

**Annual Implementation Work Plan Volume II:
Project Descriptions for Implementation of
the Columbia River Basin Fish and Wildlife Program
in Fiscal Year 2001**

Council document 2001-25

October 2001

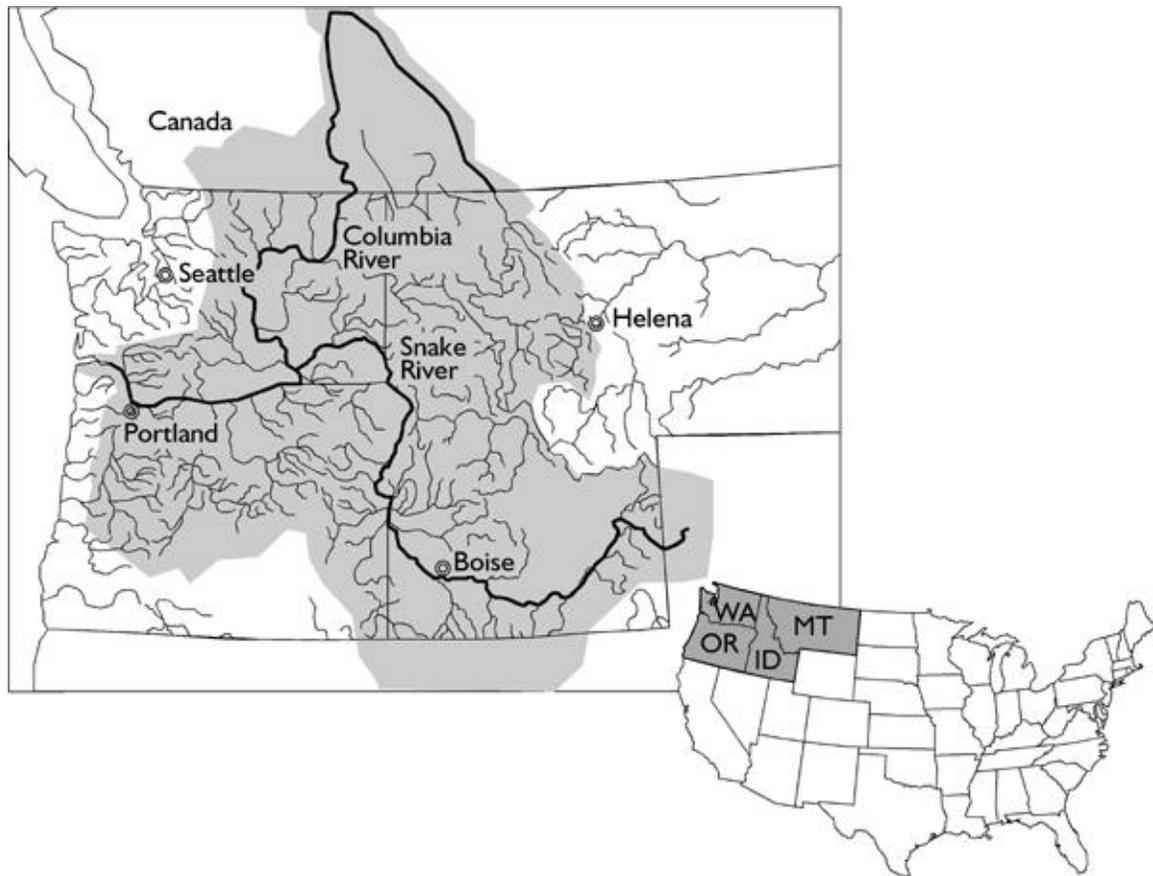


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Overview

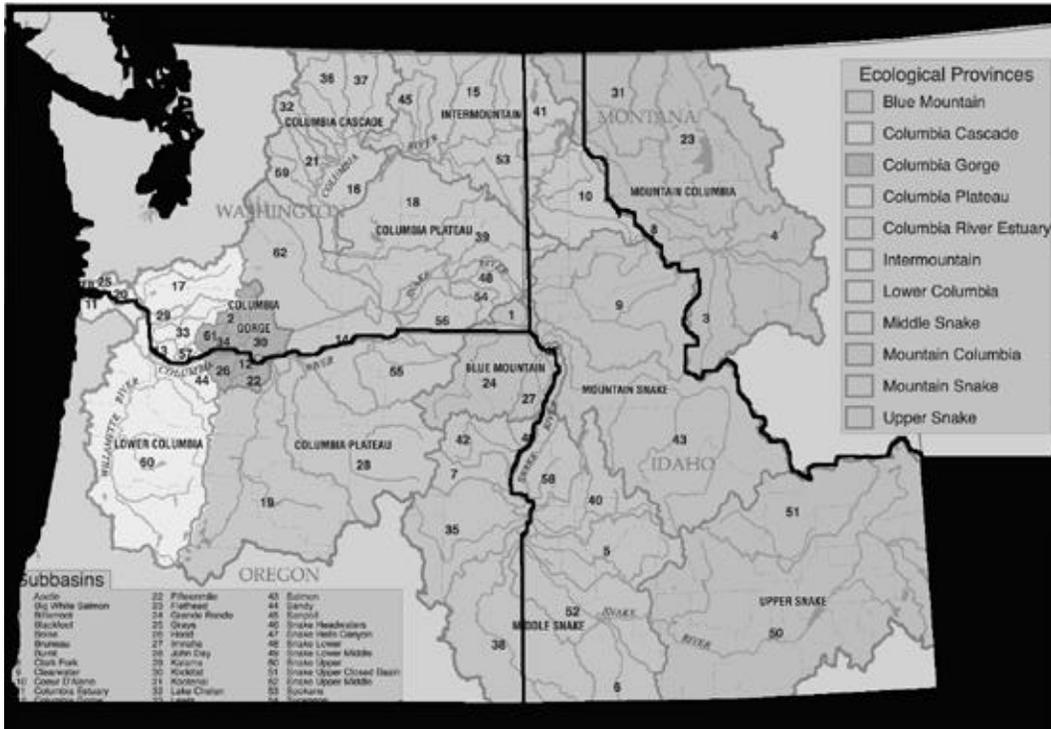
This report provides an overview of actions to be taken in Idaho, Montana, Oregon and Washington in Fiscal Year (FY) 2001 in support of the Northwest Power Planning Council's efforts to protect, mitigate and enhance fish and wildlife resources in the Columbia River Basin. These actions make up the Columbia River Basin Fish and Wildlife Program's FY 2001 Annual Implementation Work Plan. Development of the workplan is a collaborative effort among the Council, the Bonneville Power Administration and the Columbia Basin Fish and Wildlife Authority, which represents federal, state and tribal fish and wildlife managers.

In accordance with the Council's 2000 Columbia Basin Fish and Wildlife Program, which established a new review and selection process called the "rolling province review," projects are now reviewed in two to three provinces every three years, rather than throughout the basin each year as in the past.

The 2001 review cycle reflects the transition to this new review process. As a result, along with ongoing projects funded for one year, this report also includes projects approved through the provincial review process completed in the Columbia Gorge and Inter-Mountain provinces. Those projects will be funded for three years. In addition, a separate "innovative projects" initiative for FY 2001 was also completed. Building on prior years, for FY 2001, the Council crafted a specific solicitation for innovative projects, and called upon Bonneville to earmark a portion of the available FY 2001 funds for them. Those projects are also part of this report.

The overview is arranged by province and its subbasins, and provides a brief project description, the sponsoring organization(s), and the approved funding level for each project.

If you would like extra copies of the Annual Implementation Work Plan Volumes I and II, please contact the Northwest Power Planning Council's central office in Portland, Oregon at 503-222-5161 or toll free 1-800-452-5161 and ask for document 2001-24 (Volume I) or 2001-25 (Volume II); or download a copy from our website at www.nwccouncil.org.



Systemwide 40 Projects — \$33,764,416

Systemwide projects potentially affect the entire Columbia River Basin or assist in the coordination of basinwide activities.

Systemwide Objectives and Strategies

The fish and wildlife managers' systemwide management objective is to make timely, effective, and informed decisions regarding management of Columbia River fish and wildlife. To achieve this objective, fish and wildlife managers have defined five strategies:

1. Set management goals, objectives and strategies and coordinate planning and implementation.
2. Provide a peer review capability.
3. Conduct regional research and monitor progress and results.
4. Develop tools and models needed to enhance decision-making ability.
5. Manage information (maintain and disseminate data) and report results to constituents and stakeholders.

Projects

Coded-Wire Tag Recovery Program

Project number: 198201300

Sponsor: Pacific States Marine Fisheries Commission

FY 2001 cost estimate: \$2,000,000

Short description:

Recovery of CWTs from salmonids sampled in the commercial and sport fisheries (Columbia River and Oregon ocean), spawning grounds and hatcheries. Provides critical stock identification information required to evaluate the status of Columbia Basin stocks.

New Marking and Monitoring Techniques for Fish

Project number: 198331900
Sponsor: National Marine Fisheries Service
FY 2001 cost estimate: \$1,836,855

Short description:

Develop, install, and evaluate PIT-tag interrogation systems and ancillary equipment to expand the capabilities of the Columbia River Basin (CRB) PIT-tag technology to meet fishery resource stakeholders' needs.

White Sturgeon Mitigation and Restoration in the Columbia and Snake Rivers

Project number: 198605000
Sponsor: Oregon Department of Fish and Wildlife
FY 2001 cost estimate: \$1,990,925

Short description:

Restore and mitigate for hydrosystem-caused loss of white sturgeon productivity through intensive fisheries management, supplementation, and modified hydrosystem operation. Assess success of mitigation efforts, and assess losses in unstudied areas.

Smolt Monitoring by Federal and Non-Federal Agencies

Project number: 198712700
Sponsor: Pacific States Marine Fisheries Commission
FY 2001 cost estimate: \$2,295,433

Short description:

Daily passage data through the mainstem, Snake, Columbia and mid-Columbia rivers to facilitate fish passage management decisions, including Biological Opinion implementation, is collected daily. Sampling and marking occur at 8 sites of the larger region.

Assessment of Smolt Condition: Biological and Environmental Interactions

Project number: 198740100
Sponsor: U.S. Geological Survey, Biological Resources Division, Western Fisheries Research Center, Columbia River Research Laboratory
FY 2001 cost estimate: \$206,000

Short description:

Provide technical research support to hatchery and regional fishery managers to determine interactions between juvenile salmonid physiological development and the environment affecting smoltification, disease resistance, and smolt-to-adult returns.

StreamNet

Project number: 198810804
Sponsor: Pacific States Marine Fisheries Commission
FY 2001 cost estimate: \$2,047,500

Short description:

Provides essential data and services to the Fish and Wildlife Program including: 1) regionally consistent biological data; 2) access to data and documents via Internet, Library, and custom products; and 3) technical support to projects and activities.

Fish and Wildlife Program Implementation

Project number: 198906201
Sponsor: Columbia Basin Fish & Wildlife Authority

FY 2001 cost estimate: \$2,000,000

Short description:

Coordinate fish and wildlife participation in regional mitigation activities in implementation of the FWP, FY2001 project and funding recommendations, rolling provincial review, subbasin planning, program amendment recommendations, FSOC, NPMP, etc.

Annual Stock Assessment - CWT (USFWS)

Project number: 198906500

Sponsor: U.S. Fish and Wildlife Service

FY 2001 cost estimate: \$114,094

Short description:

Apply coded-wire tags to production groups of salmon at federal hatcheries not tagged by other programs (4 hatcheries). Prepare report on survival trends and distribution of anadromous stocks from 11 federal hatcheries for basin-wide stock assessment.

Annual Stock Assessment-Coded Wire Tag Program (WDFW)

Project number: 198906600

Sponsor: Washington Department of Fish and Wildlife

FY 2001 cost estimate: \$400,000

Short description:

Apply coded-wire tags to production of coho and chinook salmon at WDFW Columbia Basin hatcheries for stock assessment of hatchery and wild populations. Evaluate survival, contribution and stray rates of hatchery reared fish and compare to wild fish.

Annual Stock Assessment - Coded Wire Tag Program (ODFW)

Project number: 198906900

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$208,247

Short description:

Apply coded-wire tags to production releases of coho and chinook salmon at ODFW Columbia Basin hatcheries for stock assessment of hatchery and wild salmon populations. Evaluate alternative marking techniques.

Independent Scientific Advisory Board Support

Project number: 198907201

Sponsor: Department of Energy/Oak Ridge National Laboratory

FY 2001 cost estimate: \$100,027

Short description:

Provide support through contract with DOE for Dr. Charles Coutant for the Independent Scientific Advisory Board (ISAB), for scientific advice to the NWPPC's FWP and NMFS's ESA programs.

Monitor and Evaluate Genetic Characteristics of Supplemented Salmon and Steelhead

Project number: 198909600

Sponsor: National Marine Fisheries Service, Conservation Biology Division

FY 2001 cost estimate: \$254,510

Short description:

Monitor changes over time in genetic characteristics of hatchery, natural (supplemented), and wild (un-supplemented) populations of Snake River spring/summer chinook salmon and steelhead. Estimate reproductive success of hatchery and wild steelhead.

Statistical Support for Salmonid Survival Studies

Project number: 198910700
Sponsor: University of Washington
FY 2001 cost estimate: \$246,560
Short description:

Develop better measurement tools and study designs to estimate juvenile and adult salmonid survival. Develop statistical methods to determine survival rates and survival relationships. Provide statistical guidance to Columbia Basin investigators.

Performance/Stock Productivity Impacts of Hatchery Supplementation

Project number: 199005200
Sponsor: Biological Resources Division, U.S. Geological Survey (formerly National Biological Survey)
FY 2001 cost estimate: \$527,706
Short description:

Measure genetic changes from artificial propagation of steelhead and spring chinook to provide increased understanding of the reputed failure of steelhead supplementation in Idaho's Clearwater River and an improved knowledge basis for supplementation.

Northern Pikeminnow Management Program

Project number: 199007700
Sponsor: Pacific States Marine Fisheries Commission
FY 2001 cost estimate: \$2,505,933
Short description:

Reduce predation on juvenile salmonids by implementing fisheries to harvest northern Pikeminnow in the mainstem Columbia and Snake rivers. Monitor effects of fisheries on predation by northern Pikeminnow and other resident fish.

Evaluate Predator Removal: Large Scale Patterns

Project number: 1999007800
Sponsor: U.S. Geological Survey
FY 2001 cost estimate: \$123,193
Short description:

Evaluate causes of large-scale geographic patterns in predation on juvenile salmon by northern pikeminnow. Examine complex interactions of temperature, juvenile salmon, and juvenile American shad on predation patterns in mainstem rivers.

Columbia River Basin PIT Tag Information Systems

Project number: 199008000
Sponsor: Pacific States Marine Fisheries Commission
FY 2001 cost estimate: \$1,450,000
Short description:

Develop, operate, maintain and enhance a long-term Columbia River Basin Database on PIT tag information. Provide installation, operations and maintenance support for the collection of PIT tag data at juvenile and adult PIT tag interrogation sites.

Genetic Analysis of *Oncorhynchus nerka* (Modified to Include Chinook Salmon)

Project number: 199009300
Sponsor: University of Idaho
FY 2001 cost estimate: \$130,564

Short description:

This project provides genetic information on *O. nerka* and *O. tshawytscha* throughout the Snake and Columbia Basins to be used in the overall recovery and captive propagation of endangered Snake River sockeye and threatened Salmon River chinook salmon.

Life History and Survival of Fall Chinook Salmon in Columbia River Basin

Project number: 199102900

Sponsor: U.S. Geological Survey (Western Fisheries Research Center), U.S. Fish and Wildlife Service

FY 2001 cost estimate: \$699,000

Short description:

Facilitate implementation of federal and tribal fall chinook salmon recovery plans by monitoring and evaluating post-release attributes and survival of natural and hatchery juvenile fall chinook in the Snake River and Hanford Reach of the Columbia River.

Monitoring and Evaluation Statistical Support

Project number: 199105100

Sponsor: University of Washington

FY 2001 cost estimate: \$340,357

Short description:

Develops statistical methods for monitoring and evaluating salmonid recovery plans. Provides added-value analyses and statistical support to address fisheries regional issues. Provides smolt migration timing predictions on the Internet.

NATURES [Formerly Supplementation Fish Quality (Yakima)]

Project number: 199105500

Sponsor: National Marine Fisheries Service

FY 2001 cost estimate: \$500,000

Short description:

Develop and evaluate fish culture techniques (semi-natural raceway habitat, predator avoidance training, exercise, live food diets, etc.) for a natural rearing enhancement system that increases the post release survival of artificially propagated salmon.

Survival Estimates for the Passage of Juvenile Salmonids Through Snake and Columbia River Dams and Reservoirs

Project number: 199302900

Sponsor: National Marine Fisheries Service

FY 2001 cost estimate: \$1,194,700

Short description:

Provide precise measurements of survival of juvenile salmon as they pass through dams and reservoirs in the Snake and Columbia Rivers

Assessment of Captive Broodstock Technology

Project number: 199305600

Sponsor: National Marine Fisheries Service

FY 2001 cost estimate: \$1,300,000

Short description:

Develop captive broodstock husbandry practices through experimental research to i) improve juvenile quality; ii) improve adult reproductive performance; iii) improve in-culture survival; and iv) identify genetic risk factors.

The Fish Passage Center (FPC)

Project number: 199403300
Sponsor: Pacific States Marine Fisheries Commission
FY 2001 cost estimate: \$1,100,000

Short description:

Provide the fishery agencies and tribes with technical expertise regarding hydrosystem operations, analysis of smolt monitoring data, for daily, weekly and monthly fish passage management decisions, and regional fish passage data base management.

Independent Scientific Advisory Board

Project number: 199600500
Sponsor: Columbia Basin Fish & Wildlife Foundation
FY 2001 cost estimate: \$704,124

Short description:

Provide independent scientific advice and recommendations on issues related to regional fish and wildlife recovery programs under the Northwest Power Act and the Endangered Species Act.

Second-Tier Database Support

Project number: 199601900
Sponsor: University of Washington
FY 2001 cost estimate: \$170,000

Short description:

Provide single-point, Internet-based access to a subset of information to guide and support BPA's independent decisions pertaining to its responsibilities under the Power Act and Endangered Species Act.

Comparative Survival Rate Study (CSS) of Hatchery Pit Tagged Chinook & Comparative Survival Study Oversight Committee

Project number: 199602000
Sponsor: Pacific States Marine Fisheries Commission & Columbia Basin Fish & Wildlife Foundation
FY 2001 cost estimate: \$851,979

Short description:

Adult and juvenile PIT tag recovery data are analyzed to compare survival estimates for transported fish of known origin, downriver stocks, wild and hatchery transported fish and fish handled and not handled at dams.

Gas Bubble Disease Research and Monitoring of Juvenile Salmonids

Project number: 199602100
Sponsor: U.S. Geological Survey-Biological Resources Division, Columbia River Research Lab.
FY 2001 cost estimate: \$23,269

Short description:

Provide support for the Smolt Monitoring Program (SMP) monitoring juvenile salmonids for signs of gas bubble disease. Activities include 1) care and maintenance of equipment; 2) training; and 3) QA/QC.

Manchester Spring Chinook Broodstock Project

Project number: 199606700

Sponsor: National Marine Fisheries Service

FY 2001 cost estimate: \$500,000

Short description:

Rear Snake River spring/summer chinook salmon captive broodstocks from Idaho's Salmon River subbasin and Oregon's Grande Ronde River subbasin. Provide pre-spawning adults, eyed eggs, and juveniles to aid recovery of these ESA-listed stocks.

Ecology of Marine Predatory Fishes: Influence on Salmonid Ocean Survival

Project number: 199702600

Sponsor: National Marine Fisheries Service, Northwest Fisheries Science Center

FY 2001 cost estimate: \$180,000

Short description:

This study will identify and document the relationships between the distribution, abundance, and food habits of marine fish predators and forage fishes off the Columbia River and salmonid ocean survival.

Securing Wildlife Mitigation Sites - Oregon

Project number: 199705900

Sponsor: ODFW for the Oregon Wildlife Coalition (OWC): ODFW, CTWSRO, CTUIR, BPT, and USFWS in collaboration with a variety of natural resource groups and organizations such as The Nature Conservancy, Metro, Oregon Natural Heritage Program, etc.

FY 2001 cost estimate: \$6,195,068

Short description:

Develop wildlife mitigation sites in Oregon through habitat acquisition and protection and facilitated by coordination, planning, and assessment by the OWC as specified by the NWPPC's FWP.

Electronic Fish and Wildlife Newsletter

Project number: 199800401

Sponsor: Intermountain Communications

FY 2001 cost estimate: \$155,000

Short description:

Delivers by email to policymakers, stakeholders, and the public a weekly electronic newsletter containing objective, summary information about Columbia Basin fish and wildlife issues.

Regional Forum Facilitation Services

Project number: 199800800

Sponsor: DS Consulting

FY 2001 cost estimate: \$71,000

Short description:

Enhance communication, conflict resolution, and decision-making capabilities of parties to the NMFS Regional Forum process and the Columbia River Basin Forum.

Implement Wy-Kan-Ush-Mi Wa-Kish-Wit Watershed Assessment and Restoration Plan Now

Project number: 199803100

Sponsor: Columbia River Inter-Tribal Fish Commission

FY 2001 cost estimate: \$289,301

Short description:

Track and coordinate tribal watershed projects, coordinate habitat improvements with fish production, conduct and coordinate watershed assessment, design monitoring plans, and develop public outreach and education on watershed restoration.

Assessing Genetic Variation Among Columbia Basin White Sturgeon Populations

Project number: 199902200

Sponsor: University of Idaho

FY 2001 cost estimate: \$136,043

Short description:

Assessing genetic variation and stock structure among white sturgeon populations in the Columbia Basin using analyses of mitochondrial and nuclear DNA.

Water Right Acquisition Program (Multi-Year FY 2000-2002)

Project number: 199908800

Sponsor: Oregon Water Trust

FY 2001 cost estimate: \$140,000

Short description:

Acquire existing water rights on a voluntary basis through purchase, gift and water conservation projects, and transfer to instream water rights under Oregon state law; target acquisitions to maximize fulfillment of habitat objectives for instream flows.

Infrastructure to Complete FDA Registration of Erythromycin

Project number: 200000700

Sponsor: University of Idaho, College of Natural Resources

FY 2001 cost estimate: \$71,766

Short description:

Provide the infrastructure needed in the Columbia River Basin to maintain and complete the FDA approval of erythromycin feed additive, a necessary therapeutant for sustained hatchery production and maintenance of captive broodstocks of salmon

Recondition Wild Steelhead Kelts

Project number: 200001700

Sponsor: Columbia River Inter-Tribal Fish Commission

FY 2001 cost estimate: \$227,982

Short description:

Develop and test methods to recondition steelhead kelts and assist fishery managers in implementing these methods to help rebuild wild populations throughout the Basin.

Identification of Larval Pacific Lamprey, River Lamprey, and Western Brook Lamprey and Thermal Requirements of Early Life History Stages of Lampreys

Project number: 200002900

Sponsor: U.S. Geological Survey, Biological Resources Division
Western Fisheries Research Center,
Columbia River Research Laboratory

FY 2001 cost estimate: \$77,280

Short description:

Determine characteristics that differentiate sympatric larval lamprey and evaluate thermal tolerances of larval lamprey by species.

Protect Anadromous Salmonids In The Mainstem Corridor

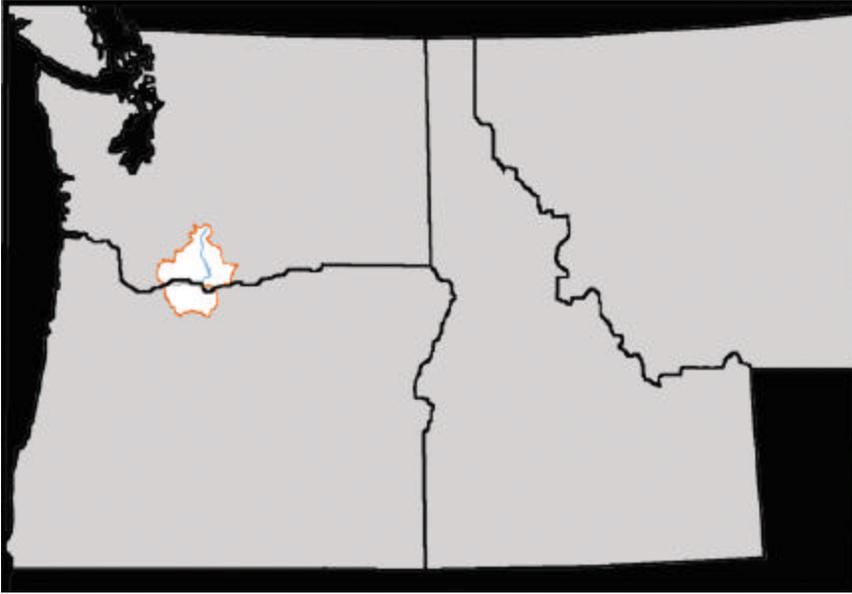
Project number: 200005600

Sponsor: Columbia River Inter-Tribal Fish Commission Law Enforcement
Department

FY 2001 cost estimate: \$400,000

Short description:

Protect anadromous salmonids from illegal take throughout the Columbia Basin -- with emphasis on conservation of depleted stocks. CRITFE will concentrate protection in the Zone 6 migration corridor (Bonneville to McNary dams) and focus on adult spawners.



Columbia Gorge Province

11 Projects — \$3,231,246

Projects

Columbia Gorge Subbasin

Evaluate Factors Limiting Columbia River Gorge Chum Salmon Populations

Project number: 200001200

Sponsor: U.S. Fish and Wildlife Service

FY 2001 cost estimate: \$238,704

Short description:

Evaluate factors limiting chum salmon production, spawning group relationships, population dynamics, biological and ecological characteristics, and implement habitat enhancement in tributaries below Bonneville Dam.

Fifteenmile Subbasin

Fifteenmile Creek Habitat Restoration Project (Request for Multi-Year Funding)

Project number: 199304000

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$220,040

Short description:

Provide for continued operation and maintenance of all completed fish habitat treatment measures within the Fifteenmile Basin. Continue photo documentation of habitat recovery and the collection of stream temperature data.

15-Mile Creek Steelhead Smolt Production

Project number: 199304001
Sponsor: Oregon Department of Fish and Wildlife
FY 2001 cost estimate: \$30,000
Short description:

Estimate subbasin smolt production for the wild population of winter steelhead in Fifteenmile Creek and collect information on selected life history and biological characteristics of downstream migrant fishes endemic to Fifteenmile Creek.

Hood Subbasin

Hood River Production Program - M&E

Project number: 198805303
Sponsor: Confederated Tribes of the Warm Springs Reservation of Oregon
FY 2001 cost estimate: \$519,959
Short description:

Implement, monitor, and evaluate actions outlined in the Hood River and Pelton Ladder Master Plans pertaining to smolt production, acclimation, and habitat. Coordinate Pelton Ladder production.

Hood River Production Program - ODFW M&E

Project number: 198805304
Sponsor: Oregon Department of Fish and Wildlife
FY 2001 cost estimate: \$431,331
Short description:

Monitor and evaluate actions taken to re-establish spring chinook salmon, and improve wild production of summer and winter steelhead in the Hood River Subbasin. Data will be used to develop, and refine management objectives for the HRPP.

Hood River Production Program: Powerdale, Parkdale, Oak Springs O&M (88-053-07 & 88-053-08)

Project number: 198805307
Sponsor: Confederated Tribes of the Warm Springs Reservation of Oregon & Oregon Dept. of Fish and Wildlife
FY 2001 cost estimate: \$562,733
Short description:

Restore depressed populations of StS & StW and re-establish a self-sustaining ChS population in the Hood River Subbasin. Broodstock will be collected at the Powerdale Facility. Broodstock will be held and spawned at the Parkdale Fish Facility.

Hood River Production Program - Pelton Ladder - Hatchery

Project number: 198902900
Sponsor: Oregon Department of Fish and Wildlife
FY 2001 cost estimate: \$120,000
Short description:

Re-establish a self-sustaining spring chinook salmon population in the Hood River Subbasin. Broodstock will be collected from Hood River. Broodstock will be held at the Parkdale Facility. Incubation and rearing will be completed at Round Butte Hatchery.

Hood River Production Program - PGE: O&M

Project number: 199500700
Sponsor: Portland General Electric - Enron
FY 2001 cost estimate: \$51,517

Short description:

This project reimburses PGE for the use of hatchery facilities at the Pelton - Round Butte hatchery and extended rearing facilities, and for the cost of rearing approximately 225,000 spring Chinook for BPA to be released into the Deschutes and Hood Rivers.

Hood River Fish Habitat Project

Project number: 199802100
Sponsor: Confederated Tribes of the Warm Springs Reservation of Oregon
FY 2001 cost estimate: \$230,000

Short description:

Implement habitat improvement actions that will support supplementation efforts and wild fish within the Hood River subbasin as approved by the NPPC and supported by the BPA Environmental Impact Statement for the Hood River Production Program (HRPP).

Klickitat Subbasin**Lower Klickitat Riparian and In-Channel Habitat Enhancement Project**

Project number: 199705600
Sponsor: Yakama Nation
FY 2001 cost estimate: \$268,632

Short description:

Lower Klickitat (RM 1-43) watershed/instream habitat restoration. Use completed steelhead/chinook EDT to prioritize restoration by effected life stage and location to guide action (i.e. fencing, acquisitions, pool formation, augment base flows, add LWD).

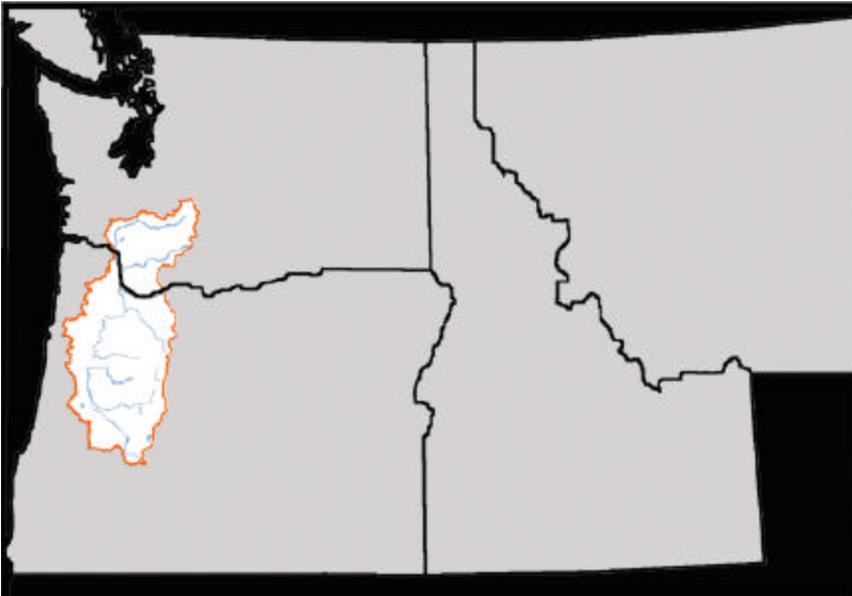
Wind Subbasin**Wind River Watershed Restoration**

Project number: 199801900
Sponsor: Underwood Conservation District (contact agency), U.S. Forest Service, U.S. Geological Survey-Columbia River Research Laboratory, and Washington Department of Fish and Wildlife.

FY 2001 cost estimate: \$558,330

Short description:

Restore habitat within the Wind River subbasin to support healthy populations of wild steelhead.



Lower Columbia Province

9 Projects — \$4,039,167

Projects

Lewis Subbasin

Evaluate Habitat Use and Population Dynamics of Lampreys in Cedar Creek

Project number: 200001400

Sponsor: US Fish and Wildlife Service

FY 2001 cost estimate: \$185,000

Short description:

With emphasis on Pacific lampreys, identify and quantitatively evaluate populations of lampreys and their habitats in a stream below Bonneville Dam.

Sandy Subbasin

Lower Columbia River Wetlands Restoration and Evaluation Program

Project number: 199902500

Sponsor: USDA Forest Service, Columbia River Gorge National Scenic Area

FY 2001 cost estimate: \$145,500

Short description:

Restore 200 acres of wetland and associated upland habitat at Sandy River Delta. Restoration would be part of a series of large scale Lower Columbia River wetland restoration, evaluation and monitoring experiments.

Sandy River Delta Riparian Reforestation

Project number: 199902600

Sponsor: USDA Forest Service, Columbia River Gorge National Scenic Area

FY 2001 cost estimate: \$22,875

Short description:

Restore 250 acres of rare Columbia River floodplain 'gallery' riparian forest (dense, unbroken stands of black cottonwood, willow, ash). Reforestation will improve habitat for riparian forest species.

Willamette Subbasin

Burlington Bottoms Wildlife Mitigation Project

Project number: 199107800

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$120,932

Short description:

This project protects, maintains, and enhances habitats for a diverse array of fish and wildlife, and maintains and increases habitat values (HEP) for wildlife, including state and federally listed species such as the bald eagle and red-legged frog.

Amazon Basin/Eugene Wetlands Phase Two

Project number: 199205900

Sponsor: The Nature Conservancy

FY 2001 cost estimate: \$493,373

Short description:

Restore, enhance existing mitigation lands, and acquire 99 acres contiguous with the Willow Creek Wildlife Mitigation Project. Complete a baseline Habitat Evaluation for new acquisitions and re-assess habitat conditions on existing mitigation area.

Implement Willamette Basin Mitigation Program

Project number: 199206800

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$2,619,237

Short description:

Mitigate for hydro-electric facilities through enhancement, easement development, acquisition, restoration, and management of wetlands and other target habitat types and their respective species in the Willamette Basin in Oregon.

Bull Trout Assessment - Willamette/McKenzie

Project number: 199405300

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$63,000

Short description:

Monitor distribution, population trends, and habitat use of bull trout populations in the Upper Willamette Basin. Continue to implement the Rehabilitation Plan for bull trout in Middle Fork Willamette (ODFW 1997).

McKenzie River Focus Watershed Coordination

Project number: 199607000

Sponsor: McKenzie Watershed Council

FY 2001 cost estimate: \$115,000

Short description:

Continue administration of McKenzie River Focus Watershed for coordinated planning, implementation, monitoring of fish, wildlife and water quality improvement projects; improve resource stewardship through public outreach and education.

Tualatin River National Wildlife Refuge Additions - First Addition/Oleson Parcel

Project number: 200001600

Sponsor: U.S. Fish and Wildlife Service - Tualatin River National Wildlife Refuge (NWR)

FY 2001 cost estimate: \$274,250

Short description:

Develop wildlife mitigation sites within the approved acquisition boundary of the Tualatin River NWR through protection, enhancement, and management activities for the benefit of fish and wildlife species in the Tualatin River watershed.



Columbia Plateau Province

67 Projects — \$29,793,685

Projects

Crab Creek Subbasin

Swanson Lakes Wildlife Area (SLWA)

Project number: 199106100

Sponsor: Washington Department of Fish and Wildlife

FY 2001 cost estimate: \$255,921

Short description:

Protect and maintain a self-sustaining sharp-tailed grouse population, establish sage grouse in viable numbers, increase mule deer use of the project site, and enhance associated shrub-steppe habitat for other shrub-steppe obligate species.

Restore Moses Lake Recreational Fishery

Project number: 199502800

Sponsor: Washington Department of Fish and Wildlife

FY 2001 cost estimate: 213,072

Short description:

Restore/enhance the failed recreational fishery for resident species in Moses Lake in lieu of lost recreational fishery opportunities for anadromous game fish species in the upper Columbia River Basin.

Deschutes Subbasin

Trout Creek Habitat Restoration Project

Project number: 199404200

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$358,846

Short description:

Operation and Maintenance of instream and riparian habitat improvement; Monitoring and Evaluation of basin SSt smolt production and habitat recovery; coordination for basin long range plan; resulting in increased native salmonid and wildlife production.

Bull Trout Life History, Genetics, Habitat Needs, and Limiting Factors in Central and Northeast Oregon

Project number: 199405400

Sponsor: Oregon Department of Fish and Wildlife and Confederated Tribes of the Warm Springs Reservation, Oregon

FY 2001 cost estimate: \$387,182

Short description:

Characterize aspects of bull trout biology to help develop protection and recovery plans for the species in Oregon's portion of the Columbia Basin.

Trout Creek Watershed Improvement

Project number: 199802800

Sponsor: Jefferson County Soil and Water Conservation District

FY 2001 cost estimate: \$118,100

Short description:

Development of a comprehensive watershed assessment and long-range action plan for long-term protection and enhancement of fish and wildlife habitat in the Trout Creek watershed.

Restoration of Riparian Habitat in Bakeoven / Deep Creeks

Project number: 199900600

Sponsor: Wasco County Soil and Water Conservation District

FY 2001 cost estimate: \$80,000

Short description:

Assist private landowners to develop and implement riparian management systems; installation of fencing; development of off-stream water sources; active revegetation of selected areas; enhancement of floodplain function; and monitoring at selected sites.

John Day Subbasin

Protect and Enhance Anadromous Fish Habitat in the John Day Subbasin

Project number: 198402100

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$439,936

Short description:

Implement long-term riparian, fish habitat and tributary passage improvement on private lands within the John Day Subbasin.

Oregon Fish Screening Project

Project number: 199306600

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$641,621

Short description:

Installation of approximately 25 new fish screening devices in critical chinook spawning and rearing areas in the John Day Basin. Installation of 1-2 new fish passage/diversion structures in summer steelhead spawning and rearing areas in Trout Cr. (Des.)

North Fork John Day Dredge Tailings Restoration Project

Project number: 199605300

Sponsor: USDA Forest Service, Umatilla National Forest, Confederated Tribes of the Umatilla Indian Reservation

FY 2001 cost estimate: \$85,000

Short description:

Restore floodplain function to North Fork John Day River tributaries, Clear Creek and Granite Creek that were dredge mined in the late 1930's through early 1950's. The dredge tailing piles left on the floodplain from mining restrict high stream flows.

Monitoring Fine Sediment Grande Ronde and John Day Rivers

Project number: 199703400

Sponsor: Columbia River Inter-Tribal Fish Commission

FY 2001 cost estimate: \$39,486

Short description:

Monitor surface fine sediment and over winter sedimentation in cleaned gravel in spawning habits in Grande Ronde and North Fork John Day (NFJD) rivers, analyze potential trends and relationships in data, and relate to salmon survival.

Monitor Natural Escapement & Productivity of John Day Basin Spring Chinook

Project number: 199801600

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$157,057

Short description:

Monitor and assess natural escapement and productivity of John Day River Basin spring chinook salmon. This project is in direct response to recommendations and needs of PATH and is essential for monitoring restoration and enhancement efforts.

Eliminate Gravel Push-up Dams in Lower North Fork John Day

Project number: 199801700

Sponsor: North Fork John Day Watershed Council

FY 2001 cost estimate: \$95,100

Short description:

Eliminate gravel push-up dams in the lower North Fork John Day River. Replace with permanent pumping stations resulting in removal of passage impediments and elimination of annual instream modification.

John Day Watershed Restoration

Project number: 199801800

Sponsor: Confederated Tribes of the Warm Springs Reservation of Oregon

FY 2001 cost estimate: \$432,350

Short description:

Continue implementation of protection and restoration actions, planned under the comprehensive John Day watershed assessment, to improve water quality, water quantity, and fish habitat, and eliminate passage barriers for anadromous and resident fish.

Pine Creek Ranch**Project number:** 199802200**Sponsor:** Confederated Tribes of the Warm Springs Reservation of Oregon**FY 2001 cost estimate:** \$175,870**Short description:**

Complete acquisition of Pine Creek Ranch. Develop management plans and begin implementation of restoration activities to mitigate for fish and wildlife losses associated with the John Day hydro facility.

Mitigate Effects of Runoff & Erosion on Salmonid Habitat in Pine Hollow and Jackknife**Project number:** 199901000**Sponsor:** Pine Hollow/Jackknife Watershed Council, c/o Sherman Soil and Water Conservation District**FY 2001 cost estimate:** \$32,865**Short description:**

Implement practices to reduce erosion and flooding, allowing natural recovery of riparian vegetation and channel type in Pine Hollow and Jackknife Canyons. Future phases will focus on replanting or protecting critical areas in the stream corridor.

Acquire Oxbow Ranch--Middle Fork John Day River**Project number:** 200001500**Sponsor:** Confederated Tribes of the Warm Springs Reservation of Oregon**FY 2001 cost estimate:** \$1,782,546**Short description:**

Acquire the remaining 540.0 acres of the Oxbow Ranch, protect, enhance, and maintain a total of 1,022 acres of riverine, meadow, and forest habitat on the Middle Fork John Day River.

Enhance North Fork John Day River Subbasin Anadromous Fish Habitat**Project number:** 200003100**Sponsor:** Confederated Tribes of the Umatilla Indian Reservation**FY 2001 cost estimate:** \$221,205**Short description:**

Increase production of indigenous wild stocks of spring chinook salmon and summer steelhead within the North Fork of the John Day River Subbasin.

Lower Mid Columbia Subbasin**Life History and Survival of Fall Chinook Salmon in Columbia River Basin****Project number:** 199102900**Sponsor:** U.S. Geological Survey, Biological Resources Division**FY 2001 cost estimate:** \$699,000**Short description:**

Facilitate implementation of federal and tribal fall chinook salmon recovery plans by monitoring and evaluating post-release attributes and survival of natural and hatchery juvenile fall chinook in the Snake River and Hanford Reach of the Columbia River.

Develop Spawning Habitat Model to Aid Recovery Plans for Snake River Fall Chinook Salmon**Project number:** 199406900**Sponsor:** Pacific Northwest National Laboratory

FY 2001 cost estimate: \$225,000

Short description:

Investigate ground-water/surface-water interactions influencing fall chinook salmon spawning site selection in the Hanford Reach, and predict spawning habitat of other mainstem spawning salmonids.

Evaluation of Juvenile Fall Chinook Stranding on the Hanford Reach

Project number: 199701400

Sponsor: Washington Department of Fish and Wildlife

FY 2001 cost estimate: \$341,784

Short description:

Evaluate effect of daily water fluctuations resulting from power peaking activities at Priest Dam on: 1) rearing juvenile fall chinook; 2) resident fish; and 3) the benthic community inhabiting the Hanford Reach of the Columbia River.

Evaluate Spawning of Salmon Below the Four Lowermost Columbia River Dams

Project number: 199900301

Sponsor: Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Pacific Northwest National Laboratory

FY 2001 cost estimate: \$615,425

Short description:

Monitor, protect, and enhance the spawning populations of fall chinook and chum below Bonneville Dam. Develop a habitat profile of the spawning and rearing area. Search for evidence of fall chinook spawning below The Dalles, John Day and McNary dams.

Mainstem Columbia Subbasin

Securing Wildlife Mitigation Sites--Oregon, Horn Butte

Project number: 200002300

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$42,302

Short description:

Protect and enhance bunch grass and shrub-steppe habitats through alteration of land use practices and control of noxious weeds on acquired and leased lands. Develop cooperative management plan for adjacent Bureau of Land Management lands and other adjacent public lands.

Eagle Lakes Ranch Acquisition and Restoration

Project number: 200002500

Sponsor: U.S. Fish and Wildlife Service

FY 2001 cost estimate: \$700,000

Short description:

Protect wetland and shrub steppe habitats from imminent development. Restore proper function to wetland and upland habitats.

Tucannon Subbasin

Implement Tucannon River Model Watershed Plan to Restore Salmonid Habitat

Project number: 199401806

Sponsor: Columbia Conservation District

FY 2001 cost estimate: \$257,375

Short description:

Implement, assess, and monitor habitat cost-share projects coordinated through the Tucannon River Model Watershed Program, a "grass roots" public and agency collaborated effort to restore salmonid habitat on private and public property.

Continued Implementation of Pataha Creek Model Watershed Plan to Restore Habitat for Salmonids

Project number: 199401807

Sponsor: Pomeroy Conservation District

FY 2001 cost estimate: \$123,700

Short description:

Continue to coordinate, implement, and monitor practices for the reduction of sediment from the riparian zone and uplands and the enhancement of riparian habitat for Summer Steelhead and Fall Chinook Salmon within Pataha Creek and Tucannon Watersheds.

Tucannon River Spring Chinook Captive Broodstock Program

Project number: 200001900

Sponsor: Washington Department of Fish and Wildlife

FY 2001 cost estimate: \$98,420

Short description:

Complete modifications to Lyons Ferry Hatchery to conduct spring chinook captive broodstock program. Rear and spawn broodstock, raise their progeny and release 150,000 smolts into the Tucannon River to rebuild spring chinook run and prevent extinction.

Umatilla Subbasin

Operate and Maintain Umatilla Hatchery Satellite Facilities

Project number: 198343500

Sponsor: Confederated Tribes of the Umatilla Indian Reservation

FY 2001 cost estimate: \$920,977

Short description:

Acclimate juvenile salmon and steelhead prior to release in the Umatilla Basin. Collect, hold and spawn steelhead, coho, and chinook salmon and provide eggs to ODFW and other hatcheries for incubation, rearing, and later release in the Umatilla Basin.

Umatilla Basin Fish Facilities Operation and Maintenance

Project number: 198343600

Sponsor: Westland Irrigation District

FY 2001 cost estimate: \$445,411

Short description:

Provide operations and maintenance services of fish passage and satellite facilities in the Umatilla Basin.

Enhance Umatilla River Basin Anadromous Fish Habitat

Project number: 198710001

Sponsor: Confederated Tribes of the Umatilla Indian Reservation

FY 2001 cost estimate: \$270,987

Short description:

Increase natural production of summer steelhead, chinook salmon and coho salmon in the Umatilla River Basin.

Protect and Enhance Anadromous Fish Habitat in the Umatilla River Subbasin

Project number: 198710002

Sponsor: Oregon Department of Fish & Wildlife

FY 2001 cost estimate: \$425,263

Short description:

Protect and enhance cold water fish habitat on private lands in the Umatilla River Basin in a manner that achieves self-sustaining salmonid populations and their associated habitat by utilizing natural stream functions to the fullest extent.

Umatilla River Fish Passage Operations

Project number: 198802200

Sponsor: Confederated Tribes of the Umatilla Indian Reservation

FY 2001 cost estimate: \$327,600

Short description:

Increase survival of migrating juvenile and adult salmon and summer steelhead in the Umatilla Basin by operating passage facilities, flow enhancement measures, trap facilities, and transport equipment to provide adequate passage conditions.

Design and Construct Umatilla Hatchery Supplement

Project number: 198805302

Sponsor: Confederated Tribes of the Umatilla Indian Reservation

FY 2001 cost estimate: \$35,000

Short description:

Build incubation/juvenile rearing capabilities at the existing S. Fk. Walla Walla spring chinook adult holding and spawning facility to rear spring chinook for acclimation/release in the Umatilla Basin.

Evaluate Juvenile Salmonid Outmigration and Survival in the Lower Umatilla River Basin

Project number: 198902401

Sponsor: Oregon Department of Fish & Wildlife

FY 2001 cost estimate: \$347,489

Short description:

Determine migration patterns, migrant abundance, and survival of hatchery and natural juvenile salmonids in the Umatilla Basin using PIT tag technology and investigate effects of river variables on fish migration and health.

Power Repay Umatilla Basin Project

Project number: 198902700

Sponsor: Bonneville Power Administration

FY 2001 cost estimate: \$800,000

Short description:

Provide power or reimbursement for power costs for Bureau of Reclamation Umatilla Basin Project pumping plants that exchange Columbia River water for Umatilla River water.

Umatilla Hatchery Operation and Maintenance

Project number: 198903500

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$860,000

Short description:

Restore Umatilla River chinook and steelhead fisheries and populations through release of subyearling and yearling smolts produced at Umatilla Hatchery.

Umatilla Hatchery Monitoring and Evaluation

Project number: 199000500

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$693,311

Short description:

Evaluate juvenile rearing, marking, tagging, adult survival, stock life history, fish health, mass marking, straying, sport fishing and catch contribution for salmon and steelhead reared in oxygen supplemented and standard raceways at Umatilla Hatchery.

Umatilla Basin Natural Production Monitoring and Evaluation

Project number: 199000501

Sponsor: Confederated Tribes of the Umatilla Indian Reservation

FY 2001 cost estimate: \$318,333

Short description:

Monitor and evaluate natural spawning, rearing, migration, survival, age and growth characteristics and life histories of adult salmon and steelhead and their natural progeny in the Umatilla River Basin.

Wanaket Wildlife Area Operations and Maintenance

Project number: 199009200

Sponsor: Confederated Tribes of the Umatilla Indian Reservation

FY 2001 cost estimate: \$204,438

Short description:

Protect, enhance, and mitigate wildlife and wildlife habitats impacted by the McNary Hydroelectric Project.

Pacific Lamprey Research and Restoration Project

Project number: 199402600

Sponsor: Confederated Tribes of the Umatilla Indian Reservation

FY 2001 cost estimate: \$453,267

Short description:

Implement and monitor Pacific lamprey restoration plan developed for the Umatilla River. Assess ability of Pacific lampreys to detect pheromone emitted by larvae.

Protect and Enhance Wildlife Habitat in Squaw Creek Watershed

Project number: 199506001

Sponsor: Confederated Tribes of the Umatilla Indian Agency DNR Wildlife Program

FY 2001 cost estimate: \$205,188

Short description:

Protect and enhance watershed resources to provide benefits for eight HEP Target Species and anadromous and resident salmonids.

Yakima Subbasin

Passage Improvement Evaluation

Project number: 198506200
Sponsor: Pacific Northwest National Laboratory
FY 2001 cost estimate: \$100,000

Short description:

Evaluate the biological and hydrologic effectiveness of juvenile fish passage facilities constructed to correct structural problems at irrigation diversion dams, canals and ditches that interfere with the passage of anadromous fish

Yakima/Klickitat Fisheries Project Design and Construction

Project number: 198811525
Sponsor: Yakama Nation
FY 2001 cost estimate: \$578,000

Short description:

Design/Construction:

1. Cle Elum Supplementation and Research Facility (CESRF): Interpretive Center
2. Nelson Springs: Office/Research Facility
3. Klickitat: O & M facility and Lyle Trap

Yakima/Klickitat Fisheries Project (YKFP) Management, Data and Habitat

Project number: 198812025
Sponsor: Yakama Nation
FY 2001 cost estimate: \$1,141,232

Short description:

This proposal supports the Yakama Nation's (YN) policy, management and administrative activities related to YKFP operations in the Yakima and Klickitat River Basins.

Yakima Phase 2 [Fish] Screen Fabrication

Project number: 199105700
Sponsor: Washington Department of Fish and Wildlife
FY 2001 cost estimate: \$71,875

Short description:

WDFW, YSS fabricates and installs fish screens and miscellaneous metalwork for Yakima Basin Phase 2 screening projects. New fish screens prevent mortality and/or injury to all life stages of anadromous and resident fish in irrigation diversion.

Yakima Phase II Screens - Construction

Project number: 199107500
Sponsor: U.S. Bureau of Reclamation
FY 2001 cost estimate: \$1,000,000

Short description:

Install new fish screens at all significant diversions in the Yakima River Basin to keep juvenile salmon and steelhead from being diverted and lost in canals during outmigration. Improve adult upstream passage at selected sites.

Yakima [Fish] Screens - Phase 2 O&M

Project number: 199200900

Sponsor: Washington Department of Fish and Wildlife

FY 2001 cost estimate: \$135,000

Short description:

YSS performs preventative and emergency maintenance and operational adjustment on completed Yakima Phase 2 fish screen facilities to assure optimal fish protection performance and to extend facility life, thereby protecting BPA's capital investment.

Physiological Assessment of Wild and Hatchery Juvenile Salmonids.

Project number: 199202200

Sponsor: National Marine Fisheries Service, NOAA, DOC

FY 2001 cost estimate: \$350,024

Short description:

Characterize the physiology of salmon reared under conventional and natural-rearing systems in the Yakima supplementation project and compare them to naturally rearing fish to improve hatchery operations.

Yakama Nation - Riparian/Wetlands Restoration

Project number: 199206200

Sponsor: Yakama Nation

FY 2001 cost estimate: \$1,370,000

Short description:

Continue implementation of YN Wetlands/Riparian Restoration Project by protecting and restoring native floodplain habitats along anadromous fish-bearing waterways in the agricultural area of the Yakama Reservation (~2,500 acres/year).

Yakima Basin Environmental Education

Project number: 199405900

Sponsor: U.S. Bureau of Reclamation

FY 2001 cost estimate: \$127,500

Short description:

Educate teachers and students about local watershed issues and involve them in positive action projects.

O&M of Yakima Phase II Fish Facilities

Project number: 199503300

Sponsor: U.S. Bureau of Reclamation

FY 2001 cost estimate: \$100,000

Short description:

Operate and maintain BPA owned anadromous fish screening facilities located throughout the Yakima River basin.

Yakima/Klickitat Fisheries Project Monitoring and Evaluation

Project number: 199506325

Sponsor: Yakama Nation

FY 2001 cost estimate: \$3,708,932

Short description:

Monitors YKFP in terms of natural production, harvest, ecological and genetic impacts, guides adaptive management within the project and provides detailed information on supplementation to the region.

Policy/Technical Involvement and Planning in the Yakima/Klickitat Fisheries Project

Project number: 199506425
Sponsor: Washington Department of Fish and Wildlife
FY 2001 cost estimate: \$15,000
Short description:

Manage policy and technical oversight of the Yakima/Klickitat Fisheries Project via the project's Policy Group and Scientific and Technical Advisory Group as delineated in the agreed-upon project management structure.

Satus Watershed Restoration

Project number: 199603501
Sponsor: Yakama Nation
FY 2001 cost estimate: \$160,000
Short description:

Enhance and protect summer steelhead spawning and rearing habitat by restoring the ecological function of the Satus Creek watershed.

Yakima/Klickitat Fisheries Project Operations and Maintenance

Project number: 199701325
Sponsor: Yakama Nation
FY 2001 cost estimate: \$2,350,000
Short description:

To implement supplementation-based fish production measures to increase natural production and harvest opportunities. Test feasibility of coho reintroduction. All measures will be evaluated using a systematic, experimental program (See M&E proposal).

Little Naches River Riparian and In-Channel Habitat Enhancement

Project number: 199705000
Sponsor: Yakama Nation Fisheries Management Program
FY 2001 cost estimate: \$120,417
Short description:

Enhance and restore degraded riparian and habitat conditions in the Little Naches River by revegetating eroding banks and unstable channels, restricting vehicular traffic in the floodplain, and enhancing habitat by placement of trees and boulders.

Yakima Side Channels

Project number: 199705100
Sponsor: Yakama Nation Fisheries Management Program
FY 2001 cost estimate: \$546,553
Short description:

Protect, restore and reestablish access to productive off-channel rearing habitats, and protect and reconnect floodplains associated with the mainstem Yakima and Naches Rivers.

Toppenish-Simcoe Instream Flow Restoration and Assessment

Project number: 199705300
Sponsor: Yakama Nation Fisheries Management Program
FY 2001 cost estimate: \$237,503
Short description:

Identify extent of anadromous populations, identify land status, characterize habitat and discharge; model irrigation use; restore instream flows by land lease or purchase and/or water substitution; modify irrigation diversions to mimic natural runoff.

Restore Upper Toppenish Creek Watershed

Project number: 199803300

Sponsor: Yakama Nation

FY 2001 cost estimate: \$190,000

Short description:

Moderate flow regime in Toppenish Creek by increasing the retentiveness of natural soil water storage areas, such as headwater meadows and floodplains, following prioritized plan generated by FY98-99 hydrologic assessment.

Reestablish Safe Access into Tributaries of the Yakima Subbasin

Project number: 199803400

Sponsor: Yakama Nation Fisheries Management Program

FY 2001 cost estimate: \$784,794

Short description:

Restore access to productive tributary habitat through consolidation of irrigation diversions, construction of fishways, and installation of screens. Protect and restore a limited amount of habitat through fencing and revegetation.

Coordinate/Facilitate Watershed Project Planning/Implementation

Project number: 199901200

Sponsor: South Central Washington Resource Conservation and Development (formerly Kittitas-Yakima RC & D)

FY 2001 cost estimate: \$30,000

Short description:

Enhance Yakima River Watershed Interagency Council's efforts to assist participating entities in their implementation of Yakima subbasin projects and activities which are compatible with the biological needs of salmon, steelhead and other wildlife.

Ahtanum Creek Watershed Assessment

Project number: 199901300

Sponsor: Yakama Nation Fisheries Management Program

FY 2001 cost estimate: \$200,192

Short description:

Conduct watershed assessment in the agricultural portion of the Ahtanum Creek watershed to complete assessment of the entire watershed, facilitate restoration of salmon and steelhead, and protect bull trout.

Walla Walla Subbasin

Walla Walla River Juvenile and Adult Passage Improvements

Project number: 199601100

Sponsor: Confederated Tribes of the Umatilla Indian Reservation

FY 2001 cost estimate: \$450,000

Short description:

Provide safe passage for adult and juvenile salmonids in the Walla Walla Basin by constructing and maintaining fish passage facilities at irrigation diversion dams and canals.

Walla Walla Basin Fish Habitat Enhancement

Project number: 199604601
Sponsor: Confederated Tribes of the Umatilla Indian Reservation
FY 2001 cost estimate: \$251,122

Short description:

Protect and enhance riparian habitat with particular emphasis on the holding, spawning, and rearing areas of salmonid fishes, thus promoting natural ecological function and improved water quality and quantity.

Assess Fish Habitat and Salmonids in the Walla Walla Watershed in Washington

Project number: 199802000
Sponsor: Washington Department of Fish and Wildlife
FY 2001 cost estimate: \$158,490

Short description:

Determine fish passage, rearing, spawning conditions, and limiting factors for steelhead and for potential reintroduction of chinook salmon, and assess steelhead and bull trout distribution, abundance, and genetic composition in the Walla Walla watershed.

Rainwater Wildlife Area Operations & Maintenance

Project number: 200002600
Sponsor: Confederated Tribes of the Umatilla Indian Reservation
FY 2001 cost estimate: \$279,744

Short description:

Protect, enhance, and mitigate wildlife habitat impacted by McNary and John Day hydroelectric projects. Project includes O&M to protect existing habitat values, enhancements to increase habitat quantity and quality, and M&E to assess project benefits.

Walla Walla River Fish Passage Operations

Project number: 200003300
Sponsor: Confederated Tribes of the Umatilla Indian Reservation
FY 2001 cost estimate: \$80,000

Short description:

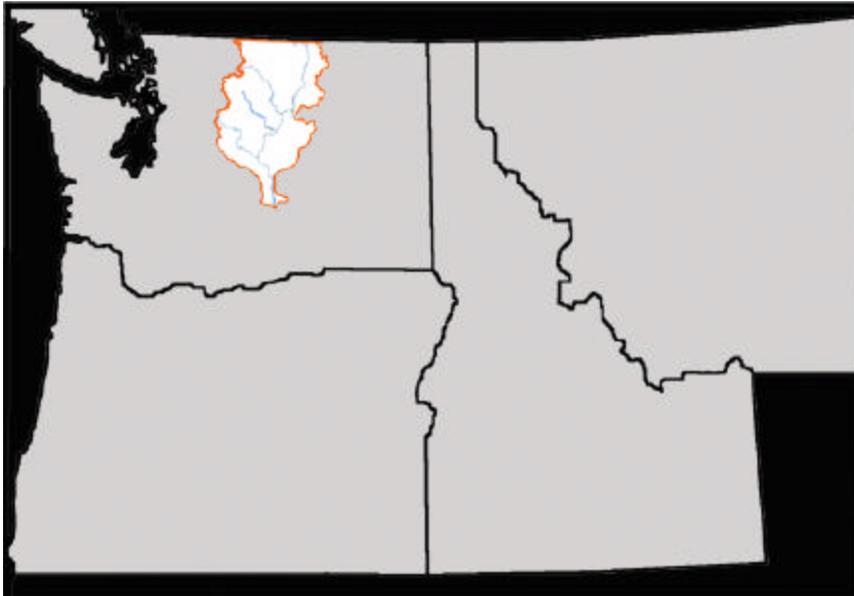
Increase survival of migrating juvenile and adult salmonids in the Walla Walla Basin by operating passage facilities, trapping facilities, and transport equipment to provide adequate passage conditions.

Walla Walla Basin Natural Production Monitoring and Evaluation

Project number: 200003900
Sponsor: Confederated Tribes of the Umatilla Indian Reservation
FY 2001 cost estimate: \$330,880

Short description:

Monitor and evaluate natural spawning, rearing, migration, survival, age and growth characteristics and life histories of adult salmon and steelhead and their natural progeny in the Walla Walla River Basin.



Columbia Cascade Province

5 Projects — \$4,687,446

Projects

Okanogan Subbasin

Restore & Enhance Anadromous Fish Populations & Habitat in Salmon Creek

Project number: 199604200

Sponsor: Confederated Tribes of the Colville Indian Reservation

FY 2001 cost estimate: \$2,030,000

Short description:

Increase instream flows in order to accommodate the year-round life cycles of anadromous fish. In addition, design a modified Salmon Creek channel to restore stability and function and provide fish passage.

Scotch Creek Wildlife Area

Project number: 199609400

Sponsor: Washington Department of Fish and Wildlife

FY 2001 cost estimate: \$261,622

Short description:

Protect and maintain a self sustaining sharp-tailed grouse population, increase and enhance mule deer winter range, and enhance associated shrub-steppe habitat for other shrub-steppe/conifer forest species.

Improvement of Anadromous Fish Habitat and Passage in Omak Creek

Project number: 200000100

Sponsor: Confederated Tribes of the Colville Indian Reservation

FY 2001 cost estimate: \$113,266

Short description:

This project is the implementation of a plan to restore 40-miles of historical anadromous fish habitat (summer steelhead) by improving land management practices and conducting restoration activities that accelerate recovery of Omak Creek watershed.

Evaluate an Experimental Re-introduction of Sockeye Salmon into Skaha Lake

Project number: 200001300

Sponsor: Confederated Tribes of the Colville Indian Reservation

FY 2001 cost estimate: \$229,357

Short description:

Evaluation of an experimental re-introduction of sockeye salmon into Skaha Lake in the Okanogan River Basin. Assess risks benefits, formulate hypotheses, develop an experimental design and analytical tools.

Wenatchee Subbasin

Evaluate the Feasibility and Risks of Coho Re-introduction in Mid-Columbia

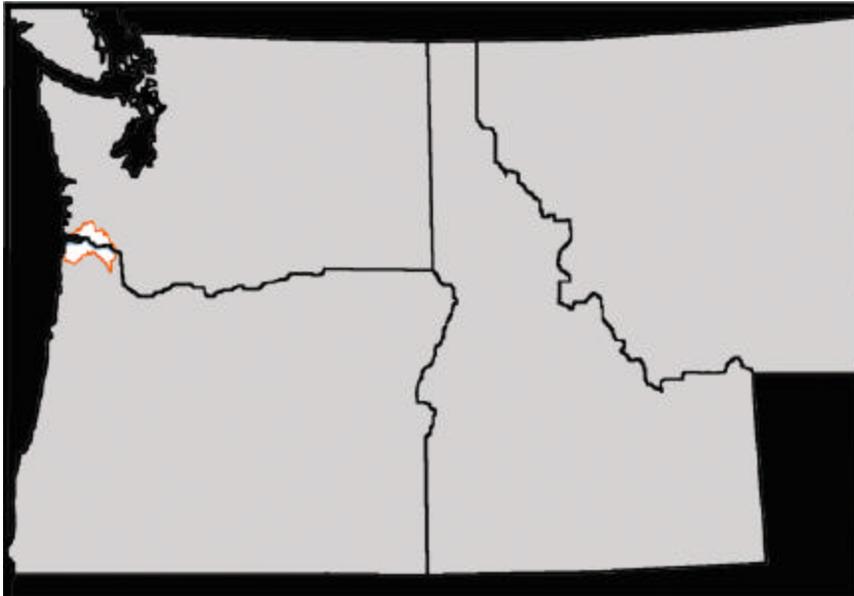
Project number: 199604000

Sponsor: Yakama Nation

FY 2001 cost estimate: \$2,053,201

Short description:

Determine the feasibility of re-establishing a naturally spawning coho population within the mid-Columbia tributaries, while keeping adverse ecological impacts on other salmonid species of concern within acceptable limits.



Columbia River Estuary Province

3 Projects — \$2,986,842

Projects

Lower Columbia Subbasin

Select Area Fishery Evaluation Project

Project number: 199306000

Sponsor: Oregon Dept. of Fish and Wildlife, Washington Dept. of Fish and Wildlife, Clatsop County Economic Development Council

FY 2001 cost estimate: \$1,499,842

Short description:

Enhance harvest opportunities through creation and expansion of hatchery salmonid fisheries in the lower Columbia River while protecting depressed stocks. Develop fisheries through application of results from experimental net-pen rearing, and monitor and evaluate experimental effects on habitat at net-pen sites.

Avian Predation on Juvenile Salmonids in the Lower Columbia River

Project number: 199702400

Sponsor: Oregon State University/Columbia River Inter-Tribal Fish Commission

FY 2001 cost estimate: \$642,000

Short description:

Monitor and evaluate the efficacy of management initiatives to reduce predation by colonial water birds on juvenile salmonids in the lower Columbia River. Assist resource managers in the development of a long-term avian predation management plan.

Ocean Survival of Juvenile Salmonids in the Columbia River Plume

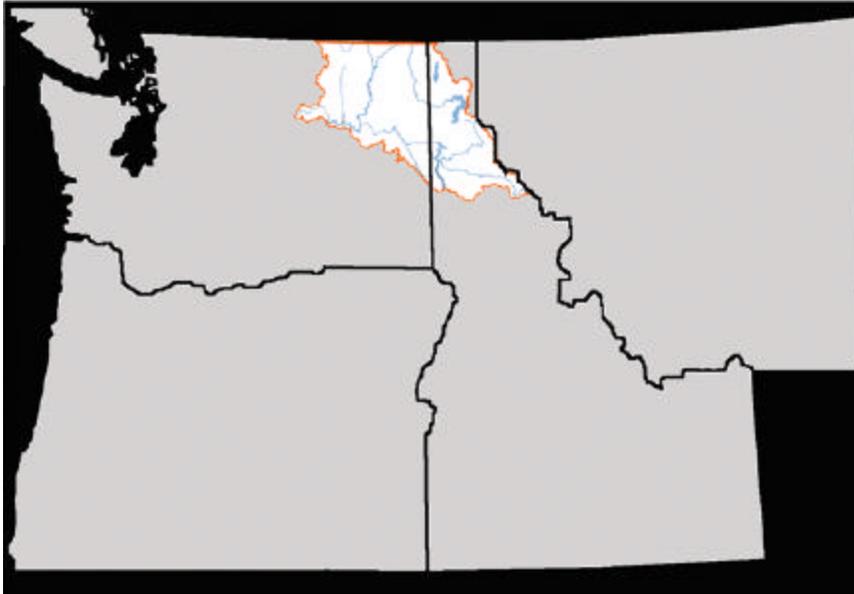
Project number: 199801400

Sponsor: National Marine Fisheries Service, Northwest Fisheries Science Center

FY 2001 cost estimate: \$845,000

Short description:

Measure the effects of time of entry, smolt quality, food habits, growth, and health status of juvenile coho and chinook salmon on survival in relation to oceanographic features of the ocean environment associated with the Columbia River plume.



Inter-Mountain Province

19 Projects — \$11,765,056

Projects

Coeur d'Alene Subbasin

Implement Fisheries Enhancement Opportunities on the Coeur d'Alene Reservation

Project number: 199004400
Sponsor: Coeur d'Alene Tribe
FY 2001 cost estimate: \$728,094

Short description:

Enhance critical watershed habitat to mitigate limiting factors for westslope cutthroat and bull trout in the Coeur d'Alene subbasin. Maintain compensatory harvest opportunities and develop environmental education programs in local schools.

Lake Creek Land Acquisition and Enhancement

Project number: 199004401
Sponsor: Coeur d'Alene Tribe
FY 2001 cost estimate: \$150,000

Short description:

Protect, enhance, and maintain wetland and riparian habitat in the Lake Creek drainage as partial mitigation for the impacts attributed to the construction and operation of the Albeni Falls hydroelectric facility.

Coeur d'Alene Tribe Trout Production Facility

Project number: 199004402
Sponsor: Coeur d'Alene Tribe
FY 2001 cost estimate: \$2,045,088

Short description:

Complete construction of the Coeur d'Alene Tribe Trout Production Facility as well as acclimation facilities. Produce fish in support of on-going Coeur d'Alene Tribal fisheries enhancement projects. Evaluate effectiveness of fish production facility.

Pend Oreille Subbasin

Pend Oreille Wetlands Wildlife Mitigation Project - Kalispel

Project number: 199106000
Sponsor: Kalispel Tribe of Indians
FY 2001 cost estimate: \$156,000

Short description:

Protect, restore, enhance and maintain important wetland/riparian wildlife habitat along the Pend Oreille River as partial mitigation for the construction and operation impacts associated with Albeni Falls Dam consistent with regional planning documents.

Albeni Falls Wildlife Mitigation Project

Project number: 199206100
Sponsor: Albeni Falls Interagency Work Group
FY 2001 cost estimate: \$3,310,000

Short description:

Protect, enhance, and maintain important wetland wildlife habitat in all Mountain Columbia subbasins (except the Bitterroot, Flathead, and Blackfoot) as ongoing mitigation for construction impacts associated with the Albeni Falls hydroelectric project.

Lake Pend Oreille Fishery Recovery Project

Project number: 199404700
Sponsor: Idaho Department of Fish and Game
FY 2001 cost estimate: \$380,000

Short description:

Enhances resident fish populations by changing the winter draw down of Lake Pend Oreille and the Pend Oreille River and researches other possible mechanisms for improving sport fish abundance such as reducing predation or competition with exotic species.

Kalispel Tribe Resident Fish

Project number: 199500100
Sponsor: Kalispel Tribe
FY 2001 cost estimate: \$300,000

Short description:

Assess native trout habitat in tributaries to the Pend Oreille River and implement recommendations for enhancement. Provide largemouth bass habitat in mainstem Pend Oreille River and supplement population. Monitor and evaluate all enhancement measures.

San Poil Subbasin

Evaluate Rainbow Trout/Habitat Improvements of Tribs. to Lake Roosevelt

Project number: 199001800
Sponsor: Confederated Tribes of the Colville Indian Reservation
FY 2001 cost estimate: \$193,619

Short description:

Increase the quality and quantity of spawning and rearing habitat in selected streams that drain into Lake Roosevelt by eliminating migration barriers, improving riparian conditions, and improving instream habitat.

Spokane Subbasin

Implement Wildlife Habitat Protection and Restoration on the Coeur d'Alene Indian Reservation: Hangman Watershed.

Project number: 21017
Sponsor: Coeur d'Alene Tribe
FY 2001 cost estimate: \$158,252

Short description:

Protect and/or restore riparian, wetland and priority upland wildlife habitats within the Hangman Watershed on the Coeur d'Alene Indian Reservation as part of implementation efforts in the Spokane River Subbasin.

Implement Fisheries Enhancement on the Coeur d'Alene Indian Reservation: Hangman Creek

Project number: 21018
Sponsor: Coeur d'Alene Tribe
FY 2001 cost estimate: \$179,487

Short description:

Determine the current distribution and enhancement opportunities for redband trout in Hangman Creek and its tributaries within the Coeur d'Alene Reservation.

Spokane Tribe of Indians Wildlife Mitigation Project

Project number: 199106200
Sponsor: Spokane Tribe of Indians
FY 2001 cost estimate: \$300,000

Short description:

Mitigation and protection of lands purchased for partial mitigation on the Spokane Indian Reservation due to the construction and inundation of winter range habitat caused by Grand Coulee Dam.

Upper Columbia Subbasin

Colville Tribal Fish Hatchery

Project number: 198503800
Sponsor: Colville Confederated Tribes
FY 2001 cost estimate: \$351,034

Short description:

Produce 22,679 kg (50,000 pounds) of resident salmonids for distribution to reservation waters in an effort to provide a successful subsistence/recreational fishery as partial mitigation for anadromous fish losses above Chief Joseph and Grand Coulee dams.

Spokane Tribal Hatchery (Galbraith Springs) Operation and Maintenance

Project number: 199104600
Sponsor: Spokane Tribe of Indians
FY 2001 cost estimate: \$525,000

Short description:

Operate and maintain the Spokane Tribal Hatchery to aid in the restoration and enhancement of the Lake Roosevelt and Banks Lake fisheries.

Sherman Creek Hatchery Operations and Maintenance

Project number: 199104700
Sponsor: Washington Department of Fish and Wildlife
FY 2001 cost estimate: \$269,898

Short description:

Sherman Creek Hatchery's (SCH) primary objective is the restoration and enhancement of the Lake Roosevelt and Banks Lake fisheries.

Monitor, Evaluate, Research and Model the Lake Roosevelt Fishery

Project number: 199404300
Sponsor: Spokane Tribe of Indians
FY 2001 cost estimate: \$1,113,584

Short description:

Monitor and evaluate the performance of hatchery fish. Develop and maintain a model able to predict the effects of hydropower operations and management actions on the lake ecosystem and fishery. Use model results to refine fisheries management plans.

Rainbow Trout Net Pen Rearing Project

Project number: 199500900
Sponsor: Lake Roosevelt Development Association
FY 2001 cost estimate: \$100,000

Short description:

Resident fish substitution addresses unmitigated losses of salmon and steelhead attributed to development and operation of hydropower projects.

Colville Tribes Performance Contract for Continuing Acquisition

Project number: 199506700
Sponsor: Colville Confederated Tribes, Fish and Wildlife Department
FY 2001 cost estimate: \$950,000

Short description:

To protect, enhance and evaluate wildlife habitats and species for partial mitigation for losses to wildlife resulting from Grand Coulee and Chief Joseph dams.

Spokane Tribe of Indians Operations and Maintenance

Project number: 199800300
Sponsor: Spokane Tribe of Indians
FY 2001 cost estimate: \$100,000

Short description:

Operations and maintenance of lands acquired for wildlife protection of the Spokane Indian Reservation.

Resident Fish Stock Status Above Chief Joseph and Grand Coulee Dams

Project number: 199700400
Sponsor: Kalispel Tribe of Indians
FY 2001 cost estimate: \$455,000

Short description:

Assess the stocks and status of all 39 resident fish species known to exist in the blocked area. Investigate interactions between species and habitats. Recommend and implement management actions for blocked area fisheries based on investigations.



Mountain Columbia Province

10 Projects — \$4,238,839

Projects

Flathead Subbasin

Hungry Horse Fisheries Mitigation - Flathead Lake

Project number: 199101901

Sponsor: Confederated Salish and Kootenai Tribes

FY 2001 cost estimate: \$166,048

Short description:

Implement and monitor fisheries improvement activities within the Flathead Indian Reservation portion of the Flathead Lake Basin. Research factors limiting successful application of mitigation measures within Flathead Lake.

Hungry Horse Mitigation

Project number: 199101903

Sponsor: Montana Fish, Wildlife & Parks

FY 2001 cost estimate: \$870,187

Short description:

Implementation of watershed based habitat restoration and fish recovery actions to mitigate the losses caused by hydropower in the Flathead Subbasin. Montana Fish, Wildlife & Parks collaborates with the Salish and Kootenai Tribes, USFWS and B.C. Canada.

Stocking of Offsite Waters for Hungry Horse Mitigation - Creston National Fish Hatchery

Project number: 199101904

Sponsor: U.S. Fish and Wildlife Service

FY 2001 cost estimate: \$160,000

Short description:

Produce hatchery fish for offsite stocking to mitigate losses to Flathead Lake caused by construction and operation of Hungry Horse Dam.

Focus Watershed Coordination-Flathead River Watershed

Project number: 199608701
Sponsor: Confederated Salish and Kootenai Tribes
FY 2001 cost estimate: \$65,303

Short description:

This program fosters “grass roots” public involvement, interagency cooperation and cooperative cost-sharing for habitat restoration to offset impacts to fishery resources in the Flathead watershed.

Kootenai Subbasin

Kootenai River White Sturgeon Studies and Conservation Aquaculture

Project number: 198806400
Sponsor: Kootenai Tribe of Idaho
FY 2001 cost estimate: \$1,128,568

Short description:

Prevent extinction, preserve existing gene pool, and begin rebuilding healthy age class structure of the endangered white sturgeon in the Kootenai River using conservation aquaculture techniques with wild broodstock.

Kootenai River Fisheries Recovery Investigations

Project number: 198806500
Sponsor: Idaho Department of Fish and Game
FY 2001 cost estimate: \$570,000

Short description:

Implement recovery and restoration efforts for Kootenai River white sturgeon, burbot, bull and rainbow trout, and whitefish stocks in the Kootenai River and effects of water fluctuations and ecosystem changes on these stocks.

Improve the Kootenai River Ecosystem

Project number: 199404900
Sponsor: Kootenai Tribe of Idaho
FY 2001 cost estimate: \$323,333

Short description:

Identify the best management strategies to enhance aquatic biota in the Kootenai River Ecosystem and recover native species assemblages across multiple trophic levels (e.g. zooplankton, mayflies, kokanee salmon, redband trout, white sturgeon).

Mitigation for the Construction and Operation of Libby Dam

Project number: 199500400
Sponsor: Montana Fish, Wildlife & Parks
FY 2001 cost estimate: \$795,000

Short description:

Implementation of watershed based habitat enhancement and fish recovery actions to mitigate the losses caused by hydropower in the Kootenai Subbasin. Montana Fish, Wildlife & Parks collaborates with the Tribes of Montana and Idaho, IDFG and B.C. Canada.

Focus Watershed Coordination in the Kootenai River Watershed

Project number: 199608720

Sponsor: Montana Fish, Wildlife & Parks

FY 2001 cost estimate: \$100,000

Short description:

Fosters “grass-roots” public involvement and interagency cooperation for habitat restoration to offset deleterious effects to the Kootenai River watershed fisheries. Establishes cost-share arrangements with government agencies and private groups.

Monitor and Protect Bull Trout for Koocanusa Reservoir

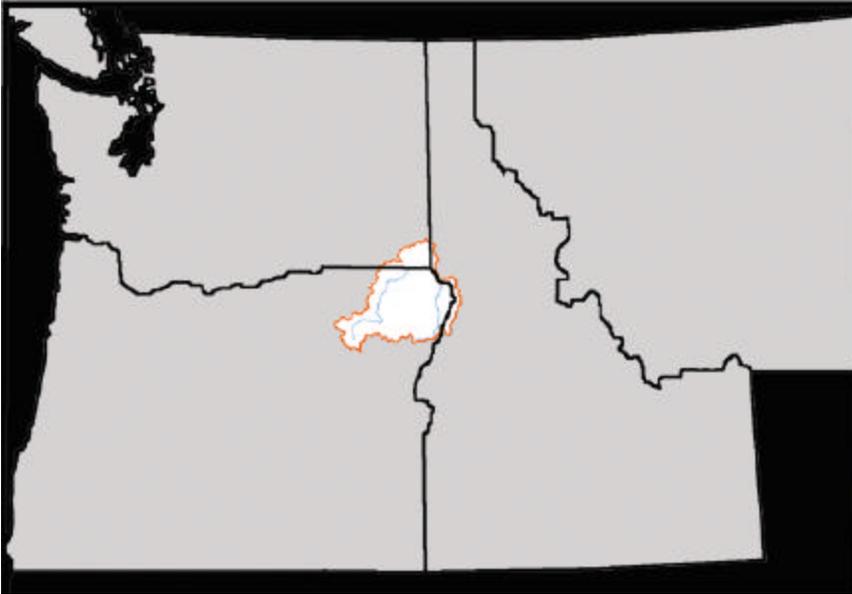
Project number: 200000400

Sponsor: BC Environment

FY 2001 cost estimate: \$60,400

Short description:

Assess and monitor the status of wild, native spawning populations of bull trout in tributaries to Lake Koocanusa and the upper Kootenai River and to protect these fish from inappropriate reservoir operating regimes and logging practices.



Blue Mountain Province

22 Projects — \$9,433,703

Projects

Asotin Subbasin

Continued Implementation of Asotin Creek Watershed Habitat Projects

Project number: 199401805

Sponsor: Asotin County Conservation District

FY 2001 cost estimate: \$235,000

Short description:

Coordinate, assess, implement and monitor holistically based fish habitat cost-share programs in Asotin Creek watershed. Continue to improve on "grass roots" public and agency cooperation and collaboration for identified high priority habitat projects.

Grande Ronde Subbasin

Protect and Enhance Anadromous Fish Habitat in Grande Ronde Basin Streams

Project number: 198402500

Sponsor: Oregon Department of Fish & Wildlife

FY 2001 cost estimate: \$272,649

Short description:

Protect and enhance fish habitat in selected streams on private lands in the Grande Ronde Basin to improve instream and riparian habitat diversity, and increase natural production of wild salmonids.

Northeast Oregon Hatcheries Planning and Implementation (ODFW)

Project number: 198805305

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$400,477

Short description:

Work with co-managers to implement the Grande Ronde Endemic Spring Chinook Supplementation Program (GRESOSP). Participate in planning for additional anadromous salmonid enhancement programs in the Grande Ronde, Imnaha, and Walla Walla Basins.

Implement the Grande Ronde Model Watershed Program Administration and Habitat Restoration Projects

Project number: 199202601

Sponsor: Grande Ronde Model Watershed Program

FY 2001 cost estimate: \$930,000

Short description:

Continue the Grande Ronde Model Watershed Program Administration and Habitat Restoration. Develop and oversee coordinated, sustainable resource management in the Grande Ronde Subbasin. Plan, design and implement salmonid habitat restoration projects

Investigate Early Life History of Spring Chinook Salmon and Summer Steelhead in the Grande Ronde River Basin

Project number: 199202604

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$725,423

Short description:

Investigate the abundance, migration patterns, survival, and alternate life history strategies exhibited by spring chinook salmon and summer steelhead from distinct populations in the Grande Ronde and Imnaha River Basins.

Watershed Restoration Planner

Project number: 199403900

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$58,000

Short description:

Act as the liaison between the Nez Perce Tribe and Wallowa County. Help coordinate watershed restoration efforts in Wallowa County between the Tribe, County, Grande Ronde Model Watershed Program, local landowners, and state and federal agencies.

Northeast Oregon Wildlife Project: "Precious Lands"

Project number: 199608000

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$184,037

Short description:

Mitigate and protect wildlife habitat in the canyon grassland ecosystem of the Snake and Grande Ronde Rivers.

CTUIR Grande Ronde Basin Watershed Restoration

Project number: 199608300

Sponsor: Confederated Tribes of the Umatilla Indian Reservation

FY 2001 cost estimate: \$130,000

Short description:

Protect, enhance, and restore riparian, floodplain, and instream habitat to benefit anadromous fish with emphasis on rearing habitat and water quality. Project includes development and design, securing project partners, and working with private landowners.

Wallowa County/Nez Perce Tribe Salmon Habitat Recovery Plan and Multi-species Habitat Strategy

Project number: 199702500

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$20,000

Short description:

Cooperative and voluntary efforts are a stated goal in the Wallowa County/Nez Perce Tribe Salmon Habitat Recovery Plan and Multi-species Habitat Strategy (County/Tribe Plan). Funding of this project will help to implement the plan.

Grande Ronde Supplementation: Lostine River O&M and M&E

Project number: 199800702

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$479,289

Short description:

Operate adult trapping and juvenile acclimation facilities and conduct monitoring and evaluation in the Lostine River to implement the Lostine component of the Grande Ronde Basin Endemic Spring Chinook Supplementation Program (GRESB).

Facility O&M and Program M&E for Grande Ronde Anadromous Salmonids

Project number: 199800703

Sponsor: Confederated Tribes of the Umatilla Indian Reservation

FY 2001 cost estimate: \$619,131

Short description:

Develop, implement, and evaluate integrated hatchery projects to prevent extinction, stabilize populations and assist in restoration of threatened spring chinook salmon and steelhead populations in the Grande Ronde River.

Grande Ronde Basin Spring Chinook Captive Broodstock Program

Project number: 199801001

Sponsor: Oregon Department of Fish and Wildlife

FY 2001 cost estimate: \$654,648

Short description:

Implement captive broodstock programs and associated research, monitoring, evaluation, and fish health for spring chinook salmon populations in Catherine Creek, upper Grande Ronde and Lostine Rivers, to conserve genetic diversity and assist in recovery.

Captive Broodstock Artificial Propagation

Project number: 199801006

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$145,000

Short description:

Implements the captive broodstock project through the collection of juvenile salmon from the wild and maintaining them in captivity. The founding generation is spawned at maturity and the resulting F1 generation is released back to the parental stream.

Securing Wildlife Mitigation Sites - Oregon, Wenaha Wildlife Area Additions

Project number: 200002000
Sponsor: Oregon Department of Fish and Wildlife
FY 2001 cost estimate: \$42,302

Short description:

Enhance grassland, riparian/riverine, open forest, and rocky habitats on lands adjacent to ODFW's Wenaha Wildlife Area (WA) to mitigate for wildlife and wildlife habitats impacted by the Columbia River federal hydropower system.

Securing Wildlife Mitigation Sites - Oregon, Ladd Marsh Wildlife Area Additions

Project number: 200002100
Sponsor: Oregon Department of Fish and Wildlife
FY 2001 cost estimate: \$285,700

Short description:

Enhance wetland habitats on lands adjacent to ODFW's Ladd Marsh Wildlife Area (WA) to mitigate for wildlife and wildlife habitats impacted by the Columbia River federal hydropower system.

Imnaha Subbasin

Northeast Oregon Hatchery Master Plan

Project number: 198805301
Sponsor: Nez Perce Tribe
FY 2001 cost estimate: \$2,309,038

Short description:

Plan and develop conservation production facilities in the Imnaha and Grande Ronde rivers necessary to implement salmon recovery programs for native, ESA listed salmon.

Imnaha River Smolt Monitoring Program Project

Project number: 199701500
Sponsor: Nez Perce Tribe
FY 2001 cost estimate: \$190,067

Short description:

Provide the Fish Passage Center with information and indices on spring emigration timing, estimated smolt survival, smolt performance and health of wild and hatchery salmonid smolts captured in the Imnaha River to Snake and Columbia River dams.

Mainstem Snake Subbasin

Monitoring and Evaluation of Yearling Snake River Fall Chinook Released Upstream of Lower Granite Dam

Project number: 199801004
Sponsor: Nez Perce Tribal Fisheries
FY 2001 cost estimate: \$277,860

Short description:

Monitor and evaluate fish health, movement patterns, migration timing, travel times, juvenile emigration survival and adult returns through supplementation of Lyons Ferry Hatchery fall chinook salmon in the Snake and Clearwater rivers.

Snake Hells Canyon Subbasin

Evaluate Rebuilding the White Sturgeon Population in the Lower Snake Basin

Project number: 199700900

Sponsor: Nez Perce Tribal Fisheries

FY 2001 cost estimate: \$410,000

Short description:

Evaluate the need for, and identify, potential measures to protect and restore white sturgeon between Hells Canyon and Lower Granite dams to obtain a sustainable annual harvest of white sturgeon.

Spawning Distribution of Snake River Fall Chinook Salmon

Project number: 199801003

Sponsor: U.S. Fish and Wildlife Service

FY 2001 cost estimate: \$191,422

Short description:

Monitor the spawning distribution of fall chinook salmon to determine if supplemented yearling hatchery fish spawn where intended, and to document redd distribution and collect information on the spawning distribution of subyearling releases and natural fish.

Pittsburg Landing, Capt. John Rapids, Big Canyon Acclimation Facilities

Project number: 199801005

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$660,000

Short description:

Supplement natural production of Snake River fall chinook above Lower Granite Dam through acclimation and final rearing of Lyons Ferry Hatchery yearlings and subyearlings at two sites on the Snake River and one site on the Clearwater River.

Snake River Subbasin

Preserve Salmonid Gametes

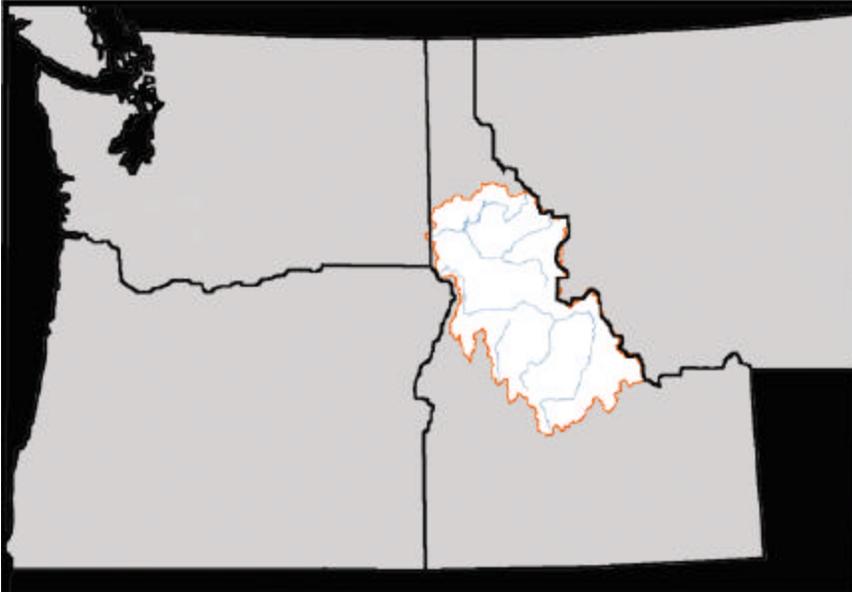
Project number: 199703800

Sponsor: Nez Perce Tribe Department of Fisheries Resource Management

FY 2001 cost estimate: \$213,660

Short description:

Preserve male salmonid gametes through cryogenic techniques in order to maintain genetic diversity in populations with low levels of abundance and at high risk of localized extinction.



Mountain Snake Province

45 Projects -- \$30,182,989

Projects

Clearwater Subbasin

Nez Perce Tribal Hatchery

Project number: 198335000

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$14,008,000

Short description:

Implement \$16 million construction of Nez Perce Tribal Hatchery (NPTH) supplementation program to assist in the recovery and restoration of non-listed spring chinook and coho salmon and ESA listed Snake River fall chinook in the Clearwater subbasin.

Nez Perce Tribal Hatchery Monitoring and Evaluation

Project number: 198335003

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$1,392,000

Short description:

Monitor and evaluate results of the Nez Perce Tribal Hatchery so that operations can be adaptively managed to optimize hatchery and natural production, sustain harvest, and minimize ecological impacts.

Dworshak Dam Impacts Assessment and Fisheries Investigation

Project number: 198709900

Sponsor: Idaho Department of Fish and Game

FY 2001 cost estimate: \$294,000

Short description:

Determines ways to minimize entrainment losses of fish into Dworshak Dam. Also, evaluates impacts to the kokanee population caused by drawdowns and routine operations of the dam.

Dworshak Impacts/M&E and Biological/Integrated Rule Curves

Project number: 198740700

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$95,000

Short description:

Assemble and assess thermal, physical, chemical, primary production, zooplankton, benthic, and fish data to formulate and refine biological/integrated rule curves for Dworshak Dam and Reservoir, and to monitor/evaluate rule curve implementation.

Evaluate Salmon Supplementation in Idaho Rivers (ISS)

Project number: 198909801

Sponsor: U.S. Fish and Wildlife Service - Idaho Fishery Resource Office

FY 2001 cost estimate: \$134,740

Short description:

Evaluate various supplementation strategies for maintaining and rebuilding spring/summer chinook salmon populations in Idaho. Develop recommendations for the use of supplementation to rebuild naturally spawning populations.

Steelhead Supplementation Studies in Idaho Rivers

Project number: 199005500

Sponsor: Idaho Department of Fish and Game

FY 2001 cost estimate: \$532,865

Short description:

Evaluate the feasibility of using artificial production to increase natural steelhead populations and to collect life history, genetic and disease data from wild steelhead populations in Idaho.

Enhanced Conservation Enforcement for Fish & Wildlife, Watersheds of the Nez Perce

Project number: 199202409

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$426,916

Short description:

Increase conservation law enforcement (CE) protection of fish, wildlife, critical habitats and other natural resources within watersheds managed by the Nez Perce Tribe. The CE program will be coordinated with all of the NPT resource enhancement projects.

Enhance Fish, Riparian, and Wildlife Habitat within the Red River Watershed

Project number: 199303501

Sponsor: Idaho County Soil and Water Conservation District

FY 2001 cost estimate: \$453,500

Short description:

Restore physical and biological processes to create a self-sustaining river/meadow ecosystem using a holistic approach and adaptive management principles to enhance fish, riparian, and wildlife habitat and water quality within the Red River watershed.

Assessing Summer and Fall Chinook Restoration in the Snake River Basin

Project number: 199403400

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$105,058

Short description:

Assess current fall chinook spawning escapement and locations, juvenile emergence, growth rates, emigration timing, survival to dams, and smolt-to-adult survival for evaluating supplementation as a tool for recovery of Snake River fall chinook salmon.

Nez Perce Tribe Resident Fish Substitution Program

Project number: 199501300

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$259,654

Short description:

Increase fish harvest opportunities to partially mitigate for anadromous fisheries losses resulting from the "permanent" migration blockage posed by Dworshak Dam on the North Fork Clearwater River.

Protect and Restore the Lolo Creek Watershed

Project number: 199607708

Sponsor: Nez Perce Fisheries/Watershed Program

FY 2001 cost estimate: \$213,746

Short description:

Protect, restore, and enhance the Lolo Creek Watershed to provide quality habitat for chinook salmon, coho salmon, steelhead trout, pacific lamprey, and resident fish. This will be accomplished by working with an overall watershed approach.

Protecting and Restoring the Squaw Creek to Papoose Creek Analysis Area Watersheds

Project number: 199607709

Sponsor: Nez Perce Fisheries/Watershed Program

FY 2001 cost estimate: \$399,698

Short description:

Protecting and restoring the Squaw Creek to Papoose Creek Analysis Area Watersheds is the overall goal. Achieving protection and restoration will be accomplished using a holistic watershed approach, based on a completed watershed analysis.

Restore McComas Meadows/ Meadow Creek Watershed

Project number: 199607711

Sponsor: Nez Perce Fisheries/Watershed Program

FY 2001 cost estimate: \$120,025

Short description:

Restore, enhance, and protect the diversity of physical and biological habitat characteristics of Meadow Creek and associated wetland areas to provide quality habitat for chinook salmon and steelhead trout through working with an overall watershed approach.

Clearwater Subbasin Focus Program

Project number: 199608600

Sponsor: Idaho Soil Conservation Commission

FY 2001 cost estimate: \$143,062

Short description:

Coordinate multiple jurisdictions, agencies, and private landowner efforts to identify, prioritize, design, implement, and monitor projects and policies that will protect, restore, and enhance fish and wildlife habitat in the Clearwater River Subbasin.

Clearwater Subbasin Focus Watershed Program - NPT

Project number: 199706000
Sponsor: Nez Perce Fisheries/Watershed Program
FY 2001 cost estimate: \$452,998

Short description:

Manage and implement a comprehensive system to coordinate multiple jurisdictions, agencies, and private landowners within the Clearwater River Subbasin. These efforts will protect, restore, and enhance anadromous fisheries habitat.

Restore Anadromous Fish Habitat in the Little Canyon Creek Subwatershed

Project number: 199901400
Sponsor: Lewis Soil Conservation District
FY 2001 cost estimate: \$196,654

Short description:

Implement agricultural Best Management Practices in the watershed uplands to reduce sediment delivery, to retain water in the uplands longer, and improve riparian function.

Restore Anadromous Fish Habitat in the Nichols Canyon Subwatershed

Project number: 199901500
Sponsor: Nez Perce Soil and Water Conservation District
FY 2001 cost estimate: \$181,755

Short description:

Implement agricultural Best Management Practices in the watershed uplands to reduce sediment delivery, to retain water in the uplands longer, and restore riparian function.

Protect & Restore Big Canyon Creek Watershed

Project number: 199901600
Sponsor: Nez Perce Fisheries/Watershed Program
FY 2001 cost estimate: \$70,000

Short description:

Restore Big Canyon Creek and tributaries to a more healthy and productive system which is capable of sustaining a self perpetuating population of anadromous and resident fish.

Protect & Restore Lapwai Creek Watershed

Project number: 199901700
Sponsor: Nez Perce Fisheries/Watershed Program
FY 2001 cost estimate: \$70,000

Short description:

Restore Lapwai Creek and tributaries to a more healthy and productive system which is capable of sustaining a self perpetuating population of anadromous and resident fish.

Characterize and Quantify Residual Steelhead in the Clearwater River, Idaho

Project number: 199901800
Sponsor: U.S. Fish and Wildlife Service
FY 2001 cost estimate: \$107,670

Short description:

Describe unsuccessful hatchery smolts released into the Clearwater basin. Assess potential negative interactions with wild steelhead and recommend modifications to hatchery practices to produce more effective smolts and reduce hatchery/wild interactions.

Evaluate Status of Pacific Lamprey in the Clearwater River Drainage, Idaho

Project number: 200002800
Sponsor: Idaho Department of Fish and Game
FY 2001 cost estimate: \$75,000

Short description:

The Pacific Lamprey life history is poorly known throughout its range. This project will collect information to add to Pacific Lamprey population status and life history in Idaho.

Protect and Restore the North Lochsa Face Analysis Area Watersheds

Project number: 200003400
Sponsor: Nez Perce Tribe
FY 2001 cost estimate: \$176,506

Short description:

Protect and Restore the North Lochsa Face Watershed by working within an overall watershed approach, based on comprehensive studies of the analysis area. The overall goal of this project is to increase anadromous fish populations.

Rehabilitation of Newsome Creek Watershed

Project number: 200003500
Sponsor: Nez Perce Fisheries/Watershed Program
FY 2001 cost estimate: \$401,198

Short description:

Protect and restore Newsome Creek Watershed for the benefit of fish, both resident and anadromous, and wildlife.

Protect and Restore Mill Creek Watershed

Project number: 200003600
Sponsor: Nez Perce Fisheries/Watershed Program
FY 2001 cost estimate: \$72,452

Short description:

Protect and enhance critical riparian areas of the Mill Creek Watershed to restore quality habitat for chinook salmon, steelhead trout, bull trout, and resident fish, by working within an overall watershed approach.

Mainstem Snake Subbasin

Monitoring and Evaluation of Yearling Snake River Fall Chinook Released Upstream of Lower Granite Dam

Project number: 199801004
Sponsor: Nez Perce Tribal Fisheries
FY 2001 cost estimate: \$277,860

Short description:

Monitor and evaluate fish health, movement patterns, migration timing, travel times, juvenile emigration survival and adult returns through supplementation of Lyons Ferry Hatchery fall chinook salmon in the Snake and Clearwater rivers.

Pittsburg Landing, Capt. John Rapids, Big Canyon Acclimation Facilities

Project number: 199801005
Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$660,000

Short description:

Supplement natural production of Snake River fall chinook above Lower Granite Dam through acclimation and final rearing of Lyons Ferry Hatchery yearlings and subyearlings at two sites on the Snake River and one site on the Clearwater River.

Salmon Subbasin

Idaho Supplementation Studies

Project number: 198909800

Sponsor: Idaho Department of Fish and Game

FY 2001 cost estimate: \$975,000

Short description:

Evaluate various supplementation strategies for maintaining and rebuilding spring/summer chinook populations in Idaho. Develop recommendations for the use of supplementation to rebuild naturally spawning populations.

Evaluate Salmon Supplementation Studies in Idaho Rivers

Project number: 198909802

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$388,818

Short description:

The Salmon Supplementation Studies in Idaho Rivers project is a long term research study designed to evaluate hatchery supplementation as a recovery/restoration tool for spring and summer chinook salmon.

Evaluate Salmon Supplementation Studies in Idaho Rivers

Project number: 198909803

Sponsor: Shoshone-Bannock Tribes

FY 2001 cost estimate: \$213,569

Short description:

Evaluate various supplementation strategies for maintaining and rebuilding spring/summer chinook populations in Idaho. Develop recommendations for the use of supplementation to rebuild naturally spawning populations.

Monitoring Smolt Migrations of Wild Snake River Spring/Summer Chinook Salmon

Project number: 199102800

Sponsor: National Marine Fisheries Service

FY 2001 cost estimate: \$325,000

Short description:

Collect time series information to examine migrational characteristics of wild ESA-listed Snake River spring/summer chinook salmon stocks. PIT tag wild chinook salmon parr annually; and subsequently monitor as smolts at stream traps and river dams.

Snake River Sockeye Salmon Habitat and Limnological Research

Project number: 199107100

Sponsor: Shoshone-Bannock Tribes

FY 2001 cost estimate: \$412,260

Short description:

Enhance and monitor rearing habitat for juvenile Snake River sockeye. Evaluate the effects of nutrient addition and fish stocking on the lake's ecosystems and growth and survival of planted juvenile sockeye.

Redfish Lake Sockeye Salmon Captive Broodstock Program

Project number: 199107200
Sponsor: Idaho Department of Fish and Game
FY 2001 cost estimate: \$700,000

Short description:

Establish captive broodstocks of Redfish Lake sockeye salmon. Spawn captive adults to produce eggs, juveniles, and adults for supplementation and future broodstock needs. Monitor nursery lake conditions. Evaluate juvenile out-migration by release option.

Idaho Natural Production Monitoring and Evaluation

Project number: 199107300
Sponsor: Idaho Department of Fish and Game
FY 2001 cost estimate: \$800,212

Short description:

Improves adult-to-smolt and smolt-to-adult survival of chinook salmon and steelhead. Identifies limiting factors and methods to improve survival. Provides monitoring to determine the effectiveness of recovery actions and population status.

Idaho Model Watershed Administration/Implementation Support

Project number: 199202603
Sponsor: Idaho Soil Conservation Commission
FY 2001 cost estimate: \$322,440

Short description:

The Idaho Model Watershed has provided local direction to fish habitat improvement since 1992 through the leadership of the Custer and Lemhi Soil and Water Conservation Districts, the Model Watershed Advisory Committee and interdisciplinary Technical Team.

Redfish Lake Sockeye Salmon Captive Broodstock Rearing and Research

Project number: 199204000
Sponsor: National Marine Fisheries Service
FY 2001 cost estimate: \$500,000

Short description:

Incubate and rear Redfish Lake sockeye salmon captive broodstocks. Provide pre-spawning adults, eyed eggs, and juveniles to aid recovery of this ESA-listed endangered stock in Idaho.

Salmon River Anadromous Fish Passage Enhancement

Project number: 199306200
Sponsor: Lemhi and Custer Soil and Water Conservation Districts
FY 2001 cost estimate: \$100,000

Short description:

The goal is to balance resource protection and land use practices to provide barrier free passage for adult and juvenile fishes, and increase subbasin connectivity by returning surplus irrigation water to tributaries and mainstem systems.

Idaho Fish Screen Improvement - O-M

Project number: 199401500

Sponsor: Idaho Department of Fish and Game

FY 2001 cost estimate: \$1,000,000

Short description:

Enhance passage of juvenile and adult fish in Idaho's anadromous fish corridors by consolidation and elimination of irrigation diversions. Minimize adverse fish impacts of irrigation diversion dams, screen pump intakes and screen all irrigation canals.

Idaho Model Watershed Habitat Project

Project number: 199401700

Sponsor: Lemhi and Custer Soil and Water Conservation Districts

FY 2001 cost estimate: \$420,000

Short description:

To protect, enhance and restore anadromous and resident fish habitat in a sustainable manner that balances resource protection and land use practices. Emphasis is on holistic watershed assessment and implementation projects that maximize regional benefits.

Salmon River Habitat Enhancement M&E

Project number: 199405000

Sponsor: Shoshone-Bannock Tribes

FY 2001 cost estimate: \$240,000

Short description:

Maintain habitat improvements and evaluate benefits; monitor salmonid populations; coordinate evaluation of land and water stewardship activities; coordinate the planning, implementation, monitoring, and evaluation of new improvements and protections.

Irrigation Diversion Consolidation and Water Consolidation

Project number: 199600700

Sponsor: Lemhi Soil and Water Conservation District

FY 2001 cost estimate: \$250,000

Short description:

Irrigation consolidation of gravity diversions S-13 (10 Acre Canal) with S-14 (Pope Canal) and consolidation of S-11(Edwards Canal) with S-12 (Kane-Ramey Canal). Eliminate 2 of 4 wing dams, 2 of 4 screens, 2 of 4 head gates, and reduce migrational delay of all fish.

Johnson Creek Artificial Propagation Enhancement

Project number: 199604300

Sponsor: Nez Perce Tribe

FY 2001 cost estimate: \$1,219,833

Short description:

Enhance and monitor a weak but recoverable stock of native summer chinook salmon in Johnson Creek. Construct facilities for adult collection and holding, juvenile rearing, and smolt acclimation.

Captive Rearing Project for Salmon River Chinook Salmon

Project number: 199700100

Sponsor: Idaho Department of Fish and Game

FY 2001 cost estimate: \$460,500

Short description:

Develop captive rearing techniques for chinook salmon and evaluate the success and utility of captive rearing for maintaining stock structure and minimum number of adult spawners in three drainages.

Monitor Listed Stock Chinook Salmon Escapement

Project number: 199703000

Sponsor: Nez Perce Tribe Department of Fisheries Resource Management

FY 2001 cost estimate: \$160,000

Short description:

Using facilities with underwater time-lapse video technology to determine adult salmon escapement and abundance; and run timing and to compare escapement to redd count survey data on unsupplemented spring and summer chinook salmon spawning aggregates.

Restore Salmon River (Challis , ID) Area

Project number: 199901900

Sponsor: Custer Soil and Water Conservation District through Custer County Watershed Group

FY 2001 cost estimate: \$325,000

Short description:

Restore the channelized river corridor to a natural meandering form in balance with watershed processes that will restore geomorphic diversity, reduce bank erosion, lower summer temperatures and improve fish habitat, with local watershed group.

Analyze the Persistence and Spatial Dynamics of Snake River Chinook Salmon

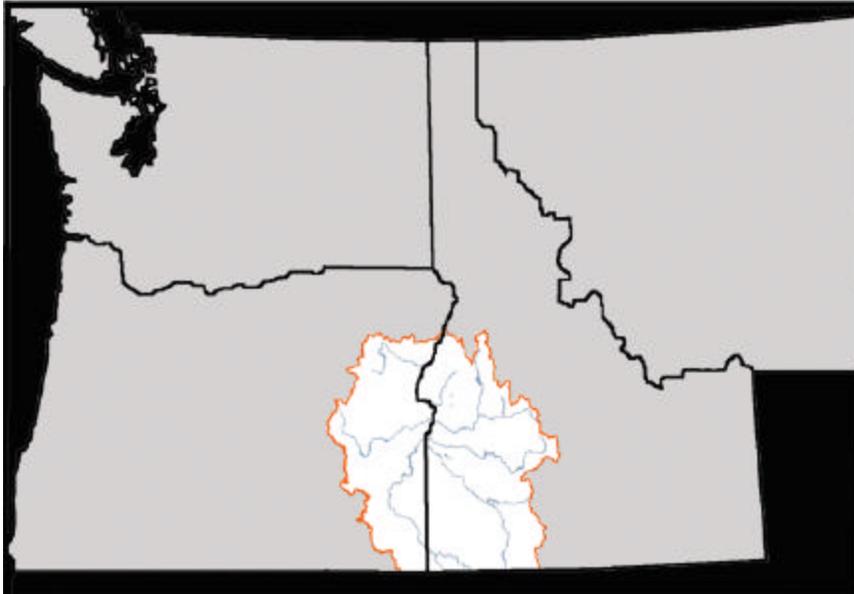
Project number: 199902000

Sponsor: USDA Forest Service- Rocky Mountain Research Station

FY 2001 cost estimate: \$50,000

Short description:

Results will advance current understanding of the relationship between landscape characteristics and the distribution, pattern, and persistence of chinook salmon. Such information could be key to development of conservation and restoration strategies.



Middle Snake Province

7 Projects — \$1,340,394

Projects

Malheur Subbasin

Evaluation of the Life History of Native Salmonids in the Malheur Basin

Project number: 199701900

Sponsor: Burns Paiute Tribe

FY 2001 cost estimate: \$208,996

Short description:

Evaluate and determine the life history, distribution, and critical habitats pertinent to populations of redband and bull trout in the Middle Fork Malheur subbasin.

Evaluation of the Life History of Native Salmonids in the Malheur Basin (2)

Project number: 199701901

Sponsor: Burns Paiute Tribe

FY 2001 cost estimate: \$99,083

Short description:

Evaluate and determine the life history, distribution, and critical habitats pertinent to populations of redband and bull trout in the Malheur subbasin.

Logan Valley Wildlife Mitigation Project

Project number: 200000900

Sponsor: Burns Paiute Tribe

FY 2001 cost estimate: \$188,140

Short description:

Enhance, restore and protect wetland and riparian habitat for fish and wildlife. Passive techniques will be used to restore landscape habitat.

Malheur Wildlife Mitigation Site

Project number: 200002700

Sponsor: Burns Paiute Tribe

FY 2001 cost estimate: \$184,318

Short description:

Restore habitat on the Malheur River for T&E species and enhance critical wintering habitat for migratory mammals, birds and resident fish.

Owyhee Subbasin**DVIR Resident Fish Stocking Program**

Project number: 198815600

Sponsor: Shoshone-Paiute Tribes of the Duck Valley Indian Reservation

FY 2001 cost estimate: \$138,307

Short description:

To enhance fisheries on the DVIR we will stock two reservoirs (closed systems) with rainbow trout. This project will support a sustainable (put-and-take) harvest by the Shoshone-Paiute Tribal members and non-Indian anglers without impacting native trout.

Lake Billy Shaw Operations and Maintenance

Project number: 199501500

Sponsor: Shoshone-Paiute Tribes of the Duck Valley Indian Reservation

FY 2001 cost estimate: \$221,550

Short description:

To protect and enhance the area in order to benefit the native fish that will be in the lake and the abundant wildlife of the area. To monitor and evaluate the waters, shoreline, riparian areas, and enclosure areas.

Habitat Enhancement and Protection on the DVIR

Project number: 199701100

Sponsor: Shoshone-Paiute Tribes of the Duck Valley Indian Reservation

FY 2001 cost estimate: \$300,000

Short description:

This project increases critical riparian areas of the Owyhee River and its tributaries as well as preserves/protects the numerous natural springs located on the Duck Valley Indian Reservation. According to NWPPC Measure 10.8C.5.



Upper Snake Province

4 Projects — \$4,146,766

Projects

Middle Snake Subbasin

Snake River Native Salmonid Assessment

Project number: 199800200

Sponsor: Idaho Department of Fish and Game

FY 2001 cost estimate: \$263,837

Short description:

Investigate population status and trends, life histories, habitat needs, limiting factors, and threats to persistence of native salmonids in the Snake River and tributaries upstream of Hell's Canyon Dam in Idaho, and implement recovery/protection plans

Upper Snake Subbasin

Habitat Restoration/Enhancement Fort Hall Reservation

Project number: 199201000

Sponsor: Shoshone-Bannock Tribes

FY 2001 cost estimate: \$169,600

Short description:

Provide conditions to maintain a self-perpetuating tribal subsistence and trophy trout fishery through implementation of habitat restoration, enhancement, and protection activities on the Fort Hall Reservation.

Shoshone-Bannock/Shoshone Paiute Joint Culture Facility

Project number: 199500600

Sponsor: Shoshone-Bannock Tribes

FY 2001 cost estimate: \$1,205,905

Short description:

Planning, development, and operation of a hatchery facility to provide native trout for re-introduction of stocks affected by hybridization, habitat loss, and exploitation on the Duck Valley and Fort Hall reservations.

Southern Idaho Wildlife Mitigation

Project number: 199505700

Sponsor: Idaho Department of Fish and Game and Shoshone-Bannock Tribes

FY 2001 cost estimate: \$2,507,424

Short description:

Protect, enhance, and maintain wildlife habitats to mitigate construction losses for Palisades, Anderson Ranch, Black Canyon, and Minidoka hydroelectric projects.