 8.2.d	Preliminary Evaluation of the Feasibility of Commissioning One or Two Additional Generating Units at Libby Dam	CORPS															X
6023	8.3.h	Water Temperature Profile Project, Libby Dam	CORPS															X
2005	CENWW OM	Adult Fish Counting at Mainstem Columbia and Snake River Projects	CORPS	X	X	X		X	X	X	X	X	X		X			X
2062	CENWW OM	Monitoring of Bull Trout at Mainstem Projects	CORPS															X
4081	Hy14.HGH.01.000.00	Hungry Horse Operations--VARQ operations	USBR	X	X			X		X	X	X			X			X



**Resident Fish**

**1. Promote the Reproduction and Recruitment of Kootenai River White Sturgeon (KWS)**

**No SubStrategy Assigned for this Project and this Category**

6000	8.1.b; 8.1.d; NMFS 22; 8.2.a.6	Upper Columbia Alternative Flood Control and Fisheries Operations EIS Preparation EIS Preparation	CORPS	X	X	X		X	X	X	X	X	X		X	X	X		
6035	8.3.a; 8.3.b	Flood Level Assessment at Bonners Ferry; Levee Restoration at Bonners Ferry	CORPS																X

**1.1 Conditions below Libby Dam that facilitate KWS natural**

2076		Libby Operations Sturgeon	CORPS																X
2077		Seek USFWS concurrence on water storage	CORPS															X	X
257	1988-064-00	Kootenai River White Sturgeon Study and Experimental Aquaculture	BPA																X
258	1988-065-00	Kootenai River Fisheries Recovery Investigations	BPA																X
260	1994-049-00	Improving the Kootenai River Ecosystem	BPA																X
262	2002-002-00	Assess Feasibility of Enhancing White Sturgeon Spawning Substrate Habitat, Kootenai R., Idaho	BPA																X
314	2002-008-00	Reconnection of floodplain slough habitat to the Kootenai River	BPA														X	X	
265	2002-011-00	Implement Floodplain Operational Loss Assessment, Protection, Mitigation and Rehabilitation on the Lower Kootenai River Watershed Ecosystem	BPA																X

**1.2 Kootenai River white sturgeon conservation hatchery p**

257	1988-064-00	Kootenai River White Sturgeon Study and Experimental Aquaculture	BPA																X
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**Resident Fish**

**2. Determine the Impacts of the FCRPS on Bull Trout and Mitigate for those Impacts**

**No SubStrategy Assigned for this Project and this Category**

6006	10.A.1.4; 11.A.1.4.a;	Kokanee Project Coordination Meetings	CORPS																	X	
		b; c; and d																			
6009	11.A.1.4.a;	Lake Pend Oreille Elevation Study	CORPS																	X	
		11.A.1.4.b;																			
		11.A.1.4.c; 11.A.1.4.d																			

**2.1 Determine the extent to which bull trout use and are aff**

2077		Seek USFWS concurrence on water storage	CORPS																	X	X
6001	10.A.1.3; 11.A.1.3.a	Bull Trout Radio-Telemetry Study in the Pend Oreille Basin	CORPS																	X	
245	1987-127-00	Smolt Monitoring by Federal and Non-Federal Agencies	BPA	X	X				X		X									X	
30	1988-022-00	Umatilla River Fish Passage Operations	BPA														X			X	
214	1992-026-01	Grande Ronde Model Watershed - Wallowa Valley Ranger District FY01 Projects	BPA				X				X									X	
253	1994-033-00	Fish Passage Center	BPA				X	X		X										X	
259	1994-047-00	Lake Pend Oreille Fishery Recovery Project	BPA																	X	
128	2002-006-00	Evaluate Bull Trout Movements in the Tucannon and Lower Snake Rivers	BPA																	X	
263	2002-009-00	Lake Pend Oreille Predation Research	BPA																	X	
325	2002-053-00	Assess Salmonids in the Asotin Creek Watershed	BPA								X									X	

**2.2 Operate and modify FCRPS dams to protect, provide, a**

2075		Libby Operations Bull Trout	CORPS																	X	
2077		Seek USFWS concurrence on water storage	CORPS																	X	X
6001	10.A.1.3; 11.A.1.3.a	Bull Trout Radio-Telemetry Study in the Pend Oreille Basin	CORPS																	X	
173	1991-019-03	Hungry Horse Mitigation - Habitat	BPA																	X	
259	1994-047-00	Lake Pend Oreille Fishery Recovery Project	BPA																	X	