FY 2006 budget responses: Accomplishments & Goals

Blue Mountain — Asotin

1994-018-05 - Asotin Enhancement/Restoration (Expense) Asotin County Conservation District

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.

Accomplishments

On-Going Project. 3,856 ft of riparian fence, 2 spring developments, 4,000 ft of cross fence, 3,340 ac of long-term direct seeding, 1 sediment basin and monitoring of sediment, habitat, redds and juveniles to fill EDT data gaps.
2004 - 3,957 ft of riparian fence, 1,000 native riparian trees and shrubs, 3 spring developments, 2 water troughs, 1,487 ac of long-term direct seeding and monitoring of sediment, habitat, redds and juveniles to fill EDT data gaps.
2005 - Funding year to date. 971 ft of riparian fence, 3 spring developments, 475 ac of long-term direct seeding and monitoring sediment, habitat, redds and juveniles to fill EDT data gaps.

For list and location of all projects completed by ACCD since 1996 refer to section 6.3.1 Aquatic Habitat Restoration and Protection Projects (pages 104-118). BPA funds have resulted in an additional $333,000 from either landowners or other funding sources.

Goals

Winter 2005 - Reduce cropland erosion by continuing long-term direct seed projects, plant native riparian vegetation on 37 acres of CREP, reduce domestic stock direct access to streams by providing alternative water developments and fencing priority riparian areas. Continue working with other funding sources to help flat lined budget go farther and get more on-the-ground projects. Public information and education with local schools, landowners and citizens on importance of habitat programs.

Spring 2006 - Re-establish and protect prioritized riparian areas with fencing and alternative water developments to reduce domestic stock access and native riparian tree and shrub plantings. Alternative crop rotations with springtime long-term direct seed projects to reduce cropland erosion. Work with WDFW on surveys to fill EDT data gaps. Set priorities for FY 07 Funding.

Fall 2006 - Reduce cropland erosion by continuing long-term direct seed projects, reduce domestic stock access to streams with riparian fencing and alternative water developments.

2002-050-00 - Riparian Buffer Couse/Ten Mile (Expense) Asotin County Conservation District

Description: Implement BMP's to protect and enhance watersheds in Asotin County with ESA listed steelhead and chinook. Utilize cost-share from USDA, WCC and SFRB as match to BPA Funds to implement riparian buffers under the CREP Program (RPA Actions 152 & 153).

Accomplishments

2003 - New Project, first year with shortened timeframe. 436 ac of CREP, 1,150 ft of riparian fence, 5 spring developments and 1,265 ac of long-term direct seeding.
2004 - 205.9 ac of CREP, 12,989 ft of riparian fence, 170 native riparian trees and shrubs, 9 spring developments and 1,315 ac of long-term direct seeding.
2005 - Funding year to date. 49 ac of BPA CREP, 6,200 native riparian trees and shrubs, 2 spring developments, and 900 ac of long-term direct seeding.

BPA funds have resulted in an additional $255,000 from either landowners or other funding sources.

Goals

Winter 2005 - Reduce cropland erosion by continuing long-term direct seed projects, plant native riparian vegetation on 49 acres of BPA CREP, reduce domestic stock direct access to streams by providing alternative water developments and fencing priority riparian areas. Continue working with other funding sources to help flat lined budget go farther and get more on-the-ground projects.

Spring 2006 - Re-establish and protect prioritized riparian areas with fencing and alternative water developments to reduce domestic stock access and native riparian tree and shrub plantings. Alternative crop rotations with springtime long-term direct seed projects to reduce cropland erosion. Set priorities for FY 07 Funding

Fall 2006 - Reduce cropland erosion by continuing long-term direct seed projects, reduce domestic stock access to streams with riparian fencing and alternative water developments.

2002-053-00 - Assess Salmonids Asotin Cr Ws (Expense) WDFW - Olympia

Description: Evaluate the current productivity and survival rates of anadromous and resident salmonids in Asotin Creek. Develop a habitat based spring chinook reintroduction plan and determine if supplementation is required to sustain a wild steelhead population.

Accomplishments

2003 – Established a WDFW Clarkston field office. Hired a project biologist and field staff to implement the Asotin Creek assessment project.

2004 – Obtained the necessary ESA and state environmental permits to cover proposed work.

2004 – Purchased, installed and operated a 1.52 m rotary screw trap to capture migrating salmonids, including biological sampling, to estimate the juvenile population of steelhead and Chinook salmon in Asotin Creek for the first time.

2004 – Submitted an annual report to BPA, which was uploaded to the BPA website.

2005 – Obtained the necessary ESA and state environmental permits to cover proposed work.

2005 – Fabricated and installed a portable, resistance board weir and trap system to capture adult steelhead and Chinook salmon, including biological sampling and tagging, for adult enumeration and estimating escapement in Asotin Creek for the first time.

2005 – Operated a 1.52 m rotary screw trap to capture migrating salmonids, including biological sampling, to estimate the juvenile population of steelhead and Chinook salmon in Asotin Creek. Juveniles were tagged with passive integrated transponder (PIT) tags and the data was uploaded to the PTAGIS database for the first time.

2005 – Conducted sight recapture and redd surveys to estimate trap efficiency, and to establish adults per redd and spawner abundance in Asotin Creek for the first time.

2005 – Submitted a statement of work (SOW) to BPA in the new “Work Element” format.

Goals

2006 – Obtain the necessary ESA and state environmental permits to cover proposed work.

2006 – Operate a portable, resistance board weir and trap system to capture adult steelhead and Chinook salmon, including biological sampling, for adult enumeration and to estimate escapement in Asotin Creek.

2006 – Operate a 1.52 m rotary screw trap to capture migrating salmonids, including biological sampling, to estimate the juvenile population of steelhead and Chinook salmon in Asotin Creek. Tag juveniles with PIT tags and upload data to the PTAGIS database.

2006 – Conduct sight recapture and redd surveys to estimate trap efficiency, and to establish adults per redd and spawner abundance in Asotin Creek.

2006 – Submit an annual report to BPA and upload the report to the BPA website.

2002-054-00 - Protect & Restore Asotin Cr Ws (Expense) Nez Perce Tribe - Lapwai

Description: Contribute to an on-going watershed restoration effort by working in collaboration with private and federal entities to address sedimentation into stream and tributaries from road related sources on forested ground within the watershed.

Accomplishments

In 2003 we decommissioned a total of 21.29 miles of road.

In 2004 we had contract complications with the Forest Service along with weather problems so we decided to begin actual machine work related to this year in the spring 2005.

In 2005 we plan to decommission a minimum of 14 miles of road in the Charley Creek priority restoration area as well as create some natural instream habitat and repair four areas where streambank restoration is required.

PAST Metric / Work Element	Value or description
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	B: 9.11 Miles of road S: 2.49 Miles of road R: 9.69 Miles of road
# of road miles decommissioned (0.01 mi.)	B: 9.11 Miles of road S: 2.49 Miles of road R: 9.69 Miles of road

Goals

In FY 2006 we plan to decommission a minimum of 10 miles of road in the South Fork Asotin Creek priority subwatershed. Will plan to complete a minimum of 46 miles of road survey for prescription. We plan to remove/repair/replace a minimum of six culverts. We will be monitoring the previous three years of road decommissioning for effectiveness

2006-005-00 - Asotin Creek Wildlife Area (Expense) WDFW

Accomplishments

Past accomplishments include:

· Reconstruction of 1.5 miles of fence in Rockpile Creek.

· Strengthening and maintenance of 4 miles of boundary fence in the Cooper Canyon and S. Fork areas.

· Weed control work on approximately 50 acres.

· Maintenance of the water system at Smoothing Iron Ridge buildings.

· Repair of wind damaged roof of hayshed on S. Fork.

· Initiation of neo-tropical breeding bird point transects to be used as an indicator of habitat quality over time.

· Monitoring of agricultural leases on the project. Currently there are two leases.

· Replacement of approximalty 1 mile of boundary fence in upper Rockpile Creek.

· Maintenance of wildlife area equipment used on the project.

Goals

FY 2006 Goals

· Suppression of noxious weeds on project lands, particularly riparian areas.

· Initiation of restoration activities in riparian areas (passive restoration).

· Completion of rare plant survey.

· Completion of weed inventory maps.

· Continuation of breeding bird point transects.

· Continued monitoring of agricultural lease agreements.

· Continued maintenance of buildings, water systems, and project equipment.

1984-025-00 - Ne Oregon Habitat Projects (Expense) ODFW

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.

Accomplishments

Project accomplishments include: McCoy Meadows Project - 2 mile restoration channel, 3.8 miles fence construction, 450 acre WRP-BPA easement, bridge construction, 2,000 ft. revetments, 10 crossvanes, 30 ac. seeding, planting 20,000 shrubs 1.2 miles channel reclamation; Longley Meadows Project - 1 mile Bear Cr restoration channel, 1,200 ft revetments, 19 crossvanes, 70 pcs.wood/whole tree additions to 1 mile reach Jordan Creek, planting over 40,000 trees/shrubs/sedge/rush plugs, seeding 20 ac., off-channel water sources (1 well, delivery pipe, 9 troughs), 5.7 miles fence, two water gaps, 0.5 miles channel reclamation; Phase 2 Mainstem Grande Ronde Project - 1.5 miles habitat enhancement, construction 950 ft restoration channel, 300 ft revetments, 2 crossvanes, 76 whole trees/lg wood, 3 ac. seeding, planting 10,000 trees/shrubs; Phase 1 Wallowa/McDaniel Restoration Project - 0.5 mile Wallowa restoration channel, 800 ft revetments, 5 rock cross vanes, 10,000+ trees/shrubs/sedges/rushes (ODFW), 3 ac seeding.

Project planning, design, and implementation of listed projects has been facilitated through extensive interagency/staff coordination between ODFW, NRCS, CTUIR, and GRMWP and multiple funding organizations.

Project preparation and implementation included design planning, completion of environmental compliance packages (BA's/consultations for ESA species, permit preparation (ODSL/Corps), preparation of NEPA checklists, and coordination of cultural resource investigations. In addition, subcontracting for construction services, subcontract administration and inspection, and field layout/survey for each project was accomplished.

Project activities included maintenance of fences, structures, vegetation, monitoring/evaluation. M&E includes photo points, groundwater wells, water temperature, vegetation surveys, and cooperative fish habitat/morphological assessments, fish population evaluations.

Project includes participation on GRMWP Board and Tech Co

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	Supplemental Environmental Analyses/NEPA checklists and formal consultations with NOAA Fisheries and USFWS for McCoy Meadows, Longley Meadows, Wallowa River/McDaniel Restoration Project. NEPA checklist for End Creek/Rice Restoration Project.
Produce Environmental Compliance Documentation	Prepared biological assessments to initiate BPA consultations, NEPA checklists, cultural resource investigations, and ODSL/Corps fill-removal permits for McCoy Meadows, Longley Meadows, and Wallowa River/McDaniel Projects.
Coordination	Conducted project coord on McCoy, Longley, Grande Ronde, and Wallowa Projects during planning/design/implementation phases w landowners/agencies. Task also included interagency meetings to initiate planning/design on Meadow Cr and End Creek Projects.

Manage and Administer Projects	Subcontracted and administered 11 subcontracts associated with restoration project construction and fence construction on McCoy, Longley, and Mainstem Grande Ronde River Projects. Assisted ODFW/Wallowa Res. in development of Wallowa proj contrct docs.
Produce Annual Report	Prepared 2002-2003 Annual Report and submitted for BPA-COTR review. 2004 Annual report currently in draft form and in preparation for submittal/review.
Produce Status Report	Prepared quarterly reports and reviewed with BPA COTR to maintain coordination on project progress.
# of stream miles treated (0.01 mi.)	Installed 60 whole trees/large woody debris along 1 mile reach of Jordan Creek within Longley Meadows Project..
# of structures installed	Installed 36 rock cross vanes and 4,300 linear feet of rootwad revetments in streams within McCoy, Longley Meadows, Mainstem Grande Ronde, and Wallowa River Projects to maintain vertical channel stability and outside pool meaders in restoration channels
# of stream miles treated before realignment (0.1 mi.)	Pre-project stream miles: 0.5 miles McCoy Cr, 0.5 miles Bear Cr, 500 ft Mainstem Grande Ronde, 0.25 miles Wallowa River.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	Restoration channels constructed/enhanced: 1.6 miles McCoy Cr, 1.2 miles Bear Cr, 950 ft Mainstem Grande Ronde, 0.5 miles Wallowa River.
Start and end lat/long of treated reach (0.1")	McCy-04516'04.86"N,11825'0222"W/04515'51.49"N,11823'38.98"W; Bear-04518'06.85"N,11816'55.3"W/04518'31.60"N,11817'06.22"W; GRonde-04518'14.28"N, 11817'37.70"W/04518'40.26"N, 11816'35.44"W; Wallowa-04529'24.45"N,11724'17.73"W/04529'39.85"N,11724'27.75"W
Develop Alternative Water Source	Constructed off-channel water developments on Longley Meadow Project consisting of a well, 8,600 feet of water delivery pipe, 8 troughs and two water gaps.
# of miles of fence (0.01 mi.)	Constructed 9.5 miles fence on McCoy Meadows and Longley Meadows Restoration Projects.
# of acres of vegetation planted (0.1 ac.)	36 acres of seeding and installation of 50,000+ trees, shrubs, and sedge/rush plugs on three project areas (McCoy, Longley, and Mainstem Grande Ronde River Projects.
# of riparian miles treated (0.01 mi.; count each bank separately)	5 miles of riparian habitat planted on three project areas above
Maintain Terrestrial Structure	Maintained 111 miles of fence and 34 spring developments to better manage livestock so that 70 miles of stream and 2155 acres of riparian habitat are restored for federally listed Chinook, steelhead and bull trout. Tasks included bi-annual fence/water d

Maintain Vegetation	Annually conducted late spring field review of project areas and planned appropriate plant maintenance activities including re-installation of protection tubes and screens. Conducted periodic irrigation based on summer seasonal conditions and plant vigor.
Collect/Generate/Validate Field and Lab Data	Deployed thermographs, and document progress from 367 photo points, monitor habitat improvement through use of cross-section and longitudinal surveys, conduct fish population surveys, conduct vegetation plot surveys, collected groundwater data, and contin
Provide Technical Review	Assist the Grande Ronde Model Watershed, CTUIR and others through review and comments on their habitat and passage improvement projects. Provide techincal, scientific, and policy comments
Provide Technical Review	Assist the Grande Ronde Model Watershed, CTUIR and others through review and comments on their habitat and passage improvement projects. Provide techincal, scientific, and policy comments
Produce Design and/or Specifications	Concucted land surveys and engineering work necessary to produce designs needed for contracting work. Examples include materials produced for the End Creek and Wallowa (McDaniels) projects.

Goals

10/05-9/06 - participate on monthly GRMWP Board of Directors meetings. Participate on technical committee as needed to address resource issues and review annual project funding proposals.

10/05-9/06 - WE encompasses administrative functions to implement project.

3/05 - Annual report to meet BPA contractual requirements.

10/05-9/06 - report on quarterly progress (Pisces).

10/05 - 3/06 - Complete planning/design and permitting for End Cr/Rice Project. Project orginated with single landowner (600 acres) and expanded to include 2 additional landowners (250 acres contiguous)in 2005. Additional planning/design required to implement project.

6/06-8/06 - Implement End Creek/Rice Restoration Project. Includes construction to activate restoration channels constructed in 2005, reclamation of channelized stream segments, fish salvage/trap & haul, phase 1 construction on new project elements, and fence construction. Planting to be completed during fall-winter dormancy period. Project includes 3 landowners, approx 850 acres conservation easements, and 8-10 miles of fish bearing streams and spring fed tributaries in Willow Cr Watershed (tribuary to middle Grande Ronde River). Project goals/objectives are to restore natural channel/floodplain function in Willow Cr system substantially altered by channelization.

7/06 - Implement phase 2 Meadow Cr. Project involving activation of new/historic channel network and relcamation of existing channel network. Planting to be completed during fall-spring dormancy period.

5/06 - Conduct late spring field review of fences, water gaps, and water sources prior to May livestock turnout. Conduct necessary maintenance to ensure effectiveness.

5/06-8/06 - Maintain planted vegetation on project areas including protection tubes/devises and water application as necessary to improve survival.

10/06-9/06 Conduct M&E

CURRENT Metric / Work Element	Value or description
BPA Environmental Compliance	Assist with preparation of NEPA checklists, biological assessments, permit applications, etc. necessary to successfully permit habitat restoration projects.
Produce Environmental Compliance Documentation	Assist with preparation of NEPA checklists, biological assessments, permit applications, etc. necessary to successfully permit habitat restoration projects.
Coordination	Continue to participate in Grande Ronde Model Watershed coordination activities. Participate in other coordination activities as necessary to insure successful habitat restoration projects (i.e. OWEB, Oregon Plan, etc)
Manage and Administer Projects	Continue to work with PISCES and ODFW administrative processes to administer project.
Produce Annual Report	Produce 2006 annual report.
Produce Status Report	Produce quarterly reports, periodic reports and news releases as necessary.
Provide Technical Review	Continue to support Grande Rond Model Watershed, CRUIR and NRCS in restoration efforts as part of execttive and technical committees
Produce Design and/or Specifications	Contunue land surveys and specification development for the End Creek and Ladd Creek projects.
# of stream miles treated (0.01 mi.)	6-8 miles End Cr, S Fk Willow Cr, McDonald Cr, Unnamed tributaries (End Cr), Meadow Cr, Ladd Cr.
# of stream miles treated before realignment (0.1 mi.)	6-8 miles End Cr, S Fk Willow Cr, McDonald Cr, Unnamed tributaries (End Cr), Meadow Cr, Ladd Cr.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	10-12 miles End Cr, S. Fk. Willow Cr, McDonald Cr, Unnamed tributary springs and swells, Meadow Cr, Ladd Cr.Implement phase 2 of Meadow Creek Project. Includes design/construction.
Start and end lat/long of treated reach (0.1")	End Cr (04528'8.80"N/11802'38.02"W to 04527'37.67"N/11800'48.78W; Meadow Cr (04515'23.53"N/11824'23.55"W to 04515'53.99"N/11823'26.89"W; Ladd Cr (ODFW) 04514'47.14"N/11759'55.51"W to 04527'37.67"N/11800'48.78"W.
# of miles of fence (0.01 mi.)	Install/reconstruct 4 miles fence along conservation easement boundary on End Creek/Rice Restoration Project

# of acres of vegetation planted (0.1 ac.)	Plant trees and shrubs (est 10-15,000 stems) and seed an est 30 acres within project areas (End Cr & Meadow Cr Projects) to facilitate vegetative recovery/establishment following restoration activities.
# of riparian miles treated (0.01 mi.; count each bank separately)	Plant trees and shrubs and apply native seed mix along 8-12 miles of project streams (End Cr & Meadow Cr projects).
Maintain Terrestrial Structure	Continue maintenance of 111 miles of fence and 34 spring developments to better manage livestock so that 70 miles of stream and 2155 acres of riparian habitat are restored for federally listed Chinook, steelhead and bull trout. Tasks included bi-annual f
Maintain Vegetation	Continue annual late spring field review of project areas and planned appropriate plant maintenance activities including re-installation of protection tubes and screens. Conducted periodic irrigation based on summer seasonal conditions and plant vigor. A
Collect/Generate/Validate Field and Lab Data	Deploy thermographs, and document progress from 367 photo points, monitor habitat improvement through use of cross-section and longitudinal surveys, conduct fish population surveys, conduct vegetation plot surveys, collected groundwater data, and continue

1988-053-05 - Ne Ore Outplntg Facilities Mst (Capital) ODFW

Description: Develop the Walla Walla, Grande Ronde, and Imnaha Master Plans. Develop facility designs and costs with schedule for implementation. Construct and operate new facilities as agreed between comanagers; initially, operate for Captive and Endemic Brood.

Accomplishments

Council approved step-2, reccomendation to develop Step-3

Goals

Step-3 submittal

1992-026-01 - Grand Ronde Model Watershed (Expense) Grande Ronde Model Watershed Prog

Description: Coordinate, plan, implement, monitor habitat restoration in T&E chinook & steelhead streams; build community participation, develop watershed planning; conduct seminars; interagency coordination in habitat restoration.

Accomplishments

GRMWP/BPA Project Accomplishments 2002-2004
Riparian Fence - Exclusion (Riparian Enhancement) 17mi
Riparian Fence - Non-exclusion (Riparian Enhancement) 6mi

Riparian Zone Treated (Riparian Enhancement) 870ac and 27 stream miles
Exclosure Fencing
Planting/Seeding
Noxious Weed Control
Dike Relocation
Removal of drawbottom road

Instream Work (In-channel habitat diversity) 17mi
Large Woody Material Placement
Structures (rock & wood)
Restore Historic Channel
Channel Treatments
Streambank Stabilization
Create/Improve Side Channel Habitat

Irrigation Diversion Structure Improvements (Fish Passage) 3

Livestock Water Developments (Riparian Enhancement) 25
Spring Developments (22)
Well Developments (3)

Upland Improvements (Reduce Sediment) 9,000 ac
Direct Seed Incentive

Road Obliteration (Reduce Sediment) 10mi

Stream Crossing Structures (Fish Passage) 5

There are numerous additional "non-restoration project" accomplishments related to Goal #1 (bulleted items) that the GRMWP staff accomplish on a daily/weekly basis.

PAST Metric / Work Element	Value or description
# of stream miles treated (0.01 mi.)	17 miles
# of acres treated (0.1 ac)	9,000 acres
# of road miles decommissioned (0.01 mi.)	10 miles obliterated (similar to but not always full recontouring

# of miles of fence (0.01 mi.)	17 miles livestock exclusion fencing
Develop Alternative Water Source	22 spring development, 3 well developments
Enhance Floodplain	870 acres and 27 stream miles of floodplain enhancement as a result of fencing, planting noxious weed control, dike relocation and road removal
If installing a ladder, does the ladder meet NOAA specifications for attraction flow, pool dimensions, jump height, etc? (Y/N)	Modified/improved 3 irrigation diversion structures
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	G - 8,000-10,000 with Quarterly "Ripples" publication (approximately 8 publications) insert in local newspapers
Identify and Select Projects	Each year the GRMWP staff, Technical Committee and Board solicits, reviews 15-20 habitat restoration porjects. 10-15 are selected and funded each year.
Coordination	The GRMWP coordinates with many restoration partners on a daily and weekly basis, including ODFW, ODF, NRCS, USFS, ODEQ, ODOT.
Manage and Administer Projects	The GRMWP manages 3-4 projects in concert with the Grande Ronde Model Watershed Foundation.
Provide Technical Review	The GRMWP facilitates technical review of 10-15 projects annually through the Grande Ronde Technical Committee.

Goals

The project has two primary goals:
1. Coordinate watershed restoration and outreach in the Grande Ronde Basin:
- Facilitate inter-agency coordination of program and restoration activities
- Coordinate planning, prioritization, design & implementation of restoration projects (Implement the GR Subbasin Plan)
- Provide/facilitate technical support to landowners for restoration project implementation
- Maintain a Basin-wide restoration activity Database
- Participate in ESA Recovery Planning
- Coordinate Basin-wide water quality monitoring program
- Continue educational/outreach program

2. Habitat/Species Recovery Projects

The Grande Ronde Model Watershed Program annually implements 10-15 individual habitat restoration projects. The development of FY 06 projects occurs from mid FY 05 to early FY 06, are proposed to BPA for funding in January 2006 and are implemented during the 2006 field season. The following projects are under development:
- Wildcat/Wallupa Fish Passage

Cooperative project with Wallowa Co. to replace 2 undersized culverts to address steelhead passage and water quality issues
- Lower Catherine Creek/Davis Fish Passage

Retrofit of two irrigation dams that impede juvenile and adult Chinook and steelhead passage
- Ladd Creek Historic Channel

Cooperative project with ODFW to restore historic channel on lower Ladd Creek to restore/improve Chinook & steelhead rearing habitat, wetlands and water quality

- Lower Ladd Creek Habitat Diversity Enhancement

Cooperative project with ODFW to improve juvenile Chinook winter rearing habitat

- Ladd Creek/I-84 Fish Passage Complex

Cooperative project with ODOT & ODFW to restore steelhead access to Ladd Creek headwaters.

Additional projects will be submitted by various restoration partners in response to the GRMWP annual project solicitation process. Specific projects are not identified at this time. All projects will be reviewed, prioritized by theGRMWP Technical Committee (GR Subbasin Plan criteria), and approved by the GRMWP Board of Directors before submitting to BPA for cost-share funding.

CURRENT Metric / Work Element	Value or description
Replace/Maintain Instream Structure	Restore/improve fish passage at 2 culverts, 2 irrigation diversion dams, and several concrete structures (I-84
# of stream miles treated (0.01 mi.)	3-4 miles
Create, Restore, and/or Enhance Wetland	Ladd Rechannel, improve wetland characteristics

1992-026-04 - Life Studies Of Spring Chinook (Expense) ODFW

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.

Accomplishments

In addition to the metrics included, estimates of spring Chinook salmon abundance at various life stages and survival rates were provided to the Interior Columbia River Basin Technical Recovery Team. Estimates of abundance of spring Chinook salmon and steelhead were provided to the Grande Ronde subbasin planning team for use in the EDT modeling effort.

PAST Metric / Work Element	Value or description
Install Fish Trap/Monitoring Weir	Installed and maintained Grande Ronde, Lostine, and Minam River and Catherine Creek traps. (2002 - 2005)
Collect/Generate/Validate Field and Lab Data	Captured steelhead and Chinook salmon migrants at screw traps to determine age, size, and abundance (2002-2005)
Collect/Generate/Validate Field and Lab Data	Captured steelhead and Chinook salmon in Catherine Creek and Chinook salmon in Lostine River to determine abundance of parr rearing in these streams during summer (2002-2004)
Collect/Generate/Validate Field and Lab Data	Observed juvenile Chinook salmon in winter in Catherine Creek and Lostine River and collected measures of habitat variables associated with observed fish (2002-2003)
Collect/Generate/Validate Field and Lab Data	Documented habitat conditions in upper rearing areas of Catherine Creek (2002), upper Grande Ronde River (2003), and Lostine River (2004) to explore relationships between habitat conditions and survival and life history patterns of Chinook salmon in tribs
Mark/Tag Animals	PIT-tagged Chinook salmon and steelhead (8,750 tags in 2002, 6,672 in 2003, and 8,056 in 2004) at rotary screw traps to determine migration patterns and survival rates (2002-2005)
Mark/Tag Animals	PIT-tagged Chinook salmon in late summer in Catherine Creek, Lostine River, Minam River, Imnaha River (4,062 in 2002, 4,033 in 2003, and 3,992 in 2004) to determine population migration patterns and survival rates(2002-2005)
Mark/Tag Animals	PIT-tagged Chinook salmon in winter in Catherine Creek, Grande Ronde River and Lostine River (1,037 tags in 2002, 1,303 in 2003, and 1,478 in 2004) to determine over-winter survival rates (2002-2005)
Mark/Tag Animals	PIT-tagged Chinook salmon in Catherine Creek, Lostine River and Grande Ronde River (2,325 tags in 2002 and 1,803 tags in 2003)to determine use of winter concealment habitat (2002-2003)
Mark/Tag Animals	Marked (PIT tags and fin clips) steelhead and Chinook salmon in Catherine Creek and Chinook salmon in Lostine River to determine abundance of parr rearing in these streams during summer (2002-2005)

Submit/Acquire Data	Uploaded PIT tag files to PSMFC's regional PTAGIS database (2002-2005)
Submit/Acquire Data	Acquired PIT tag observation data from PSMFC's regional PTAGIS database (2002-2005)
Analyze/Interpret Data	Estimated steelhead and Chinook salmon migrant abundance, described spring in-basin migration patterns, and compared among tributary populations (2002-2004)
Analyze/Interpret Data	Estimated summer abundance of juvenile Chinook salmon in Catherine Creek and Lostine River, and steelhead in Catherine Creek and its tributary Milk Creek (2002-2004)
Analyze/Interpret Data	Estimated survival and timing of PIT-tagged steelhead and spring Chinook salmon from various life stages to the Federal Columbia River Power System (2002-2004)
Start and end dates of lease (mm/dd/yyyy)	03/01/2004 to 08/31/2013 for access to Lostine River Fish Trap Site (2004)

Goals

We will continue monitoring the steelhead and spring Chinook salmon populations and their responses to supplementation efforts in the subbasin.

CURRENT Metric / Work Element	Value or description
Install Fish Trap/Monitoring Weir	Install and maintain Grande Ronde, Lostine, and Minam River and Catherine Creek traps
Collect/Generate/Validate Field and Lab Data	Capture steelhead and Chinook salmon migrants at screw traps to determine age, size, and abundance
Collect/Generate/Validate Field and Lab Data	Capture steelhead and Chinook salmon in Catherine Creek and Chinook salmon in Lostine River to determine abundance of parr rearing in these streams during summer
Collect/Generate/Validate Field and Lab Data	Document habitat conditions in rearing areas of Minam River to explore relationships between habitat conditions and survival and life history patterns of Chinook salmon in tributaries.
Mark/Tag Animals	PIT-tag Chinook salmon and steelhead at rotary screw traps to determine migration patterns and survival rates.
Mark/Tag Animals	PIT-tag Chinook salmon in late summer in Catherine Creek, Lostine River, Minam River, Imnaha River to determine population migration patterns and survival rates.
Mark/Tag Animals	PIT-tag Chinook salmon in winter in Catherine Creek, Grande Ronde River and Lostine River to determine over-winter survival rates.
Mark/Tag Animals	Mark (PIT tags and fin clips) steelhead and Chinook salmon in Catherine Creek and Chinook salmon in Lostine River to determine abundance of parr rearing in these streams during summer.
Submit/Acquire Data	Upload PIT tag files to PSMFC's regional PTAGIS database

Blue Mountain	Grande Ronde
Submit/Acquire Data	Acquire PIT tag observation data from PSMFC's regional PTAGIS database
Analyze/Interpret Data	Estimate steelhead and Chinook salmon migrant abundance, describe spring in-basin migration patterns, and compare among tributary populations.
Analyze/Interpret Data	Estimate summer abundance of juvenile Chinook salmon in Catherine Creek and Lostine River, and steelhead in Catherine Creek and its tributary Middle Fork Catherine Creek.
Analyze/Interpret Data	Estimate survival and timing of PIT-tagged steelhead and spring Chinook salmon from various life stages to the Federal Columbia River Power System
Produce Annual Report	Write annual report of accomplishments of project

1996-080-00 - Ne Oregon Wldf Proj (Npt) (Expense) Nez Perce Tribe - Lapwai

Description: Provide funding for the Operation & Maintenance actiities on 16,500 acres of the NEOR Wildlife Mitigation Project located on the breaks of Joseph and Cottonwood Creeks, tributaries of the Grande Ronde River, in NE Oregon.

Accomplishments

Conduct Controlled Burn: Brush removal and pile burning on 20 acres since 2003. 2 acres of broadcast burn done in 2004.
Develop Pond: A small pond was rehabilitated to remove encroaching cattails. One water trough installed.
Improve Road: Maintenance on 5 miles of system roads and ~6 miles of access road. One bridge was re-decked.
Install Fence: 1.5 miles of new fence installed. 12 miles maintained.
Plant Vegetation: 100 aspen trees, 2000 wild rye plugs, 500 pine trees, 30 acres grass.
Remove Vegetation: Brush removed near Basin Cabin to protect it during a wildfire. Over 400 acres of weed control.
Operate/Maintain Facility: Three cabins and several barns are maintained for crew use and equipment storage.
Investigate Trespass: Each year staff round up strays and repair fences. One case of motor vehicle trespass and one case of elk poaching where 3 people were cited.
Remove Debris: 1 mile of old fence removed and several tons of metal debris recycled.
Prepare HEP Report: HEP data collection and analysis done in 2003. Draft report done in 2004. The Project is providing ~20,000 HU for target species.
Outreach and Education: Nez Perce Culture Camp in 2003, a 2004 job fair for high school students, and International Migratory Bird Day events for 3 years.
Coordination: Participated in subbasin planning and reviews of proposed actions on the Wallowa-Whitman N.F. Staff is involved in the CBFWA Wildlife Committee.
Manage and Administer Projects: Subcontracts include helicopter weed spraying, fire protective agreement, and property boundary survey and marking.
Produce Plan: Draft management plan completed in 2003 and is being implemented. See http://www.nezperce.org/Programs/wildlife_program.htm
Reporting: Status and annual reports are on the BPA website.
Develop RM&E Methods and Designs: NPT developed protocols for M&E on the Project. Details in the draft management plan at http://www.nezperce.org/Programs/wildlife_program.htm.
Collect/Generate/Validate Field and Lab Data: Data collection for HEP, amphibian populations.

Goals

Conduct Controlled Burn: Broadcast burn ~15 acres of ponderosa pine forest
Improve Road: Continue early maintenance occurs on 5 miles of system roads as well as ~6 miles of access road. Maintenance includes rock removal, cutbank stabilization, weed control, and deadfall/brush removal.
Install Fence: 2 miles of new fence installation in high priority areas. 14 miles to be maintained.
Remove Vegetation: Continue to remove brush and trees near buildings and facilities to provide defensible space during a wildfire. Treat 40 acres of noxious weeds with integrated methods of control
Operate/Maintain Facility: Three cabins and several barns are maintained to provide crew quarters and equipment storage.
Investigate Trespass: Trespass by livestock is an on-going management issue. Several times each year project staff round up strays and repairing fences.
Remove Debris: One half mile of old fence to be removed and metal debris recycled as necessary.
Outreach and Education: Continue efforts as opportunity presents itself. Participate in local International Migratory Bird Day event.
Coordination: Participate in reviews of proposed actions on the Wallowa-Whitman National Forest which may impact habitat for species within the project area. Maintain involvement with the CBFWA Wildlife Committee.
Manage and Administer Projects: Subcontracted work may include native plant propagation, fire protective agreement, and property boundary survey and marking.
Reporting: Status and annual reports will be completed and posted to the BPA website.

Collect/Generate/Validate Field and Lab Data: Data collection for HEP vegetation monitoring, amphibian populations, butterfly inventory, breeding bird surveys, and small mammal monitoring will be completed.
Submit/Acquire Data: Bird and amphibian data will be submitted to national databases.
Manage/Maintain Databases: Species lists, monitoring data, and GIS themes are all maintained and managed yearly.

1996-083-00 - Grand Ronde Watershed Restore (Expense) Confederated Tribes Of The Umatilla

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 priv. landowners.

Accomplishments

Project accomplishments include: McCoy Meadows Project - 2 mile restoration channel, 3.8 miles fence construction, 450 acre WRP-BPA easement, bridge construction, 2,000 ft. revetments, 10 crossvanes, 30 ac. seeding, planting 20,000 shrubs 1.2 miles channel reclamation; Longley Meadows Project - 1 mile Bear Cr restoration channel, 1,200 ft revetments, 19 crossvanes, 70 pcs.wood/whole tree additions to 1 mile reach Jordan Creek, planting over 40,000 trees/shrubs/sedge/rush plugs, seeding 20 ac., off-channel water sources (1 well, delivery pipe, 9 troughs), 5.7 miles fence, two water gaps, 0.5 miles channel reclamation; Phase 2 Mainstem Grande Ronde Project - 1.5 miles habitat enhancement, construction 950 ft restoration channel, 300 ft revetments, 2 crossvanes, 76 whole trees/lg wood, 3 ac. seeding, planting 10,000 trees/shrubs; Phase 1 Wallowa/McDaniel Restoration Project - 0.5 mile Wallowa restoration channel, 800 ft revetments, 5 rock cross vanes, 10,000+ trees/shrubs/sedges/rushes (ODFW), 3 ac seeding.

Project planning, design, and implementation of listed projects has been facilitated through extensive interagency/staff coordination between ODFW, NRCS, CTUIR, and GRMWP and multiple funding organizations.

Project preparation and implementation included design planning, completion of environmental compliance packages (BA's/consultations for ESA species, permit preparation (ODSL/Corps), preparation of NEPA checklists, and coordination of cultural resource investigations. In addition, subcontracting for construction services, subcontract administration and inspection, and field layout/survey for each project was accomplished.

Project activities included maintenance of fences, structures, vegetation, monitoring/evaluation. M&E includes photo points, groundwater wells, water temperature, vegetation surveys, and cooperative fish habitat/morphological assessments, fish population evaluations.

Project includes participation on GRMWP Board and Tech Co

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	Supplemental Environmental Analyses/NEPA checklists and formal consultations with NOAA Fisheries and USFWS for McCoy Meadows, Longley Meadows, Wallowa River/McDaniel Restoration Project. NEPA checklist for End Creek/Rice Restoration Project.
Produce Environmental Compliance Documentation	Prepared biological assessments to initiate BPA consultations, NEPA checklists, cultural resource investigations, and ODSL/Corps fill-removal permits for McCoy Meadows, Longley Meadows, and Wallowa River/McDaniel Projects.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Participated in monthly Grande Ronde Model Watershed Program Board of Directors as Board Member and Technical Review Team to review annual project funding proposals. Performed as instructor for local school nat res. field day on fish hab/channel morphol.

Coordination	Conducted project coord on McCoy, Longley, Grande Ronde, and Wallowa Projects during planning/design/implementation phases w landowners/agencies. Task also included interagency meetings to initiate planning/design on Meadow Cr and End Creek Projects.
Manage and Administer Projects	Subcontracted and administered 11 subcontracts associated with restoration project construction and fence construction on McCoy, Longley, and Mainstem Grande Ronde River Projects. Assisted ODFW/Wallowa Res. in development of Wallowa proj contrct docs.
Produce Annual Report	Prepared 2002-2003 Annual Report and submitted for BPA-COTR review. 2004 Annual report currently in draft form and in preparation for submittal/review.
Produce Status Report	Prepared quarterly reports and reviewed with BPA COTR to maintain coordination on project progress.
# of stream miles treated (0.01 mi.)	Installed 60 whole trees/large woody debris along 1 mile reach of Jordan Creek within Longley Meadows Project..
# of structures installed	Installed 36 rock cross vanes and 4,300 linear feet of rootwad revetments in streams within McCoy, Longley Meadows, Mainstem Grande Ronde, and Wallowa River Projects to maintain vertical channel stability and outside pool meaders in restoration channels
Develop Alternative Water Source	Constructed off-channel water developments on Longley Meadow Project consisting of a well, 8,600 feet of water delivery pipe, 8 troughs and two water gaps.
# of miles of fence (0.01 mi.)	Constructed 9.5 miles fence on McCoy Meadows and Longley Meadows Restoration Projects.
# of acres of vegetation planted (0.1 ac.)	36 acres of seeding and installation of 50,000+ trees, shrubs, and sedge/rush plugs on three project areas (McCoy, Longley, and Mainstem Grande Ronde River Projects.
# of riparian miles treated (0.01 mi.; count each bank separately)	5 miles of riparian habitat planted on three project areas above.
Enhance Floodplain	Installed, through construction subcontract, 60 foot concrete bridge structure on McCoy Creek to replace existing undersized culvert and improve floodplain connectivity as part of the overall McCoy Meadows restoration plan.
Maintain Terrestrial Structure	Maintained 15 miles of fence within project areas to ensure project effectiveness and minimize livestock damage to resource conservation areas. Tasks included bi-annual fence/water development inspections/repair and monitoring for trespass livestock.
Maintain Vegetation	Annually conducted late spring field review of project areas and planned appropriate plant maintenance activities including re-installation of protection tubes and screens. Conducted periodic irrigation based on summer seasonal conditions and plant vigor

Collect/Generate/Validate Field and Lab Data	Annually deployed up to 18 thermographs, took 30-40 photopoints, participated in fish habitat/morphological surveys and fish population surveys, conduct vegetation plot surveys, collected groundwater data, and continued development of GIS data layers.
# of stream miles treated before realignment (0.1 mi.)	Pre-project stream miles: 0.5 miles McCoy Cr, 0.5 miles Bear Cr, 500 ft Mainstem Grande Ronde, 0.25 miles Wallowa River.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	Restoration channels constructed/enhanced: 1.6 miles McCoy Cr, 1.2 miles Bear Cr, 950 ft Mainstem Grande Ronde, 0.5 miles Wallowa River.
Start and end lat/long of treated reach (0.1")	McCy-04516'04.86"N,11825'0222"W/04515'51.49"N,11823'38.98"W; Bear-04518'06.85"N,11816'55.3"W/04518'31.60"N,11817'06.22"W; GRonde-04518'14.28"N, 11817'37.70"W/04518'40.26"N, 11816'35.44"W; Wallowa-04529'24.45"N,11724'17.73"W/04529'39.85"N,11724'27.75"W

Goals

5/06 - Conduct field education for local school district on fish habitat/channel morphology.

10/05-9/06 - participate on monthly GRMWP Board of Directors meetings. Participate on technical committee as needed to address resource issues and review annual project funding proposals.

10/05-9/06 - WE encompasses administrative functions to implement project.

3/05 - Annual report to meet BPA contractual requirements.

10/05-9/06 - report on quarterly progress (Pisces).

10/05 - 3/06 - Complete planning/design and permitting for End Cr/Rice Project. Project orginated with single landowner (600 acres) and expanded to include 2 additional landowners (250 acres contiguous)in 2005. Additional planning/design required to implement project.

6/06-8/06 - Implement End Creek/Rice Restoration Project. Includes construction to activate restoration channels constructed in 2005, reclamation of channelized stream segments, fish salvage/trap & haul, phase 1 construction on new project elements, and fence construction. Planting to be completed during fall-winter dormancy period. Project includes 3 landowners, approx 850 acres conservation easements, and 8-10 miles of fish bearing streams and spring fed tributaries in Willow Cr Watershed (tribuary to middle Grande Ronde River). Project goals/objectives are to restore natural channel/floodplain function in Willow Cr system substantially altered by channelization.

7/06 - Implement phase 2 Meadow Cr. Project involving activation of new/historic channel network and relcamation of existing channel network. Planting to be completed during fall-spring dormancy period.

5/06 - Conduct late spring field review of fences, water gaps, and water sources prior to May livestock turnout. Conduct necessary maintenance to ensure effectiveness.

5/06-8/06 - Maintain planted vegetation on project areas including protection tubes/devises and water application as necessary to improve survival.

10/06-9/06 Conduct M&E

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	WE includes preparation of documentation (NEPA checklists, biological assessments, permit applications, etc.)
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Participate in LaGrande School District Outdoor School at Spring Creek. Participate in GRMWP Public Involvement and Education Program.
Coordination	Participate on Grande Ronde Model Watershed Program Board of Directors and Technical Committee.
Manage and Administer Projects	Develop Statement of Work in Pisces format with accompanying budget, work element budget, and spending plan. Develop/track budget accruals. Prepare/submit invoices to BPA. Admin/inspect subcontracts. Maintain vehicles. Attend professional training.
Produce Annual Report	Prepare CTUIR Grande Ronde Subbasin Restoration Project, 2006 Annual Report.
Produce Status Report	Prepare and submit quarterly reports.
# of stream miles treated before realignment (0.1 mi.)	6-8 miles End Cr, S Fk Willow Cr, McDonald Cr, Unnamed tributaries (End Cr), Meadow Cr, Ladd Cr.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	10-12 miles End Cr, S. Fk. Willow Cr, McDonald Cr, Unnamed tributary springs and swells, Meadow Cr, Ladd Cr.Implement phase 2 of Meadow Creek Project. WE includes design/construction.
Start and end lat/long of treated reach (0.1")	End Cr (04528'8.80"N/11802'38.02"W to 04527'37.67"N/11800'48.78W; Meadow Cr (04515'23.53"N/11824'23.55"W to 04515'53.99"N/11823'26.89"W; Ladd Cr (ODFW) 04514'47.14"N/11759'55.51"W to 04527'37.67"N/11800'48.78"W.
# of miles of fence (0.01 mi.)	Install/reconstruct 4 miles fence along conservation easement boundary on End Creek/Rice Restoration Project
# of acres of vegetation planted (0.1 ac.)	Plant trees and shrubs (est 10-15,000 stems) and seed an est 30 acres within project areas (End Cr & Meadow Cr Projects) to facilitate vegetative recovery/establishment following restoration activities.
# of riparian miles treated (0.01 mi.; count each bank separately)	Plant trees and shrubs and apply native seed mix along 8-12 miles of project streams (End Cr & Meadow Cr projects).
Maintain Terrestrial Structure	Maintain approximately 15 miles of fence to control livestock access to riparian conservation easements.Maintain 8 off-channel water developments to provide livestock water sources and protect riparian/instream habitat.

Maintain Vegetation	WE includes installation/reinstallation of protection tubes, fertilizer, and bi-weekly watering on 4 primary project areas.WE also includes maintenance of temporary irrigation systems to improve plant survival (End Creek/Rice and Meadow Creek Projects
Collect/Generate/Validate Field and Lab Data	Secure aerial photography, take project photopoints, conduct hab surveys, collect water quality data, collect groundwater data, collect fish pop/presence/spawning data, conduct plant surveys. Maintain/summarize data.

1998-007-02 - Grande Ronde Supp Lostine O&M/M&E (Expense) Nez Perce Tribe - Lapwai

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 (GRESP).

Accomplishments

This project is a supplementation project for ESA listed Snake River spring chinook salmon in the Grande Ronde River.

The O&M component of this project has been operating an adult collection facility for Lostine River spring chinook salmon since 1997 and acclimating and releasing juvenile progeny from conventional and captive broodstock since 1999.

The M&E component of this project has provided a number of the key performance measures identified in Table 63 on page 273 of the May 28, 2004 Grande Ronde Subbasin Plan. Since the last 2003 provincial review the following was accomplished:

- Adult escapement was estimated for 2002 to 2004
- The number of fish per redd and spawner abundance was estimated for 2002 to 2004
- The fraction of hatchery Chinook salmon for the returning, spawning, and broodstock populations was estimated for 1997 to 2004
- The RMIS database was queried for CWT recoveries in the ocean, below Lower Granite Dam, and above Lower Granite Dam for brood years 1997 to 1999
- Juvenile abundance of hatchery Chinook salmon and their mark retention rates was summarized from 2002 to 2004
- Juvenile survival was estimated from release to Lower Granite Dam and McNary Dam from 1997 to 2004 and compared to natural fish and the influence of size on survival was analyzed
- Smolt-to-adult-return rates were calculated from release to return in the Lostine River for brood years 1997 to 1999
- Age structure of returning adults was calculated from adult returns in 2002 to 2004
- The sex ratio of adult returns in 2002 to 2004 was calculated
- Adult run timing at the weir was calculated from 2002 to 2004
- Spawning timing of broodstock was summarized from 1997 to 2004
- Spawning distribution was summarized by spawning survey reach from 2002 to 2004
- Size at emigration was estimated from 2002 to 2004
- Juvenile median arrival timing at Lower Granite Dam was summarized from 2002 to 2004

PAST Metric / Work Element	Value or description
Coordination	Meetings attended per year: 15 (10 TOT, 1 pre-AOP, 1 AOP, 2 NPT coordination meetings, and 1 ODFW coordination meeting for data collection from the Lostine River Screw trap)
Produce Environmental Compliance Documentation	Were ESA annual report requirements met? Yes (ESA reports for 2002, and 2003 have been completed)
Manage and Administer Projects	Were accrual and FY budgets submitted to BPA? Yes (2003 to 2006)
Mark/Tag Animals	Number of hatchery Chinook salmon tagged: 2002 – 7,997, 2003 – 3,985, 2004 – 7,951
Submit/Acquire Data	Was data submitted to PTAGIS? Yes (tagging and interrogaton data files were submitted for 2002 to 2005)

Collect/Generate/Validate Field and Lab Data	# of juvenile data sets collected per year: 5 (stream discharge, pre-release sampling, # juvenile volitional departures from acclimation ponds, size at emigration, & juvenile interrogation data at mainstem dams)
Collect/Generate/Validate Field and Lab Data	# of adult data sets collected per year: 4 (bank survey data, weir catch records, broodstock spawning records, spawning ground survey data)
Manage/Maintain Database	Was all data collected archived in a database and is it available internally? Yes (2002, 2003, & 2004)
Analyze/Interpret Data	# of Grande Ronde Subbasin Plan M&E performance measures documented per year: 7 (juvenile abundance, juvenile migration timing, juvenile survival, adult abundance, adult spawner distribution, age at return, and SARs
Produce Status Report	Number of quarterly reports produced per year: 4 (all quarterly reports from 1998 to 2004 have been completed and submitted to BPA)
Produce Annual Report	Number of Annual Reports produced: 4 (2000, 2001 - 2002, 2003 in ESA report format.)
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S
# of fish released	2002 - 109,015, 2003 - 242,844, 2004 - 250,248, 2005 - 164,819
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S
# of fish by origin (ad-clip/non-clip)	2002 - 265 (N), 278 (H); 2003 - 239 (N), 225 (H); 299 (N), 792 (H)
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S
# of fish transported	2002 - 100, 2003 - 300, 2004 - 500. Transport occurs in the Lostine River around a "dewatered zone" during August-September due to irrigation withdrawls, broodstock to Lookingglass Hatchery in Elgin, and outplants of adults to natural spawning habitat.
Maintain Hatchery	Annual maintenance and repair at the Lostine Acclimation Facility and Adult Collection facility, equipment associated with fish culture activities, 4 GSA vehicles.

Goals

The overall goal of this supplementation program is; 1) to prevent extinction, 2) to provide a future basis to reverse the decline in stock abundance, and 3) to ensure a high probability of population persistence. The Nez Perce Tribe is

responsible for implementation, coordination, and facilitation of the Lostine River component of the Grande Ronde Supplementation projects.

O&M Goals: Operate and maintain adult collection and juvenile acclimation and release facilities necessary to implement the Lostine River portion of the Grande Ronde Supplementation Program and achieve the overall program goal of increasing adult returns.

The principal goals of the M&E project are threefold; 1) establish and maintain baseline information on the Lostine River spring chinook salmon population, 2) monitor and evaluate the effectiveness of supplementation under the Grande Ronde Basin Endemic Spring Chinook Salmon Supplementation Program, 3) provide science-based recommendations for management and policy consideration.

CURRENT Metric / Work Element	Value or description
Coordination	Attend 15 meetings per year (10 TOT, 1 pre-AOP, 1 AOP, 2 NPT for coordination, and 1 with ODFW for coordination)
Manage and Administer Projects	Prepare and submit FY budget and accrual estimate to COTR
Produce Environmental Compliance Documentation	Produce an annual summary of permitted take for the Section 10 permit for the NPT ESA Coordinator
Mark/Tag Animals	PIT tag 6,400 juvenile hatchery Chinook salmon
Submit/Acquire Data	Validate data and submit PIT tagging and interrogation data to PTAGIS
Collect/Generate/Validate Field and Lab Data	Provide five sets of juvenile data per year: (stream discharge, pre-release sampling, # juvenile volitional departures from acclimation, size at emigration, & juvenile interrogation data at mainstem dams)
Collect/Generate/Validate Field and Lab Data	Provide four sets of adult data sets per year: (bank survey data, weir catch records, broodstock spawning records, spawning ground survey data)
Manage/Maintain Database	Archive annual catch in a database provided internally to NPT Fisheries
Analyze/Interpret Data	Produce seven of the Grande Ronde Subbasin M&E plan performance measures: (juvenile abundance, juvenile migration timing, juvenile survival, adult abundance, adult spawner distribution, age at return, and SARs)
Disseminate Raw & Summary Data	Present project results at the Idaho Chapter of AFS in February of 2006 (poster or presentation)
Produce Annual Report	Produce one annual report per year summarizing M&E activities and results
Produce Status Report	Submit four quarterly online status reports per year
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S
# of fish released	250,000

Maintain Hatchery	Continue maintenance and repair of Lostine Acclimation Facility and Adult Collection Facility, fish culture equipment, GSA vehicles
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S
# of fish transported	Continue transport of fish selected for broodstock (150) to Lookingglass Hatchery for holding and spawning, transport of fish around "dewatered zone" in Lostine River, and transport adults to natural spawning habitat in Wallowa watershed.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S

1998-007-03 - Grande Ronde Supp. O&M/M&E (Expense) Confederated Tribes Of The Umatilla

Description: Develop, implement, and evaluate integrated conventional and captive brood hatchery projects to prevent extinction, and stabilize populations of threatened spring chinook salmon populations in the Grande Ronde River.

Accomplishments

2002-Catherine Creek Spring Chinook;acclimated and released 180,343 smolts. Trapped 138 HAT fish and 166 NOR fish. Transported 35 NOR adults and 3 NOR jacks to LGH. Spawned 20 females at LGH. Grande Ronde Spring Chinook; acclimated and released 151,444 smolts. Trapped 4 HAT fish and 102 NOR fish. Transported 48 NOR adults and 1 NOR jack to LGH. Spawned 21 females at LGH. Summer Steelhead CC 256, GR 36.
2003-Catherine Creek Spring Chinook;acclimated and released 129,705 smolts. Trapped 305 HAT fish and 254 NOR fish. Transported 49 NOR adults and 2 NOR jacks to LGH. Spawned 28 females at LGH. Grande Ronde Spring Chinook; acclimated and released 237,560 smolts. Trapped 42 HAT fish and 121 NOR fish. Transported 71 NOR adults and 1 NOR jack to LGH. Spawned 23 females at LGH. Summer Steelhead CC 226, GR 56.
2004-Catherine Creek Spring Chinook;acclimated and released 163,372 smolts. Trapped 626 HAT fish and 89 NOR fish. Transported 16 NOR adults and 1 NOR jack and 1 HAT jack to LGH. Spawned 9 females at LGH. Grande Ronde Spring Chinook; acclimated and released 148,804 smolts. Trapped 424 HAT fish and 33 NOR fish. Transported 14 NOR adults and 2 NOR jack and 1 HAT jack to LGH. Spawned 7 females at LGH. Summer Steelhead CC 181, GR 63.
2005-Catherine Creek Spring Chinook;acclimated and released 189,580 smolts. Grande Ronde Spring Chinook; acclimated and released 105,369 smolts.
Completed 26 quarterly progress reports and 4 annual reports during 2002-2005.
2002-2004 Summarized water temperature and streamflow data for Catherine Creek and the upper Grande Ronde River. Described life history for adult summer steelhead collected from 2002-2004. Described and compared life history for hatchery and wild juvenile spring Chinook salmon released from acclimation facilities. Described and compared life history for adult spring Chinook salmon collected at Catherine Creek and upper Grande Ronde River adult trapping facilities.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Acquire necessary permits and other authorizations to implement the project. Completed 2002-2005.
Coordination	Participated in meetings and consultations with comanagers. Included annual LSRCP cooperators meetings, LSRCP and Captive Broodstock AOP development, Technical Oversight Team meetings, Completed 2002-2004.
Manage and Administer Projects	Conducted project related administrative tasks. Statement of work/budget, purchasing, tracking expenditures, supervision. Completed 2002-2004.
Produce Annual Report	Prepared annual reports (O&M, M&E) that documents project accomplishments. Completed (M&E) 2002, (O&M) 2002-2004
Produce Status Report	Prepared and submitted 8 quarterly progress reports. Completed 2002-2004.
Produce/Submit Scientific Findings Report	Produce peer-reviewed publications and papers for professional society meetings. Two papers presented (1 in 2004, 1 in 2005).

Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S Catherine Creek Adult Trap
# of fish by origin (ad-clip/non-clip)	1,069/509 Catherine Creek Adult Trap 2002 to 2004
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Adipose clip:Jack 4; Male 40 4year, 4 5year; Female 52 4year 1 5year.Unmarked: Jack 2; Male 6 4year, 7 5year; Female 58 4year 53 5year.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S Catherine Creek Acclimation Site
# of fish released	663,000 Catherine Creek Acclimation 2002 to 2005
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S Catherine Creek Adult Trap
# of fish transported	584 From Catherine Creek Adult Trap
Install Fish Trap/Monitoring Weir	We install and remove weirs on the upper Grande Ronde River and Catherine Creek each year to enumerate and monitor steelhead populations and capture spring chinook broodstock for the hatchery program and regulate hatchery and wild fish passage.
Collect/Generate/Validate Field and Lab Data	Collect field and laboratory data for juvenile and adult spring Chinook salmond, adult summer steelhead, and water quality. Completed 2002-2004.
Mark/Tag Animals	Mark adult summer steelhead and adult spring Chinook salmon captured in the Catherine Creek and upper Grande Ronde River traps with opercle punches. Assist ODFW in PIT tagging. Completed 2002-2004.
Submit/Acquire Data	Obtain fish tagging and environmental data from various agencies. Completed 2002-2004.
Manage/Maintain Database	Create and maintain spreadsheets on local computeres with data on individual fish, sampling dates and locations, and environmental conditions. Completed 2002-2004.
Disseminate Raw & Summary Data	Create and disseminate weekly reports to comanagers (completed 2002-2004). Make selected data available on the Internet, using existing CTUIR website (2005, 2006).

Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S Grande Ronde Adult Trap
# of fish by origin (ad-clip/non-clip)	470/256 Grande Ronde Adult Trap 2002 to 2004
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S Grande Ronde Acclimation Site
# of fish released	643,177 Grande Ronde Acclimation 2002 to 2005
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S Grande Ronde Adult Trap
# of fish transported	138 from Grande Ronde Adult Trap
Install Fish Trap/Monitoring Weir	Install weir and trap at the Upper Grande Ronde and Catherine Creek sites to enumerate adult returns and collect broodstock and fish for outplanting.
Analyze/Interpret Data	Summarized water temperature and stream flow data for Catherine Creek and the upper Grande Ronde River relative to juvenile outmigration and adult escapement. Completed 2002-2004.
Analyze/Interpret Data	Summarized and compared life histories of hatchery-origin spring Chinook salmon for Catherine Creek and the upper Grande Ronde River, including release method (forceout, volitional)and rearing types (capt/conv broodstock, hatchery/wild origin)for 2002-04.
Analyze/Interpret Data	Summarized and compared life histories of hatchery and wild-origin spring Chinook salmon from Catherine Creek and the upper Grande Ronde River using length/age frequencies, sex ratios, and migration timing for 2002-2004.

Goals

2005-Complete trapping and collecting data. Tabulate and analyze data, draft and complete annual reports. 2006-Catherine Creek Spring Chinook;acclimate and release 69,100 smolts. Trap HAT fish NOR fish. Transport HAT and NOR adults LGH. Spawn females at LGH. Grande Ronde Spring Chinook; acclimate and release 17,500 smolts. Trap HAT fish NOR fish. Transport HAT and NOR adults to LGH. Spawn females at LGH. Enumerate Summer Steelhead at Catherine Creek and upper Grande Ronde.
Complete trapping and collecting data. Tabulate and analyze data, draft and complete annual reports. Complete database management, data acquisition, data dissemination, coordination and administrative taks for 2005-2006.

CURRENT Metric / Work Element	Value or description

Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S Catherine Creek Acclimation Site
# of fish released	17,400 Grande Ronde Acclimation
BPA Environmental Compliance	Acquire necessary permits and other authorizations to implement the project.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S Grande Ronde Acclimation Site
# of fish released	69,100 Catherine Creek Acclimation
Manage and Administer Projects	Submit annual budget package to BPA for 2007
Coordination	Participate in co-manager meetings to review and revise project implementation.
Install Fish Trap/Monitoring Weir	Install weir and trap at the Upper Grande Ronde and Catherine Creek sites to enumerate adult returns and collect broodstock and fish for outplanting.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S Grande Ronde Adult and Catherine Creek Adult
# of fish by origin (ad-clip/non-clip)	Unknown return size in 2006.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S Grande Ronde Adult and Catherine Creek Adult
# of fish transported	Unknown number to transport
Maintain Hatchery	Provide maintenance for the 2 acclimation facilities and 2 adult capture facilities on Catherine Creek and the Upper Grande Ronde and the shop/office in La Grande.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S 3 stocks of fish to spawn at Lookingglass Hatchery (Grande Ronde, Catherine Creek, and Lookingglass Creek).
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Unknown number to spawn.
Collect/Generate/Validate Field and Lab Data	Collect data on juvenile fish acclimated and adult fish trapped and spawned.
Disseminate Raw & Summary Data	Complete and distribute weekly reports on facility activities and numbers.

Analyze/Interpret Data	Analyze collected data for use in making management/Staff decisions (internal).
Produce Status Report	Status reporting of milestones. Quarterly reports.
Produce Annual Report	Write annual report

1998-007-04 - Grande Ronde Sp Chinook-Odf&W (Expense) ODFW

Description: Work with comanagers to implement the Grande Ronde Endemic Spring Chinook Supplementation Program (GRESCSP).

Accomplishments

2002 Fish production LR-31,500
Fish health: No signs of BKD, culture assays were negative for virus, low level external parasites present (Scyphidia and Epistylis).
2003 Fish Production CC-24,400 LR-128,000 UGR-26,900
Fish health: No signs of BKD and culture assays were negative for virus.
Redd surveys: 120 miles sampled which included index area plus expanded area and 2 supplemental surveys (3 surveys). Total new redds 1,005.
2004 Fish Production CC-71,000 LR-116,000 UGR-70,200
Fish health: Low level BKD and culture assays were negative for virus. CC and UGR low level positive for aeromands-pseudomonad bacteria
Redd surveys: 130 miles sampled which included index area plus expanded area and 2 supplemental surveys (3 surveys). Total new redds 794

Goals

Endemic fish production production goals:
Spring chinook- Catherine Creek (CC)-120,000, Lostine River (LR)-- 120,000 and Upper Grande Ronde (UGR)--120,000. Other production from captive brood stock program
Fish health status at release
Assist Redds surveys (extended and supplemental areas)

1998-010-01 - Grande Ronde Captive Brood O&M (Expense) ODFW

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.

Accomplishments

•Cooperation among co-management agencies (Oregon Department of Fish and Wildlife, Confederated Tribes of the Umatilla Indian Reservation, Nez Perce Tribe and NOAA Fisheries)
•Collaboration with other scientists, specifically to develop and evaluate innovative methodologies for improving fish husbandry and disease treatment/prevention, which have applications to both captive broodstock programs and conventional hatchery programs.
•Completed a compendium project status report covering the years 1995-2002 and providing background, methods and results to that date (Hoffnagle, T. L., R. W. Carmichael and W. T Noll. 2003. Grande Ronde Basin spring chinook salmon captive broodstock program, 1995-2002 project status report. Fish Research and Development Project, Oregon, Northeast Region, Oregon Department of Fish and Wildlife, La Grande).
•Collected 500 parr from each of the program streams (Catherine Creek, upper Grande Ronde River and Lostine River) annually.
•We have accumulated sufficient data to make conclusions regarding our hatchery rearing strategies - accelerated vs. natural pre-smolt growth and freshwater vs. saltwater post-smolt rearing.
•We have released a total of 1,592,337 smolts from 2000-2005 (1998-2003 cohorts), a mean of 265,364 smolts per year.
•Return rates have exceeded the expected rate (0.1%).
•Captive broodstock F1 generation returns comprised 48% of the returning adults in the Lostine River, 88% in Catherine Creek and 93% in Grande Ronde River.
•The co-management agencies developed a cooperative hatchery management plan for the Grande Ronde and Imnaha basins.
•Responded to all Issue 12 requests and were given excellent comments by the ISRP, who stated that the experimental design “has the potential to provide meaningful insight into whether or not captive propagation can provide anything more than hatchery-origin adults returning from the ocean” and that the design should “remain intact”.

PAST Metric / Work Element	Value or description
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Purpose: ESA recovery (S) and Research (R)
# of fish by origin (ad-clip/non-clip)	Collected 500 natural Chinook salmon smolts from each of the upper Grande Ronde River, Lostine River and Catherine Creek each year. These fish are held in captivity until maturation, spawned and their offspring released into their parent's natal stream
Rearing: # fish into program (fish ponded), by life stage and species	We have reared 500 natural Chinook salmon parr collected per year from each of the Grande Ronde River, Lostine River and Catherine Creek. Mean survival rate from parr to maturation has been 61%.
Production: # fish released from program, by life stage and species	We have released a total of 1,592,337 Chinook salmon smolts from 2000-2005 (1998-2003 cohorts), a mean of 265,364 smolts per year.

Incubation: # fertilized eggs into incubation program, by species	We have produced a total of 1,883,601 fertilized eggs from 2001-2004, a mean of 470,900 fertilized eggs per year from 1,500 wild parr collected per year.
Incubation: # fry (button-up) produced, by species	We have produced a total of 1,433,097 fry from 2001-2004, a mean of 358,274 fry per year from 1,500 wild parr collected per year.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	ESA recovery (S) and Research (R)
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	We collected 500 natural Chinook salmon parr per year from each of the Grande Ronde River, Lostine River and Catherine Creek.
BPA Environmental Compliance	Kept ESA Section 10 permitting currrent.
Manage and Administer Projects	Conducted the program and developed SOW and annual reports
Maintain Fish Health	We treated fish prophylactially for diseases and treated them as needed. We also tested a BKD vaccine and plan more tests.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Purpose: ESA recovery (S) and Research (R)
# of fish transported	We safely transported up to 1500 Chinook salmon parr from streams to the hatchery, smolts from Wallowa hatchery to Bonneville hatchery or Manchester Research Station and maturing adults from Manchester to Bonneville.
Mark/Tag Animals	We implanted PIT tags and VI tags into all program salmon.
Analyze/Interpret Data	We compiled, analyzed, interpreted and reported on data and conducted an experiment to evaluate the use of erythromycin and azithromycin to prevent vertical transmission of BKD.

Goals

•In September/October 2005, we will spawn approximately 180 female Chinook salmon and 300 males, resulting in approximately 310,000 eggs. We will also collect data on growth, fecundity and health of the salmon.
•We will collect approximately 300 eggs from females spawned in the Grande Ronde River conventional program for use in evaluating the potential for using eggs from a conventional program for use in a captive broodstock program, instead of wild parr - this may reduce BKD in the captive program but may also have detrimental genetic consequences, which we will evaluate.
•We will periodically sample captive broodstock salmon to monitor growth and health.
•We will treat diseases when necessary.
•We will begin to evaluate the effectiveness of a BKD vaccine, prediction of vertical transmission of BKD and the effectiveness of two drugs to prevent vertical transmission of BKD.
•We will conduct maturity sorts in April and May to separate maturing salmon from immature salmon using innovative methodologies (ultrasound and near-infrared spectroscopy).
•We will transport maturing salmon reared at Manchester Research Station (saltwater) to freshwater rearing facilities at Bonneville Fish Hatchery.
•We will transport 2004 cohort smolts from pre-smolt rearing facilities at Wallowa Fish Hatchery to Bonneville Fish

Hatchery and Manchester Research Station.
•In August 2006, we will collect the 2005 cohort of captive broodstock from the program streams (Catherine Creek, upper Grande Ronde River and Lostine River) and transport them for pre-smolt rearing at Wallowa Fish Hatchery.
•In May-September 2006, we will monitor weirs on program streams and conduct spawning ground surveys to collect data on return rates of captive broodstock offspring and tissue samples for DNA analyses to evaluate spawning success of captive broodstock offspring.
•In September and October 2006, we will begin spawning to produce the 2006 F1 generation cohort.
•We will submit annual and quarterly reports.

CURRENT Metric / Work Element	Value or description
BPA Environmental Compliance	Keep ESA Section 10 poermit current and provide reports to NMFS, as required by the permit
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Purpose: ESA recovery (S) and Research (R)
# of fish by origin (ad-clip/non-clip)	Collect up to 500 wild parr from each of the Grande Ronde River, Lostine Reiver and Catherine Creek and up to 500 eggs from Grande Ronde River from the Grande Ronde River Conventional Hathcery program to rear to maturation, spawning and releas offspring.
Manage and Administer Projects	Conduct project, draft SOW, accrual and metric reports
Production: # fish released from program, by life stage and species	Our goal is to release 150,000 Chinook salmon smolts into each of the Grande Ronde River, Lostine River and Catherine Creek.
Incubation: # fertilized eggs into incubation program, by species	Our goal is to fertilize 200,000 eggs in order to release 150,000 Chinook salmon smolts into each of the Grande Ronde River, Lostine River and Catherine Creek.
Incubation: # fry (button-up) produced, by species	Our goal is to hatch 170,000 fry in order to release 150,000 Chinook salmon smolts into each of the Grande Ronde River, Lostine River and Catherine Creek.
Rearing: # fish into program (fish ponded), by life stage and species	We collect 500 wild parr from each of the program streams.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Purpose: ESA recovery (S) and Research (R)
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Broodstock will be collected as wild parr and as eggs from the Grande Ronce River Conventional Hatchery Program.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Purpose: ESA recovery (S) and Research (R)

# of fish transported	We will transport Chinook salmon smolts from Wallowa Fish Hatchery to Bonneille Fish Hatchery and Manchester Research Station. Maturing aduls will be transported from Manchester to Bonneville.
Maintain Fish Health	We will treat fish prophylactically and, as needed, whenever diseases occurs.
Produce Annual Report	We will produce an annual report on all activities.
Produce Status Report	We will produce quarterly status reports on all activities.
Mark/Tag Animals	We will implant PIT tags into all program fish.
Analyze/Interpret Data	We will compile, analyze, interpret and report data as it becomes available. We will conduct more experiments to help us prevent and treat bacterial kidney disease.

1998-010-06 - Captive Broodstock Artificial (Expense) Nez Perce Tribe - Lapwai

Description: Implement 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.

Accomplishments

Each captive brood cycle begins when 300/500 wild parr are collected from each of the three streams. Collections have occurred every year since 1995. In-hatchery monitoring continues from the parr-smolt transformation at Wallowa Fish Hatchery through adult spawning at Bonneville Hatchery. F1 generation monitoring occurs from eye-up through adult return in the natural environment.

1994 Cohort
A total of 498, 110 and 499 parr were collected from Catherine Creek and upper Grande Ronde and Lostine rivers, respectively, in 1995. Of the 1,107 fish removed from the captive populations, 621 survived to gamete collection – spawned or had semen cryo-preserved.

1995 Cohort
A total of 500 and 481 parr were collected from Catherine Creek and Lostine River, respectively, in 1996. Of the 981 fish removed from the natural populations, 513 survived to gamete collection.

1996 Cohort
A total of 500, 500 and 501 parr were collected from Catherine Creek and upper Grande Ronde and Lostine rivers, respectively, in 1997. Of the 1,496 fish removed from the captive populations, 1,012 survived to gamete collection.

1997 Cohort
Five hundred parr were collected in 1998 from each of Catherine Creek and upper Grande Ronde and Lostine rivers, respectively. Of the original 1500 fish 1082 survived to produce gametes.

1998 Cohort
A total of 500, 500 and 498 parr were collected in 1999 from Catherine Creek and upper Grande Ronde and Lostine rivers, respectively. During 2003, the final 68 fish were removed from the captive population: 21 survived to gamete collection.

1999 Cohort
A total of 503 and 500 parr were collected in 2000 from Catherine Creek and Lostine River, respectively – no Grande Ronde parr were collected in 2000. During 2003, 496 fish were removed from the captive population: 354 survived to gamete collection.

2000 Cohort
A total of 503, 502 and 503 parr were collected in 2001 from Catherine Creek and upper Grande Ronde and Lostine rivers, respectively. During 2003, 686 fish were removed from the captive population: 380 survived to gamete collection.

2001 Cohort
A total of 500, 461 and 500 spring Chinook salmon parr were collected from each of Catherine Creek and Grande Ronde and Lostine rivers in August 2002. Of the 193 fish removed from the population in 2003, 65 produced gametes.

2002 Cohort
A total of 513, 503 and 500 spring Chinook salmon parr were collected from each of Catherine Creek and Grande Ronde and Lostine rivers in August 2003 and reared at WFH.

PAST Metric / Work Element	Value or description
Coordination	Coordinated the Captive Broodstock Artificial Propagation project with state and federal management agencies in the Grande Ronde Basin since 2002. AOP Plans, TOT decisions, and coordinated actions have occurred as a result.
Manage and Administer Projects	Prepared a Statement of Work for every contract year since 2002 that identified research objectives and tasks.
Produce Annual Report	Assisted ODFW in preparing a cooperative annual report that documented Captive Broodstock research activities and results since the beginning of the program.
Produce Status Report	Prepared 4 quarterly progress reports each year since 2002
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Each year since 2002 captive broodstock adults reared at Bonneville Hatchery and at the Manchester Research Station have been spawned at BOH and excess males cryopreserved.
Collect/Generate/Validate Field and Lab Data	Monitored and evaluated captive broodstock parr at Lookingglass Fish Hatchery and Wallowa Fish Hatchery with ODFW and CTUIR. Growth profiles and survival rates according to rearing type and cohort have been developed each year since 2002.
Mark/Tag Animals	NPT and ODFW staff PIT tagged newly captured captive broodstock at Lookingglass Fish Hatchery and Wallowa Fish Hatchery every year since 2002.
Submit/Acquire Data	Transfered cryopreservation and other M&E data collected during captive spawning to the central captive brood database to facilitate the use of information by all co-managers.
Manage/Maintain Database	Assisted in computer database management of all monitoring information collected on Chinook captive broodstock at WFH, MRS, and BOH.
Analyze/Interpret Data	Analyzed data and organized results into briefing papers, tables and figures for use in technical and management forums (e.g. internal NPT meetings, AOP meetings, LSRCP symposiums, ISRP requests and presentations, U.S. vs Oregon, etc.).
Collect/Generate/Validate Field and Lab Data	Monitored and evaluated captive broodstock post smolts reared at Bonneville Hatchery and at the Manchester Research Station. NPT participated with ODFW and CTUIR in the analysis of growth, mortalities, and maturity status of post smolt captive broodstock
Mark/Tag Animals	NPT and ODFW staff VI tagged each newly captured cohort at Bonneville Fish Hatchery and Manchester Research Station.
Collect/Generate/Validate Field and Lab Data	Monitored & evaluated spawned captive broodstock adults reared at Bonneville Hatchery and at the Manchester Research Station. Collected fork length, weight, survival to spawn, spawn timing, fecundity, and egg weight of fresh and saltwater reared fish.

Collect/Generate/Validate Field and Lab Data	Monitored and evaluated the F1 generation offspring from eyed egg through smolt emigration. Collected mortality, size and condition factors, tag retention, diel movement, and emigration survival and timing information from juvenile F1 captive offspring.
Mark/Tag Animals	NPT and ODFW staff PIT tagged a representative group (8,000 per year) of captive F1 generation parr at Lookingglass Fish Hatchery.
Install Fish Trap/Monitoring Weir	Coordinated the installation and removal of the Lostine weir. As a monitoring tool, the Lostine weir provides information on the abundance and characteristics of immigrating adult salmon. Conventional, captive and natural performance can then be compared
Collect/Generate/Validate Field and Lab Data	Collected biological characteristics, abundance and timing of the adult salmon trapped at the Lostine weir each return year since 2002.
Mark/Tag Animals	Coordinated the opercle punch pattern to be used in "mark/recapture studies upstream of the Lostine weir.
Collect/Generate/Validate Field and Lab Data	Conducted redd counts and carcass surveys on the Lostine River and all reference study streams. Recorded redd locations and documented the number of live fish and their origin (hatchery or natural) during each survey. Pertinent biological information (l
Collect/Generate/Validate Field and Lab Data	Collected tissue samples for DNA analysis from all adult Chinook salmon released to spawn naturally upstream of escapement weirs and unpunched carcasses above the weir.

Goals

1. To prevent extirpation of native Grande Ronde Basin spring Chinook salmon.
2. To preserve and enhance Grande Ronde Basin spring Chinook salmon through implementation and use of the captive broodstock program.
3. Maintain genetic and phenotypic characteristics in the natural population of salmon in the Grande Ronde Basin.

Objectives

1. Coordinate the Captive Broodstock Artificial Propagation project with state and federal management agencies in the Grande Ronde Basin.
2. Monitor and evaluate captive broodstock with ODFW and CTUIR.
- Monitor and evaluate captive broodstock parr at Lookingglass Fish Hatchery (LFH) with ODFW and CTUIR.
- Monitor and evaluate captive broodstock post smolts reared at Bonneville Hatchery (BOH) and at the Manchester Research Station (MRS).

3. Monitor and evaluate the F1 generation offspring.
- Monitor and evaluate the captive F1 generation juveniles.
- Monitor and evaluate the captive F1 generation adults.

4. Technology Transfer.

2006 Anticipated Accomplishments: Collect 300 wild Chinook parr from the Lostine River. PIT tag 1300 captive parr. Collect biological information from the captive parr at Wallowa Fish Hatchery. Collect genetic tissue from 1300 captive parr. VI tag 1,300 captive smolts at Bonneville Fish Hatchery and Manchester Research Station. Collect

growth profile information from captives at BOH and MRS at quarterly sampling events. Spawn ripe captive adults at BOH. Determined fecundity and spawning timing of mature adults. Cryopreserve semen from excess males and archive the samples at BOH and the University of Idaho. Collect migration timing data from returning captive F1 adults. Collect sex ratio, age structure, length-at-age information from returning captive F1 adults at the weir and from carcasses on the spawning grounds. Sample the '04 and '05 captive F1 in-hatchery for biological characteristics, tag retention and mark retention. PIT tag 8,000 of the '04 captive F1 cohort. Monitor the volitional release of the142, 000 '04 captive F1 cohort. Monitor the downstream migration of captive F1s through the screw trap and hydrosystem. Analyze and interpret collected data. Cooperatively produce quarterly status and annual reports.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Acquire necessary permits and authorizations to implement the project.
Coordination	Coordinate the Captive Broodstock Artificial Propagation project with state and federal management agencies in the Grande Ronde Basin. AOP Plans, TOT Decisions, and coordinated actions. Quarterly list of meetings attended and major topics
Manage and Administer Projects	Prepare a Statement of Work for contract year 2006 that identifies research objectives and tasks. Identify and outline methods to abide by tribal policies and procedures as required for project operational, safety, personnel, finance, and administrative a
Produce Annual Report	Prepare a cooperative annual report that documents Captive Broodstock research activities and results supported by the ODFW, NPT, CTUIR, and NMFS.
Produce Status Report	Prepare 4 quarterly progress reports against each milestone, indicating whether the milestone is green, yellow, or red. Reports will be submitted electronically until Pisces is available, at which time reports will be filed on-line via Pisces
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Spawn captive broodstock adults reared at Bonneville Hatchery and at the Manchester Research Station in 2006.
Collect/Generate/Validate Field and Lab Data	Monitor and evaluate captive broodstock parr at Wallowa Fish Hatchery (WFH) with ODFW and CTUIR.
Mark/Tag Animals	NPT staff will insert Passive Integrated Transponders (PIT) into 1300 newly captured captive broodstock at Wallowa Fish Hatchery.
Submit/Acquire Data	Transfer cryopreservation and other M&E data collected during captive spawning to the central captive brood database to facilitate the use of information by all co-managers.
Manage/Maintain Database	Assist in computer database management of all monitoring information collected on Chinook captive broodstock at WFH, MRS, and BOH.

Analyze/Interpret Data	Analyze data and organize results into briefing papers, tables and figures for use in technical and management forums (e.g. internal NPT meetings, AOP meetings, LSRCP symposiums, ISRP requests and presentations, U.S. vs Oregon, etc.).
Collect/Generate/Validate Field and Lab Data	Monitor and evaluate captive broodstock post smolts reared at Bonneville Hatchery and at the Manchester Research Station. NPT will participate with ODFW and CTUIR in the analysis of growth, mortalities, and maturity status of post smolt captive broodstock
Mark/Tag Animals	NPT staff will insert Visual Implant tags (VI) into 300 newly captured captive broodstock at Bonneville Fish Hatchery and Manchester Research Station. VI tagging the captive broodstock allows for the accurate tracking of individual fish throughout its lif
Collect/Generate/Validate Field and Lab Data	Monitor & evaluate spawned captive broodstock adults reared at Bonneville Hatchery and at the Manchester Research Station. NPT, ODFW and CTUIR staff will collect fork length, weight, survival to spawn, spawn timing, fecundity, and egg weight of fresh and
Collect/Generate/Validate Field and Lab Data	Monitored and evaluated the F1 generation offspring from eyed egg through smolt emigration. NPT will collect mortality, size and condition factors, tag retention, diel movement, and emigration survival and timing information from juvenile F1 captive offsp
Mark/Tag Animals	NPT staff will insert Passive Integrated Transponders (PIT) tags into a representative group of captive F1 generation parr at Lookingglass Fish Hatchery.
Install Fish Trap/Monitoring Weir	Coordinate the installation (May) and removal (October) of the Lostine weir. As a monitoring tool, the Lostine weir provides information on the abundance and characteristics of immigrating adult salmon. Conventional, captive and natural performance can t
Collect/Generate/Validate Field and Lab Data	Collect biological characteristics, abundance and timing of the adult salmon trapped at the Lostine weir.
Mark/Tag Animals	Coordinate the opercle punch pattern to be used in “mark/recapture studies upstream of the Lostine weir.
Collect/Generate/Validate Field and Lab Data	Conduct redd counts and carcass surveys on the Lostine River and all reference study streams. Record redd locations and document the number of live fish and their origin (hatchery or natural) during each survey. Pertinent biological information (length,
Collect/Generate/Validate Field and Lab Data	Collect tissue samples for DNA analysis from all adult Chinook salmon released to spawn naturally upstream of escapement weirs, unpunched carcasses above the weir and from juveniles at the Lostine screw trap. DNA samples will be used for genetic stock st

2000-021-00 - Ladd Marsh (Expense) ODFW

Description: Protect and restore wetland and riparian habitats on parcels acquired and added to the Ladd Marsh Wildlife Area.

Accomplishments

This project is currently in O&M and M&E. Past accomplishments are noted based on the objectives and tasks in the proposal accepted during the 2002 Provincial Review process. Project accomplishments prior to 2002 were noted in that proposal.

Planning and Design Phase:
1. Engineering and design - Complete
2. Assess Baseline Conditions - Complete
3. Complete Pre-Conservation Easement Activities for lands adjacent to the LMWA - Complete
4. Develop Management Plans - Complete
5. Project Management -Complete
Construction and Implementation Phase:
1. Restore Habitat Conditions - Implement Management Plans - Complete
1. Project Management– Complete
Operations and Maintenance Phase:
l. Maintain Current and Enhanced Habitat Values - Implement Operations & Maintenance Plans
a. Control habitat enhancement activities as necessary to maintain habitat values – Ongoing
b. Maintain water control structures – Ongoing
c. Maintain minimal infrastructure – Ongoing
d. Annual SOW and budget - Ongoing
Monitoring and Evaluation Phase:
l. Measure Effectiveness of Restoration Plan - Implement M&E Plans
a. Conduct vegetation surveys to monitor changes in plant communities (using HEP survey data, photopoints/transects – Ongoing
b. Conduct wildlife surveys to monitor species response to habitat changes (using HEP survey data from periodic HEP sampling, wildlife inventory data, stream surveys – Ongoing
c. Conduct hydrological surveys to establish most efficient techniques for restoring wetland function – Ongoing
d. Prepare M&E reports – Complete for 2002-2004; Ongoing

Goals

Continue O&M and M&E activities to keep instream structures functioning properly and continue to monitor fish and wildlife use of the restoration area. The following are objectives and tasks on which work will be continued in FY 06.

Operations and Maintenance Phase:
l. Maintain Current and Enhanced Habitat Values - Implement Operations & Maintenance Plans
a. Control habitat enhancement activities as necessary to maintain habitat values – Ongoing
b. Maintain water control structures – Ongoing
c. Maintain minimal infrastructure – Ongoing
d. Annual SOW and budget - Ongoing
Monitoring and Evaluation Phase:
l. Measure Effectiveness of Restoration Plan - Implement M&E Plans
a. Conduct vegetation surveys to monitor changes in plant communities (using HEP survey data, photopoints/transects – Ongoing
b. Conduct wildlife surveys to monitor species response to habitat changes (using HEP survey data from periodic HEP sampling, wildlife inventory data, stream surveys – Ongoing
c. Conduct hydrological surveys to establish most efficient techniques for restoring wetland function – Ongoing

d. Prepare M&E reports – Complete for 2002-2004; Ongoing

CURRENT Metric / Work Element	Value or description
Produce Annual Report	Produce annual report of projet activities and summarize M&E data.
Produce Status Report	Produce quarterly status reports
Replace/Maintain Instream Structure	maintain water control structures and fish ladders
Remove Debris	Keep instream structures free of debris
Collect/Generate/Validate Field and Lab Data	Conduct biological surveys to monitor fish and wildlife use of restoration area
Analyze/Interpret Data	Analyze and summarize survey data

2002-073-00 - Wallowa Culvert Inventory (Expense) Nez Perce Tribe - Lapwai

Description: Prioritize on county, state, federal, and private land, culverts that either need maintenance or replacement to meet resource needs.

Accomplishments

Under the previous contract, 452 sites were assessed in Wallowa county that may have had an impact on fish passage. Of those 452 surveys, 142 and 128 were impassable, 26 and 36 were passable, 8 and 8 were of unknown passage status without further interpretation, and 276 & 280 were assumed to be passable for juveniles and adults, respectively. The structures that were assumed to pass all species included open-bottom arch culverts, bridges and fords. As part of the assessment, and in addition to the quantitative portion of the survey, there was also a qualitative assessment of anything that may impact fish passage at or near the structure. This is meant to capture items that potentially impact passage, but were not captured in the quantitative survey. For example, if an open-bottom arch culvert (assumed to pass fish as part of the quantitative survey) had baffles present with a 1 foot drop, it was considered a barrier to migration qualitatively. A total of 26 sites were identified qualitatively to be passage barriers; these were in addition to the 142 and 128 (juvenile and adult, respectively) impassable sites identified in the quantitative assessment. For a more detailed description of this project, including past accomplishments, objectives and future goals, please see the Statement of Work, quarterly and annual reports.

PAST Metric / Work Element	Value or description
Produce Inventory or Assessment	Previously, 452 stream crossings have been assessed in Wallowa county.

Goals

Under the previous contract, 452 sites were assessed in Wallowa county that may have had an impact on fish passage. The immediate goal for this contract period (FY06) will be to attempt to complete inventories and assessments on all remaining structures/sites that may have an impact on fish passage located within Wallowa county. It is not known at this time whether or not this can be accomplished within FY06, because there are nine watersheds, as identified under Section 7, ESA Consultation, and approximately 1100 known culverts to survey located within Wallowa County. After the completion of all assessments, a list will be developed that identifies the highest priority sites for replacement. This prioritization will utilize the best available science at the time it is completed, including miles of habitat currently blocked and life history stage(s) impacted. Partly because the quality of habitat is unknown for most of the project area with any certainty, habitat quality will not be used as part of the initial prioritization criteria. The ultimate goal of this effort is to replace the highest priority sites within each watershed located within Wallowa county. For a more detailed description of this project, including past accomplishments, objectives and future goals, please see the Statement of Work, quarterly and annual reports.

CURRENT Metric / Work Element	Value or description
Produce Inventory or Assessment	After completion of the inventories and assessments, the barrier sites will be prioritized for replacement consideration.

2003-031-00 - Precious Lands Wldlf Hab Expan (Capital) Nez Perce Tribe - Lapwai

Description: Expand the operation of the NE Oregon Wildlife Mitigation Project -- "Precious Lands" to protect, restore, and enhance up to 16,500 acres of additional grassland, riparian and ponderosa pine habitat to benefit fish and wildlife.

Accomplishments

Not Applicable. Project has not been funded yet due to unresolved policy issues.

Goals

The project goal is to expand the Precious Lands Wildlife Project to include an additional 5,000 acres of high-quality wildlife and fisheries habitat in the lower Grande Ronde Subbasin.

CURRENT Metric / Work Element	Value or description
Identify and Select Projects	Identify and map potential land acquisition areas and evaluate their benefit to wildlife and fish resources.
Produce Environmental Compliance Documentation	Produce NEPA review for land purchase
Prepare HEP Report	Conduct baseline HEP assessment on acquired lands
Conduct Pre-Acquisition Activities	Third-party appraisal, title search, site visits, etc.
Coordination	Coordinate with local landowners, county commissioners, and other natural resources agencies.
# of acres of new purchase/easement (0.1 ac.)	5000 acres fee title acquisition
# of riparian miles protected (0.01 mi.)	unknown at this time
Produce Plan	Draft management plan for new property

1988-053-01 - Ne Or Hatchery Master Plan - N (Capital) Nez Perce Tribe - Lapwai

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.

Accomplishments

Development of artificial production facilities in Northeast Oregon is authorized in Section 7.4 of the 1994 Northwest Power Conservation Council's (NPCC; formerly Northwest Power and Planning Council) Columbia Basin Fish and Wildlife Program (FWP). Specifically, Section 7.4L1 authorizes the Bonneville Power Administration (BPA) to fund planning design, construction, operation, maintenance and evaluation of artificial production facilities to raise chinook salmon and steelhead for enhancement in the Hood, Umatilla, Grande Ronde, and Imnaha Rivers.

The purpose of this project is to plan and develop conservation production facilities in the Imnaha and Grande Ronde rivers necessary to implement salmon recovery programs for native, ESA listed, spring chinook salmon. This project is led by the Nez Perce Tribe in coordination with the Oregon Department of Fish and Wildlife (ODFW), Confederated Tribes of the Umatilla Indian Reservation (CTUIR), U.S. Fish and Wildlife Service (USFWS), NOAA-Fisheries, BPA, NPCC, U.S. Forest Service (USFS) and other team consultants.

The NPCC approved the Grande Ronde and Imnaha Spring Chinook Master Plan on September 20, 2000.

The NPCC approved the step 2 review elements of the Northeast Oregon Hatchery Spring Chinook Master Plan and recommended, with conditions, activities associated with step 3 on October 13, 2004.

PAST Metric / Work Element	Value or description
Council 3-step Process: Step 2	On October 13, 2004, in Missoula, MT, the NPCC approved the step 2 review elements of the Northeast Oregon Hatchery Spring Chinook Master Plan and recommended, with conditions, activities associated with step 3.

Goals

Fall 2005 - Submit Final Design and associated step 3 documents. Anticipate a recommendation from the NPCC to proceed with construction.

Winter 2006 - Begin construction.

Spring 2006 - Continue construction.

Summer 2006 - Continue construction.

CURRENT Metric / Work Element	Value or description
Council 3-step Process: Step 3	Develop and submit to NPCC step 3 Final Design Documents for proposed facilities on Lostine River and modifications to Lookingglass Hatchery and Imnaha satellite facility. Begin construction.

1997-015-01 - Imnaha R Smolt Monitoring Npt (Expense) Nez Perce Tribe - Lapwai

Description: Quantify juvenile emigrant abundance, determine smolt survival from the Imnaha River to Lower Granite and McNary dams,quantify smolt-to-adult return rate (SAR) of wild/natural chinook salmon at Lower Granite Dam and back to the Imnaha River

Accomplishments

Being a monitoring and evaluation project, our year-to-year activities are very similar. As such, most all accomplishments listed are completed on an annual basis. Our past accomplishments include annually providing emigration information to the Fish Passage Center on a real time basis. We have annually quantified primary performance measures for natural and hatchery juvenile chinook salmon and steelhead. These primary performance measures include maintaining a time series of juvenile production, in-river survival, and survival, migration rate, travel time and arrival timing to Lower Snake and Columbia river dams. We have correlated migration rate with flow and temperature in the Imnaha, Snake and Columbia Rivers. We have quantified juvenile size and condition at time of emigration. We have worked in close coordination with comanagers annual hydrosystem monitoring through the Fish Passage Center and development of the Northeast Oregon Hatchery Monitoring and Evaluation plan. We have published the 2002 and 2003 annual reports on the BPA website. The 2004 annual report is in draft and will be submitted to BPA for publication by August 31, 2005.

PAST Metric / Work Element	Value or description
Coordination	Attended NE Oregon LSRCP Hatchery Annual Operating Plan meetings. Participated in NPT Research Division coordination conference calls. Attended pertinent inter/intra-agency coordination meetings. Participated in NPT Research Division Technical Teams.
Provide Technical Review	Research, review and edit regional approaches for monitoring passage through the hydrosystem. Coordinate with co-managers in development of long-term study plan hydrosystem monitoring.
Coordination	Coordinated with co-managers for the implementation of the Northeast Oregon Hatchery Monitoring and Evaluation plan.
Coordination	Obtained release time, location, and tagging information for groups of previously PIT tagged chinook salmon and steelhead released into the Imnaha subbasin.
Collect/Generate/Validate Field and Lab Data	Operated juvenile screw trap, interrogated previously PIT tagged fish at the Imnaha River trap, monitored mortality and calculated daily abundance estimates.
Mark/Tag Animals	From 2002-2004, met annual PIT tagging goals of 1,400 natural steelhead and 3,200 hatchery steelhead.
Collect/Generate/Validate Field and Lab Data	Collected PIT tag codes and associated tagging session data for release groups PIT tagged at the lower Imnaha trapping site.
Submit/Acquire Data	Annually upload all PIT tag files for PIT tagged fish to the PTAGIS database. Annually download PIT tag data for all PIT tagged fish from the PTAGIS database for analysis.

Submit/Acquire Data	Download flow data for the Imnaha River at Imnaha. Data will be obtained from the USGS website. Download flow and spill data for the Snake River at Lower Granite Dam and Columbia River at McNary Dam. Data will be obtained online from DART.
Analyze/Interpret Data	Estimated post release survival to lower Imnaha trap from release. Estimate survival to Lower Granite and McNary dams.
Analyze/Interpret Data	Analyzed travel times, migration rates and arrival timing to all main interrogation sites.
Analyze/Interpret Data	Correlated migration rate to flow.
Collect/Generate/Validate Field and Lab Data	Documentation of the migration of PIT tagged fish past Imnaha River rkm 7.
Analyze/Interpret Data	Calculated mean, median, standard deviation, range and 95% confidence interval of length, weight and condition factor. Release groups were be statistically compared using ANOVA and Kolmogorov-Smirnov 2-sample test.
Produce Status Report	Submit quarterly status reports to BPA and superiors.
Produce Annual Report	Annual reports for 2002 and 2003 published on the BPA website. Annual report for 2004 is in draft with final version to be submitted to BPA for publication by August 30, 2005.
Manage and Administer Projects	Work with NPT Human Resource and Finance Departments as required. Prepare and submit SOW and budget to BPA. Prepare and submit FY05 accrual reports to BPA. Annual evaluations conducted by supervisor and filed internally.
Disseminate Raw & Summary Data	Disseminate data summary reports and presentation at workshops. Share project information through attendance and participation in professional meetings (e.g., AFS, CBFWA Implementation Reviews, NPCC) and meetings with other regional M&E programs.
Install Fish Trap/Monitoring Weir	Installed and removed juvenile screw trap(s) in the Imnaha River to monitor juvenile fish emigration during spring.

Goals

Being a monitoring and evaluation project, our year-to-year activities are very similar. As such, most all accomplishments listed are completed on an annual basis. Our 2006 goals include providing real time emigration information to the Fish Passage Center. We will quantify primary performance measures for natural and hatchery juvenile chinook salmon and steelhead. These primary performance measures include maintaining a time series of juvenile production, in-river survival, and survival, migration rate, travel time and arrival timing to Lower Snake and Columbia river dams. We will correlate migration rate with flow and temperature in the Imnaha, Snake and Columbia Rivers. We will quantify juvenile size and condition at time of emigration. We will work in close coordination with comanagers developing a long-term study plan for hydrosystem monitoring and implementing the Northeast Oregon Hatchery Monitoring and Evaluation plan. We will publish the 2005 annual reports on the BPA website, which will be submitted to BPA for publication by March 31, 2006.

CURRENT Metric / Work Element	Value or description
Coordination	Attend Northeast Oregon LSRCP Hatchery Annual Operating Plan meetings. Participate in NPT Research Division coordination conference calls. Attend pertinent inter/intra-agency coordination meetings. Participate in NPT Research Division Technical Teams.
Provide Technical Review	Research, review and edit regional approaches for monitoring passage through the hydrosystem.
Coordination	Coordinate with co-managers in development of long-term study plan hydrosystem monitoring. Coordinate with co-managers for the implementation of the Northeast Oregon Hatchery Monitoring and Evaluation plan. Obtain release time, location, and tagging infor
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Presentation to educate the general public, high school career day, various clubs, local Chambers of Commerce and other interested parties on how research is used to answer management questions and how research projects benefit the local econo
Collect/Generate/Validate Field and Lab Data	Operate juvenile screw trap, interrogate previously PIT tagged fish at the Imnaha River trap, monitor mortality and calculate daily abundance estimates.
Mark/Tag Animals	PIT tag 1,400 natural steelhead and 3,200 hatchery steelhead.
Submit/Acquire Data	Upload all PIT tag files for PIT tagged fish to the PTAGIS database. Annually download PIT tag data for all PIT tagged fish from the PTAGIS database for analysis.
Manage and Administer Projects	Work with NPT Human Resource and Finance Departments as required. Prepare and submit SOW and budget to BPA. Prepare and submit FY06 accrual reports to BPA. Annual evaluations conducted by supervisor and filed internally.
Install Fish Trap/Monitoring Weir	Install and removed juvenile screw trap(s) in the Imnaha River to monitor juvenile fish emigration during spring.
Collect/Generate/Validate Field and Lab Data	Collect PIT tag codes and associated tagging session data for release groups PIT tagged at the lower Imnaha trapping site.
Collect/Generate/Validate Field and Lab Data	Document the migration of PIT tagged fish past Imnaha River rkm 7.
Submit/Acquire Data	Download flow data for the Imnaha River at Imnaha. Data will be obtained from the USGS website. Download flow and spill data for the Snake River at Lower Granite Dam and Columbia River at McNary Dam. Data will be obtained online from DART.
Disseminate Raw & Summary Data	Disseminate data summary reports and presentation at workshops. Share project information through attendance and participation in professional meetings (e.g., AFS, CBFWA Implementation Reviews, NPCC) and meetings with other regional M&E programs.

Analyze/Interpret Data	Estimate post release survival to lower Imnaha trap from release. Estimate survival to Lower Granite and McNary dams.
Analyze/Interpret Data	Analyze travel times, migration rates and arrival timing to all main interrogation sites.
Analyze/Interpret Data	Correlate migration rate to flow.
Analyze/Interpret Data	Calculate mean, median, standard deviation, range and 95% confidence interval of length, weight and condition factor. Release groups will be statistically compared using ANOVA and Kolmogorov-Smirnov 2-sample test.
Coordination	Obtain release time, location, and tagging information for groups of previously PIT tagged chinook salmon and steelhead released into the Imnaha subbasin.
Produce Status Report	Submit quarterly status reports to BPA and superiors.
Produce Annual Report	Produce annual report for activities conducted in 2005. Submit final version to BPA by March 31, 2006 for publication.

1997-009-00 - Eval Sturgeon Pop - Snake R (L (Expense) Nez Perce Tribe - Lapwai

Description: Evaluate the need for and identify potential measures to protect and restore the population and mitigate for effects of the hydropower system on the productivity of Snake River white sturgeon between Hells Canyon and Lower Granite dams…

Accomplishments

Goals

1998-010-03 - Spawning distribution of Snake River fall Chinook (Expense USFWS

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 f

Accomplishments

Findings from 2002-2003, 2003-2004, 2004-2005 field seasons were presented in annual reports to BPA.

In 2004 we published information from project 1998-010-03 in an article titled "Movement and spawner distribution of hatchery fall chinook salmon adults acclimated and released as yearlings at three locations in the Snake River basin" (North American Journal of Fisheries Management, 24:1134-1144).

In cooperation with biologists from the Nez Perce Tribe and Idaho Power Company, we prepared an additional article, "Fall Chinook Salmon Redd Counts and Management Goals in the Snake River Basin, 1993–2003", that we expect will be published in 2005.

Data were distributed annually to cooperating managers and researchers.

Goals

Fall 2005 – Conduct redd searches in shallow-water spawning areas in the Snake River from a helicopter at roughly 7-d intervals. Search deep-water spawning areas using underwater video equipment in cooperation with Idaho Power Company.

Winter 2005 – Manage and maintain spawning database.

Spring 2006 – Analyze, interpret, and report data.

Late summer 2006 – Coordinate fall field work.

1998-010-04 - M&E Snake R. Fall Ch Spawning (Expense) Nez Perce Tribe - Lapwai

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.

Accomplishments

Being a monitoring and evaluation project, our year-to-year activities are very similar. As such, most all accomplishments listed are completed on an annual basis. Our past accomplishments include annually quantifying primary performance measures for yearling and subyearling fall Chinook salmon released from 3 Fall Chinook Acclimation Project (FCAP) facilities upstream of Lower Granite Dam. These performance measures include hatchery-reared juvenile production, post-release survival, migration rate, travel time and arrival timing to Lower Snake and Columbia river dams. We correlate migration rate with flow and temperature in the Snake, Clearwater and Columbia Rivers. We quantify juvenile size at release and monitor pre-release health indices. We conduct annual redd counts to index adult abundance and distribution in the Grande Ronde, Imnaha and Salmon rivers. We work in close coordination with the WDFW to conduct annual QC/QA sampling for tag/mark retention on all yearling and subyearling fall Chinook salmon release groups, which is critical to quantifying the primary performance measures of adult abundance and SARs at Lower Granite Dam. This project played a major role in the development of the comprehensive Snake River Fall Chinook Salmon Marking Plan, which was completed in May 2004 through the US v Oregon process.

PAST Metric / Work Element	Value or description
Coordination	Attended semiannual fall Chinook salmon technical coordination meetings, annual Lyons Ferry Hatchery Annual Operating Plan meetings, monthly NPT Research Division coordination conference calls and other pertinent coordination meetings.
Provide Technical Review	Participated in reviewing and preparing Snake River fall Chinook M&E plan.
Disseminate Raw & Summary Data	Summarized annual results from BKD sampling of yearling and subyearling fall Chinook at the FCAP facilities and LFH.
Collect/Generate/Validate Field and Lab Data	Annually collect length and weight data on yearling and subyearling fall Chinook at the FCAP facilities and LFH.
Mark/Tag Animals	Annually PIT tagged 15,000-17,500 yearling and 7,500-17,500 subyearling fall Chinook from the FCAP facilities
Collect/Generate/Validate Field and Lab Data	Annually collect PIT tag codes and associated tagging session data for yearling and subyearling release groups at the FCAP facilities.
Collect/Generate/Validate Field and Lab Data	Annually collect CWT and adipose fin clip retention data for each FCAP release group of yearling and subyearling fall Chinook.
Submit/Acquire Data	Annually upload all PIT tag files for FCAP yearling and subyearling release groups to the PTAGIS database.Annually download PIT tag data for all yearling and subyearling release groups from the PTAGIS database.
Submit/Acquire Data	Annually download flow and temperature data from the USGS for the Snake and Clearwater rivers upstream of the confluence.

Submit/Acquire Data	Annually download flow and spill data at Lower Granite Dam.and McNary dams from the USACE.
Analyze/Interpret Data	Annually estimate survival to Lower Granite and McNary dams. Annually analyze travel times, migration rates and arrival timing to all main interrogation sites. Annually correlate migration rate to flow.
Analyze/Interpret Data	Annually analyze length, weight and condition factor data for all FCAP yearling and subyearling release groups
Produce Status Report	Submit quarterly status reports to BPA
Produce Annual Report	2002-2004 annual reports are in draft with final versions submitted to BPA before June 30, 2005. 2005 annual report will be completed and submitted to BPA before March 31, 2006.
Produce/Submit Scientific Findings Report	Co-authored "Movement and Spawner Distribution of Hatchery Fall Chinook Salmon Adults Acclimated and Released as Yearlings at ThreeLocations in the Snake River Basin" which was published in the North American Journal of Fisheries Management 24:1134–1144
Manage and Administer Projects	Work with NPT Human Resource and Finance Departments as required. Work with BPA and COTR as required. Prepare annual subcontract for helicopter flights, 2003-2004. Prepare and submit SOW and budget to BPA.
Collect/Generate/Validate Field and Lab Data	2003-2004, Conduct weekly spawning ground surveys on the Grande Ronde and Imnaha Rivers, conduct weekly spawning ground surveys on the Salmon River.
Disseminate Raw & Summary Data	Annually prepare and disseminate FCAP release data summary report.
Produce Annual Report	Co-authored two annual reports produced by project 1998-010-03 titled "Fall Chinook Salmon Spawning Ground Surveys in the Snake River Basin upriver of Lower Granite Dam" covering the years 2001-2002 and 2002-2003.
Produce Annual Report	Authored annual report titled "Monitoring and Evaluation of Yearling Fall Chinook Salmon Released from Acclimation Facilities Upstream of Lower Granite Dam" for 1998.
Disseminate Raw & Summary Data	Prepared and disseminated weekly redd count update reports and end of season summaries, 2003-2004.

Goals

Being a monitoring and evaluation project, our year-to-year activities are very similar. As such, the goals listed for 2006 are completed on an annual basis. Our goals for 2006 include quantifying primary performance measures for yearling and subyearling fall Chinook salmon released from 3 acclimation facilities upstream of Lower Granite Dam. These performance measures include hatchery-reared juvenile production, post-release survival, migration rate, travel time and arrival timing to Lower Snake and Columbia river dams. We will correlate migration rate with flow and temperature in the Snake, Clearwater and Columbia Rivers. We will quantify juvenile size at release and monitor pre-release health indices. We will conduct annual redd counts to index adult abundance and distribution in the Grande Ronde, Imnaha and Salmon rivers. This work is highly cooperative and closely coordinated with another NPT project conducting redd counts in the Clearwater subbasin and the USFWS and IPC in the Snake River up to Hell's

Canyon Dam. We will work in close coordination with the WDFW to conduct annual QC/QA sampling for tag/mark retention on all yearling and subyearling fall Chinook salmon release groups, which is critical to quantifying the primary performance measures of adult abundance and SARs at Lower Granite Dam.

CURRENT Metric / Work Element	Value or description
Coordination	Attend semiannual fall Chinook salmon technical coordination meetings, annual Lyons Ferry Hatchery Annual Operating Plan meetings, monthly NPT Research Division coordination conference calls and other pertinent coordination meetings.
Manage and Administer Projects	Work with NPT Human Resource and Finance Departments as required. Work with BPA and COTR as required. Prepare annual subcontract for helicopter flights. Prepare and submit SOW and budget to BPA.
Provide Technical Review	Participate in reviewing and preparing Snake River fall Chinook M&E plan.
Produce Annual Report	Complete 2005 annual report and submit to BPA by March 31, 2006.
Produce Status Report	Submit quarterly status reports to BPA and superiors.
Collect/Generate/Validate Field and Lab Data	Collect length and weight data on yearling and subyearling fall Chinook at the FCAP facilities and LFH.
Collect/Generate/Validate Field and Lab Data	Collect PIT tag codes and associated tagging session data for yearling and subyearling release groups at the FCAP facilities.
Collect/Generate/Validate Field and Lab Data	Collect CWT and adipose fin clip retention data for each FCAP release group of yearling and subyearling fall Chinook.
Collect/Generate/Validate Field and Lab Data	Conduct weekly spawning ground surveys on the Grande Ronde and Imnaha Rivers, conduct weekly spawning ground surveys on the Salmon River.
Mark/Tag Animals	PIT tag 15,000 yearling 12,500 subyearling fall Chinook from the FCAP facilities.
Submit/Acquire Data	Upload all PIT tag files for FCAP yearling and subyearling release groups to the PTAGIS database. Download PIT tagging and interrogation data for all yearling and subyearling release groups from the PTAGIS database.
Submit/Acquire Data	Download flow and temperature data from the USGS for the Snake and Clearwater rivers upstream of the confluence.
Submit/Acquire Data	Annually download flow and spill data at Lower Granite Dam. and McNary dams from the USACE.
Disseminate Raw & Summary Data	Prepare and disseminate FCAP release data summary report.
Analyze/Interpret Data	Estimate survival to Lower Granite and McNary dams. Analyze travel times, migration rates and arrival timing to all main interrogation sites. Correlate migration rate to flow.
Analyze/Interpret Data	Analyze length, weight and condition factor data for all FCAP yearling and subyearling release groups

Disseminate Raw & Summary Data	Summarize annual results from BKD sampling of yearling and subyearling fall Chinook at the FCAP facilities and LFH.
Disseminate Raw & Summary Data	Prepare and disseminate weekly redd count update reports and end of season summary.

1998-010-05 - Pittsburg Landing Fall Chinook (Expense) Nez Perce Tribe - Lapwai

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

Accomplishments

2002 Pittsburg Landing, Big Canyon and Capt. John Rapids assembled and operated, 479.4K yearling and 2.398 million sub-yearling fall chinook salmon acclimated and released. 1,785 surplus hatchery spring chinook salmon adults and 4,175 surplus hatchery steelhead adults were transported to underseeded streams for natural spawning.

2003 Pittsburg Landing, Big Canyon and Capt. John Rapids assembled and operated, 437.6K yearling and 1.701 million sub-yearling fall chinook salmon acclimated and released. 2,003 surplus hatchery spring chinook salmon adults were outplanted in underseeded streams for natural spawning.

2004 Pittsburg Landing, Big Canyon and Capt. John Rapids assembled and operated, 414.5K yearling and 1.337 million sub-yearling fall chinook salmon acclimated and released. 1,008 surplus hatchery spring chinook salmon adults and 1597 surplus hatchery steelhead adults were transported to underseeded streams for natural spawning.

2005 Metrics incomplete for 2005 as program is ongoing. To date, 292,000 yearling fall chinook salmon acclimated and released. 1010 surplus hatchery steelhead adults transported to underseeded area streams for natural spawning.

Goals

This is a supplementation project; in that hatchery produced fish will be released into the natural spawning habitat in an effort to return a greater number of spawners and hence natural production. The stock selected for release is the only Snake River basin origin hatchery stock in the Pacific Northwest and the hatchery propagating the stock has been designated as a gene bank for Snake River fall chinook. This is a long-term project, and will ultimately work towards achieving delisting goals established by NMFS.

Deliverables for this project include:

Acclimate and release 450,000 yearling smolts
Acclimate and release 2,000,000 sub-yearling smolts

Transport and release up to 5,000 surplus STT and SCS adult fish in underseeded streams.

Columbia Cascade (n/a)

Various - Columbia Cascade UPA habitat measures (Expense)

Accomplishments

Goals

Columbia Cascade (n/a)

Various - Columbia Cascade UPA habitat measures (Expense)

Accomplishments

Sponsors are commencing work on six Columbia Cascade UPA projects in FY05 toward meeting the UPA metric goals for the three year period. These projects (and projected metrics) include Fulton Diversion (8.2 miles access), Chewuch Diversion (23 miles access), Hottell (1 screen), MacPherson Side Channel (.3 miles complexity restored), Marrachi Diversion (21.8 miles access and 1 cfs), and MSRF Side Channel (.75 miles complexity). When these projects are completed, the metrics can be entered into Pisces and reported as accomplishments.

PAST Metric / Work Element	Value or description
# of miles of habitat accessed (0.1 mi.)	60.0 miles of access projected to be achieved by completion of the Chewuch (23.0 miles) , Fulton (8.2 miles), and Marrachi Diversion (21.8 miles) projects that are commencing in FY05.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	1.05 miles of stream complexity projected to be achieved by completion of the MacPherson Side Channel (0.3 miles) and MSRF Side Channel Enhancement (0.75 miles) actions that are commencing in FY05.
Amount of unprotected water flow returned to the stream by conservation (cfs)	1 cfs of increased flow projected from the Marrachi Diversion work as an ancillary benefit to the 21.8 miles of increased access anticpated for this action.
Is the screen New or a Replacement? (N/R)	Replacement, adding headate to protect screen to meet compliance specifications.
Does the screen meet NOAA/FSOC specs? (Y/N)	Y, upon completion of project action.
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	3.5 to 5.0 cfs as estimated by Deparment of Ecology and landowner.

Goals

The suite of projects to be implemented in fiscal year 2006 are expected to help achieve milestones set forth and described in the tributary habitat action section of the Updated Proposed Action (UPA). The three-year metric goals that these projects are to help achieve are 5 irrigation diversion screens addressed, 12 cfs of water protected for instream flow, 60 miles of access restored to anadromous fish and 5 miles of habitat complexity restored, and 6 miles of riparian protection/enhancement.

NOAA Fisheries analyses determined that habitat actions addressing primary anthropogenic limiting factors have the potential to increase the ESU populations. The updated NOAA Fisheries analyses for the Biological Opinion found that a qualitative estimate of “medium” (from 2 to 24 percent) improvements is needed for Upper Columbia River spring Chinook and steelhead. To fill part of that gap, BPA agreed to help achieve tributary habitat metric goals to improve overall survival for these ESUs during their spawning and rearing life stages. The proposed action to meet these goals focuses on four limiting factors: fish entrainment, instream flow, channel morphology, and riparian protection/enhancement; with quantitative milestone goals at three and six year intervals for the Entiat, Methow, and Wenatchee subbasins. Thus, the proposed projects for these subbasins for FY06 will be focused on addressing these limiting factors and associated metrics. When these projects are completed, the metrics can be entered into Pisces and reported as accomplishments.

1996-034-01 - Methow River Valley Irr Dist (Capital) Craven Consulting

Accomplishments

Goals

1996-042-00 - Restore Salmon Cr Anad Fish (Expense) Colville Confederated Tribes

Description: Provide instream flows through on-farm water conservation & water leasing. Design a river pump station and an upgrade to the Salmon Lake Feeder Canal. Enhance channel habitat.Design channel restoration. Undertake NEPA. Raise funds for all of the above.

Accomplishments

Complete Final EIS.

During the spring of 2003, 620 acre ft of water was released downstream of the Okanogan Irrigation District's diversion. The objective of this water release program was to evaluate fish passage conditions for steelhead at a controlled release level (25 cfs) to identify selected spawning sights and associated production. The lower reach was considered passable by for 9 days (April 3 through April 12). In that time period 5 redds were constructed downstream of the irrigation diversion and one upstream of the diversion. Due to limited access we were only able to survey approximately 1/4 mile upstream of the diversion dam, thus there could be substantially more redds constructed upstream of the diversion dam.
The redds downstream of the diversion dam were constructed in the presence of hyporheic flows. Although surface flow was terminated in mid-April, all redds were succesful in fry production as evident by surveys conducted during late May. Further inverstigations (snorkel) conducted during the fall of 2003, spring and fall of 2004 and spring of 2005, revealed survival of steelhead. Due to extreme drought conditions the Tribe deferred the option to release the remaining 580 acre feet from the water lease program to flush these steelhead smolts from Salmon Creek. Instead a rescue effort in cooperation with the USFWS was conducted in late-April. Over 400 steelhead smolts were removed from the reach downstream of the irrigation diversion.

A draft EIS was developed for the evaluation of 3 action alternatives to ensure water to the Irrigation District and provide instream flows for anadromous salmonid production. The record of decision is contigent upon the outcome of the Master plan.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	FY 2003 Initiated NEPA process FY 2004 Completed DRaft EIS
Collect/Generate/Validate Field and Lab Data	Controlled water release of 25cfs to evaluate steelhead passage conditions in the lower 4.3 miles of Salmon Creek and to identify impediments to adult migration.

Goals

Complete Final EIS.

Based upon a favorable review of the first step of the Master Plan by the Independent Scientific Review Panel, the goals would be to intiate discussions with local stakeholders and local government to discuss opportunities for channel reconstruction.

Based upon discussions with local entities, a request for proposal would be developed for engineered design drawings for channel construction.

Likely an environmental engineering firm would be selected and a design would be developed which would be used as the basis for construction of a low flow channel in the lower reach.

Again, contingent upon a favorable review by the ISRP and local entities, construction of the lower channel could possibly begin as soon as the summer of 2007.

CURRENT Metric / Work Element	Value or description
Coordination	Coordinate channel rehabilitation efforts with Irrigation District, local stake holders, city and county. Continue dialogue with Irrigation District on water leasing program and project updates
Produce Design and/or Specifications	Develop RFP to design a low flow channel in lower Salmon Creek pending outcome of Master Plan and discussions with local stakeholders and governments (city & county). Firm would be selected and contracted to survey and provide a design.

1996-094-00 - Scotch Creek Wildlife Area (Expense) WDFW - Olympia

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.

Accomplishments

Since the last provincial review in 2003, the WDFW has added 1,975 acres adjacent to the original purchase boundaries on three units of the Scotch Creek Wildlife Area. The purchases funded with the WWRP are prime shrubsteppe habitats within the range of the Scotch Creek Sharp-tailed grouse population, and have added greatly to the recovery program. Other work elements completed but not found on the metrics list include: Maintain facility; which includes office building, residence, and shop/equipment storage structures, and wells. Maintain Roads; graded & graveled 1 mile of Silver Hill road and constructed one parking area. Other; On-going work associated with equipment/vehicle maintenance, maintenance of informational signs, reader boards, and kiosks, and administrative duties and professional development. Also I make contact with the Scotch Creek Wildlife Area, Citizens Advisory Group at two meetings per year.

PAST Metric / Work Element	Value or description
# of miles of fence (0.01 mi.)	Completed 14 miles of new boundary fence including survey. Repaired 8 miles of boundary fence, and removed 10 miles of interior, unnessesary fence.
# of acres of vegetation planted (0.1 ac.)	Prepared seedbed with summer fallow methods and seeded 410 acres to a native perennial grass and forb seed mix. This is a conversion of old ag fields to native shrubsteppe habitat. STG are responding positively with many sightings in these fields.
# of riparian miles treated (0.01 mi.; count each bank separately)	Planted 9,000 native deciduous trees and shrubs into areas to reestablish ripairian habitat for wintering sharp-tails. Included 2 miles of fabric mulch to create weed barrier. Again many sightings of STG in trees/shrubs in winter.
# of acres treated (0.1 ac)	1,530 acres treated for noxious weeds in 2002, 753 acres in 2003, and 750 acres in 2004 have been treated using IPM methods. Biological control continues, and acreages are not included.
Is the measuring device portable or fixed (P/F)?	Installed 4 fixed flow meters to measure water usage as directed by the Department of Ecology.

Goals

Other work elements anticipated but not found on the metrics list include: Maintain Facility; which includes office building, residence, and shop/equipment storage structures, and wells. Maintain Roads; Grade/gravel roads and parking areas as needed, and replace road access to the Tunk Valley unit where the culvert has washed out (if approved). Other; Equipment/vehicle maintenance or replacement, Maintain informational signs, reader boards, and kiosks, and Administrative duties and professional development. Another work element is Conduct Community Outreach, through Citizen Advisory Group (CAG) meetings, presentations/tours with stakeholder groups, schools, and contacts with news media as requested.

CURRENT Metric / Work Element	Value or description
Produce Inventory or Assessment	Photo points and vegetation data collection sites will be established and mapped for each Unit. Staff will collect nested frequency and cover data on key plant species and exotic vegetation, tree/shrub canopy closure, and planting/seeding survival.

Produce Status Report	Produce quarterly reports submitted top BPA project manager to summarize project activities, issues and accomplishments. Also submit an annual report, possibly through the Pices program.
# of miles of fence (0.01 mi.)	2 miles of new fence, including survey.
# of acres of vegetation planted (0.1 ac.)	120 acres planned to be summer fallowed and dormant seeded in early November.
# of riparian miles treated (0.01 mi.; count each bank separately)	Up to 1 mile of riparian vegetation created.
# of acres treated (0.1 ac)	Noxious weed control on 500 - 700 acres to include Russian Knapweed, Whitetop, Scotch Thistle, Musk Thistle, Houndstoung, Canada Thistle, and an assortment of annual weeds in habitat plots, parking areas, and roadsides.
Maintain Vegetation	Provide for successful establishment of trees and shrubs and coordinate with the WCC program to provide labor. Maintenance includes rodent control, fertilizer applications, and weed control (mowing and hand pulling) on all existing plots.
Collect/Generate/Validate Field and Lab Data	Monitor known sharp-tailed gruse leks and search adjacent areas for satellite (new) leks.

2000-001-00 - Anadromous Fish Habitat & Pass (Expense) Colville Confederated Tribes

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.

Accomplishments

FY 2003, 4 spring developments were constructed to provide a water source for livestock, and limit there access from surface waters in the watershed; 4 cattle guards were installed and one rock watering point.

FY 2004, two 5.5' diameter culverts were replaced with on bottomless-arch culvert; unstable fill material at historic railroad crossing of a tributary to Omak Creek was removed stabilized; 2.5 miles of road was decommissioned.

FY2005, a corral for gathering livestock will be moved from adjacent to Omak Creek to approximately 200 feet from the creek; an undersized culvert (3' diameter) on a Stapaloop Creek, a tributary of Omak Creek, will be replaced with an (8' diameter culvert); 3,170 ft. of fence excluding livestock from the upper reaches of Omak Creek has been constructed; a hardened rock watering point has been modified to stabilize the opposite side of the stream bank.

PAST Metric / Work Element	Value or description
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Ripped and seeded
# of road miles decommissioned (0.01 mi.)	2.4 miles
Start and end lat/long of each treated road segment (0.1")	Start LAT 119 8' 00
Develop Alternative Water Source	FY 2003 4 spring developments, 4 cattle guards were installed and one rock watering point.
# of miles of fence (0.01 mi.)	FY 2005 - relocated livestock corral; modified rock watering point; constructed 3,170 feet(0.60 miles)of fence
# of acres treated (0.1 ac)	Stablized a historic railroad crossing of a tributary of Omak Creek. Approximately 2 acres
Replace/Maintain Instream Structure	Removed 2 5.5 diameter damaged culverts with a 1 bottomless arched culvert. Primary value was to avoid a washout of existing road bed and fill.

Goals

The goals for FY 2006, is to remove potential threats to summer steelhead spawning habitat. These threats originate primarily from undersized culverts, concentrated livestock use and roads that are in close proximity to water ways.

In addition we are seeking cost-share funding for a 5-acre parcel near the confluence of Omak Creek. The property line is on both sides of the creek channel. Currently, this land is being used to grow alfalfa and graze cattle. Adverse effects to the land and water resources include irrigation from a well in close proximity to the creek channle which may cause a local drawdown of the water table. In addition livestock use has prevented regeneration of riparian vegetation primarily woody plants such as river birch, aler, and willow. Once purchased livestock would be excluded from the property, irrigation would cease and native vegetation would be cultivated. Furthermore, the land would be managed for wildlife and fisheries values.

Also anticipate monitor adult steelhead return and evaluate the release of crosses HxH, HxW, and WxW crosses of

summer steelhead (PIT tagged), released during April 2004.

CURRENT Metric / Work Element	Value or description
Develop Alternative Water Source	Construct 4 spring developments, remove livestock from surface water sources
# of miles of fence (0.01 mi.)	Construct 500 feet (0.1 mile) of fence.
# of acres of vegetation planted (0.1 ac.)	Plant approximately 300 plants to accelerate stability at historica railroad crossing. Approximately 2 acres.
Replace/Maintain Instream Structure	Replace a 7' culvert with a bottom arch. This will reduce the risk of road washing out and adversely affecting spawning habitat downstream.
# of acres of new purchase/easement (0.1 ac.)	5 acres, currently irrigated but once purchased irrigation would cease and water table would likely rise.
Start date of the purchase (mm/dd/yyyy)	January 15, 2006
# of riparian miles protected (0.01 mi.)	0.4 mile (0.2 on each bank of Omak Creek)
Remove or Relocate Non-predaceous Animals	Currently a 5 acre parcel which is bissected by Omak Creek is grazed by cattle. Upon purchase of the property livestock would be removed by current owner. Consequently impacts caused by concentrated livestock will be reduced.

2003-022-00 - Monitor/Eval Okanogan Basin Pr (Expense) Colville Confederated Tribes

Description: The CCT are currently proposing and implementing a focused array of salmon and steelhead propagation initiatives in an effort to rebuild anadromous, naturally-produced salmon runs and increase harvest opportunities. An M&E program is necessary.

Accomplishments

PAST Metric / Work Element	Value or description
Develop RM&E Methods and Designs	We have been developing the study designh for monitoring of the Okanogan River basin as a whole. This includes protocol development and coordination with other groups conducting RME in the upper Columbia ESU, Okanogan Basin, and Colubia River Basin
Collect/Generate/Validate Field and Lab Data	This work includes collecting data on anadromus fish such as spawning serveys, redd counts, snorkel surveys, several habitat varibles, several water quality veriables at 150 sites throughout the Okanoagan River basin both is US and Canada.
Install Fish Trap/Monitoring Weir	installation of a fish trapping facility on Omak Creek-2005
Mark/Tag Animals	Provide the resource to have the locally adapted broodstock released into Omak Creek 100% pit-tagged for BY-2004 and BY-2005
Submit/Acquire Data	Several data collection efforts have been completed to complie a local data repository for the Okanogan River from various sources some in canada, and some in the Unitied States.
Manage/Maintain Database	We have purchased and installed the equipment to house a fisheries data base for this project and for information related to the Okanogan River basin
Disseminate Raw & Summary Data	Attended several conferences and meeting to both inform other groups as to our activities and to gain information on what other programs are doing that might benefit us.
Analyze/Interpret Data	Minor data analysis have been conducted to help determine is the data are suitable for further roll-up and analysis but little can be be completed until additional data are acguired.
Produce Status Report	Produced quarterly reports for BPA throughout 2005
Produce Environmental Compliance Documentation	Developed all complience documents needed to implement this project in fy-2005
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Aquired landowner consent to access all annually monitoring sites in 2005
Develop RM&E Methods and Designs	Complete OBMEP protocols for data collection

Goals

CURRENT Metric / Work Element	Value or description
Develop RM&E Methods and Designs	Complete Protocols for OBMEP feild data collection
BPA Environmental Compliance	Produce all environmental complience documents needed in FY-2007
Produce Status Report	Provide status reports in pices
Produce Annual Report	product annual metric report and technical report
Manage and Administer Projects	provide all necessary papaerwork, sOW, and BUdget information needed for the power council and BPA
Coordination	Coordinate activities with other agencies as needed in the Okanogan Bwatershed, upper columbia ESU, columbia cascade province, and columbia River basin
Install Fish Trap/Monitoring Weir	Install fish counting equiopment on lower Okanogan River and test to determine effectiveness
Collect/Generate/Validate Field and Lab Data	Do steelhead redd surveys in tributaries and along mainstem of the Okanogan River.
Collect/Generate/Validate Field and Lab Data	Test and operate smolt traps on the lower Okanogan River
Collect/Generate/Validate Field and Lab Data	do snorkel surveys at all E-map sites
Collect/Generate/Validate Field and Lab Data	Conduct vedio counts at Zosel Dam and three tributary locations to determine total escapement above these points.
Collect/Generate/Validate Field and Lab Data	Colect inverebrate samples at all emap sites.
Collect/Generate/Validate Field and Lab Data	maintain efforts to collect realtime discharge data throughout the Okanogan River basin.
Collect/Generate/Validate Field and Lab Data	Collect water quality and temperature data at all E-map tributary sites 3 times per month
Collect/Generate/Validate Field and Lab Data	Support on-going efforts to collect real-time temperature data on the main-stem Okanogan River and in select tributaries.
Collect/Generate/Validate Field and Lab Data	Collect physical habitat data at al, E-map sites consistent with OBMEP protiocols and other cooperative agreements.
Is the measuring device portable or fixed (P/F)?	Install flow and temperature devices thorughout the Okanogan River watershed sufficent to have at least one gauge on all anadromus fish accessible tributaries.
Collect/Generate/Validate Field and Lab Data	Collect data called for in the Okanogan Basin subbasin as needed to fill identified data gaps.
Analyze/Interpret Data	Comduct analysis and disseminate raw data as needed and requested.

Manage/Maintain Database	Complete database design and provide links to other databases to more widely distribute information and deemed appropriate for recovery of endangered steelhead and other species as needed.
Disseminate Raw & Summary Data	Develop raw data for inclusion into other data bases and prepare summary reports for broad distribution

2003-023-00 - Chief Joseph Dam Hatchery (Capital) Colville Confederated Tribes

Description: Project will acclimate existing summer chinook production near historic habitat, increase production for the Okanogan and upper middle Columbia rivers, initiate production of late-arriving fall chinook, and initiate a local chinook brood stock.

Accomplishments

Completed Council 3-Step Process: Step 1.

CCT completed the Chief Joseph Master Plan in less than 1 year for $393,000. It was approved by NPCC in March 2005.
The proposed hatchery will raise summer/fall Chinook and spring Chinook at about 1/10 the cost of other recently approved or constructed hatcheries.

Goals

1. Complete Council 3-Step Process: Step 2
   NEPA adn ESA compliance and preliminary design
2. Produce Environmental Compliance Documentation - Complete an EIS for CJDHP
3. Complete land purchase for two acclimation ponds.
4. Collect field data - Test live-capture, selective fishing gears for broodstock collection.

2006-001-00 - McIntyre Dam - Feasibility study (was 29016) (Expense) Colville Confederated Tribes

Accomplishments

Beginning in 2000, the Colville Tribes in a joint effort with the ONA, submitted a project proposal, The Evaluation of an Experimental Re-introduction of Sockeye Salmon into Skaha Lake, to Bonneville Power Administration. This project (BPA 20001300) successfully acquired funds and evaluated the risks associated with extending the range of anadromous salmonids, specifically sockeye, into their historical habitat in Skaha Lake. The assessment concluded that risks associated with extending the range of sockeye salmon were nominal, and that sockeye reintroduction into Skaha Lake should be pursued in an adaptive management experiment. Consequently, fisheries managers have agreed that passage by anadromous fish at McIntyre Dam (downstream of Skaha Lake) should be pursued, allowing adults to migrate in the Okanagan R, to the outlet dam at Skaha Lake.

An interagency project committee, consisting of representatives from Colville Confederated Tribes, Okanagan Nation Alliance, Fisheries and Oceans Canada, BC Ministry of Water, Land and Air Protection and the Town of Oliver, have agreed to work collaboratively to provide fish passage at McIntyre Dam and screening of the South Okanagan Land Irrigation District (SOLID) water intake (Figure 2), which will meet the needs of the fisheries, water resources and resource users. This project will identify the preferred option of fish passage and provide preliminary cost assessment for construction. This will entail an examination of several fish passage options, including laddering, bypassing, or removal of the dam. Removal of the dam may necessitate the construction of in-stream riffle structures and/or reconstruction of the SOLID water intake to continue to provide domestic and agricultural water for the Town of Oliver.

PAST Metric / Work Element	Value or description
Identify and Select Projects	This project is to identify, through an interagency process, the most appropriate fish passage option at McIntyre Dam, the current terminous for anadromous fish on the Okanogan River
# of miles of habitat accessed (0.1 mi.)	This project will be directed at providing fish passage at McIntyre Dam. The end result of this project would provide access to appoximately 11km of Okanogan River.

Goals

By the end of this project, the interagency project committee will review the risks, benefits and costs of the various options, and will select the most appropriate option to pursue for implementation. A preliminary project design (25%) will also be completed for the preferred option. Irrelevant to what option is selected, the outcome will require the installation of a fish screen at the SOLID irrigation intake immediately upstream of McIntyre Dam. The screen will prevent losses of salmon and steelhead smolts migrating downstream from the newly accessible spawning grounds. The Irrigation District, the Town of Oliver, has agreed to partner in this project by attending all meetings and providing constructive input. Furthermore, the Town of Oliver, in a written letter (attached in this application packet) has agreed to maintain and operate the screen post-construction.

CURRENT Metric / Work Element	Value or description
Produce Design and/or Specifications	This project will provide the most appropriate option for fish passage at McIntyre Dam. This will be a conceptual design. Detailed plans (design drawings) will be developed in the subsequent year, with construction to follow.

1996-040-00 - Coho Restoration Mid-Columbia (Expense) Confederated Tribes And Bands Of T

Description: Determine the feasibility of re-establishing a naturally spawning coho population and a significant fall fishery for coho within the mid-Columbia, while keeping adverse ecological impacts within acceptable limits,

Accomplishments

The project objectives are outlined in Part 2, Section-f of the FY 2003 Provincial Project Review.

Planning and Design Phase
Adaptive management of the project planning effort, tasks 1a, b, & c were completed. The project facilitated annual meetings of the TWG team. Funding was not provided by BPA to cooperating agencies for participation in meetings and document review. The project management plan was updated, and facility site plans were drafted.

Tasks 2a, b,& c, development of experimental production facilities were completed. Incubation facility updates and acclimation site construction and improvement were planned.

Regulatory compliance was completed through tasks 3a, b & c.

Construction/Implementation Phase
New acclimation ponds were constructed as outlined in tasks 1a & b.

Production facilities were adapted to meet the program objectives in accordance with task 2a.

Operation and Maintenance Phase
Tasks 1a, b, & c, the operation and maintenance of facilities required for production were completed. Project personnel trapped, transported, and spawned adults and incubated and transported eggs. The USFWS and ODFW were contracted to incubate eggs, and rear and transport juveniles. Task 2a is completed for the project review period.

Monitoring and Evaluation Phase
Project performance indicator trends were evaluated through completion of tasks 1a, b, c, d, & e. Natural production was estimated with comprehensive spawning ground surveys. DNA fingerprinting of adult returns, task 1f, was not funded. Task 1g, out of basin harvest rate estimation is ongoing. Studies of smolt growth rate and size on survival under 1h were not completed but are planned for the future.

Tasks 2a, b, c, d, e, & f, species interactions studies including residualism surveys, predation evaluations in Nason Creek and Lake Wenatchee, and habitat competition evaluations were completed.

Task 3a, local adaptation is monitored by tracking life history traits. DNA sample collection, and sperm cyopreservation was not funded. Task 3b was completed.

Goals

Planning and Design
1. Operation assistance
2. Design/develop research facilities
3. Future program preliminary design
4. Site permit applications
5. Support NEPA & ESA Process

Operations & Maintenance
1. Manage and administer projects
a. Submit draft SOW and budget
b. Pisces metric reporting

c. Broodstock collection and trapping protocols
d. Trap use, operation, and maintenance coordination
2. Produce Hatchery fish – continued broodstock development
a. Trap broodstock at Dryden Dam, Tumwater Dam, LNFH, Wells Dam, and Winthrop NFH
b. Spawn adults (1400 @ ENFH, 700 @ Winthrop NFH)
c. Egg incubation (2.2 million total at Peshastin, ENFH, Winthrop NFH)
d. Transport eggs to rearing facilities (Cascade FH, Willard NFH)
e. Rear fish at Willard NFH (650,000), Cascade FH (700,000), Winthrop NFH (250,000)
f. Acclimate and release coho smolts in the Wenatchee Basin (1 million) and the Methow Basin (250,000-500,000)

Monitoring & Evaluation
1. Project performance indicators
a. Smolt survival (PIT tag 30,000 coho)
b. Smolt-adult survival (CWT 100% and CWT extraction) HORs and NORs
c. Spawning ground surveys (Wenatchee and Methow)
d. Natural smolt production (smolt traps)
e. Enter data into databases
2. Analyze data and produce annual reports

1996-040-00 - Coho Restoration Mid-Columbia (Expense) Confederated Tribes And Bands Of T

Description: Determine the feasibility of re-establishing a naturally spawning coho population and a significant fall fishery for coho within the mid-Columbia, while keeping adverse ecological impacts within acceptable limits,

Accomplishments

Successfully Coded Wire Tagged 700,000 brood year 2004 Wenatchee stock coho at Cascade State Hatchery, Coded Wire Tag plus adipose fin clip 300,000 brood year 2004 Wenatchee stock coho at Willard National Fish Hatchery, Coded Wire Tag 300,000 brood year 2004 Wenatchee stock coho at Willard National Fish Hatchery and Coded Wire Tag 200,000 brood year 2004 Wenatchee stock coho at Winthrop National Fish Hatchery within the FY2005 budget provided. The Service provided all tags, marking equipment, staffing and contract services to accomplish the tribal marking program.

Goals

2006 goals are to continue the partnership arrangement with the Yakama Nation to provide tagging support services for tribal fishery restoration projects and complete marking and tagging projects within agreed upon budgets.

1996-040-00 - Coho Restoration Mid-Columbia (Expense) Confederated Tribes And Bands Of T

Description: Determine the feasibility of re-establishing a naturally spawning coho population and a significant fall fishery for coho within the mid-Columbia, while keeping adverse ecological impacts within acceptable limits,

Accomplishments

For the U.S. Fish & Wildlife Service portion of this contract:

FY2004 (initiate Willard National Fish Hatchery BPA-funded portion of overall project)

Successfully reared 482,118 healthy brood year 2002 coho salmon smolts at Willard NFH weighing 21,020 pounds for transfer to a variety of acclimation and release sites located within the Wenatchee River Basin.

Initiated the production of 667,796 brood year 2003 coho for transfer to upriver sites during 2005. Approximately 154,467 brood year 2003 coho were derived from lower Columbia River stock and the remaining 503,239 fish were derived from adult fish collected and spawned on the Wenatchee River. Eyed eggs incubated at Peshastin and Entiat NFH were transferred to Willard NFH to initiate mid-Columbia origin production.

Goals

Rear 650,000 brood year 2004 coho salmon at Willard NFH derived from mid Columbia stock adults for transfer to various acclimation sites within the Wenatchee River Basin.

Initiate production of 650,000 brood year 2005 coho salmon at Willard NFH derived from mid Columbia stock adults for transfer to various acclimation sites within the Wenatchee River Basin during 2007.

2003-021-00 - Fish Passage/Screening Wen/Ent (Expense) WDFW - Olympia

Description: Locate and evaluate all culverts, dams, fishways, water diversions, and other human-made features in the Wenatchee and Entiat subbasins, conduct habitat assessments, and prioritize all barriers and unnscreened or inadequately screened water diversions.

Accomplishments

Goals

2003-039-00 - Monitor Repro In Wenat/Tuc/Kal (Expense) WDFW - Olympia

Accomplishments

Collect/Generate/Validate Field and Lab Data (157)

Collected DNA samples and biological data on 2,896 spring Chinook captured at Tumwater Dam to estimate relative spawning success and survival of naturally and hatchery-produced fish.

Conducted spawning ground surveys and collected redd microhabitat data in the Upper Wenatchee Basin. We found 491 spring Chinook redds during spawning ground surveys and sampled 375 carcasses. Redd microhabitat data was collected data from 186 spring Chinook redds.

Extracted DNA and determined genotypes at 11 microsatellite loci for all 2996 samples collected at Tumwater Dam.

Mark/Tag Animals (158)

PIT tagged 2,896 spring Chinook captured at Tumwater Dam and were able to determine the final spawning location of 679 fish.

Analyze/Interpret Data (162)

Conducted analyses on biological and spawning ground data to determine if differences exist in the demographic and spawning ecology of hatchery and naturally produced spring Chinook.

Conducted genetic analyses to determine power to estimate parentage. Quality checked DNA data, and conducted preliminary analyses to identify and remove summer Chinook from the dataset.

Produce Annual Report (132)

Accomplished all stated objective in SOW for FY 2004 and uploaded annual report to BPA website.

PAST Metric / Work Element	Value or description
Produce Annual Report	Accomplished all stated objectives in SOW for FY 2004 and uploaded annual report to BPA website.
Collect/Generate/Validate Field and Lab Data	Collected biological data from all spring Chinook captured at Tumwater Dam on the Wenatchee River. Collected biological data on the spawning ecology of hatchery and naturally produced spring Chinook.
Mark/Tag Animals	PIT tagged all spring Chinook captured at Tumwater Dam on the Wenatchee River.
Analyze/Interpret Data	Analyzed biological and spawning ground data to determine if differences exist between hatchery and naturally produced fish. Conducted genetic analyses to determine power to estimate parentage, quality checked DNA data, and conducted preliminary analyses

Goals

Goals for FY 2006 are the same as those stated in FY 2005. The overall goals are to 1) determine if the relative reproductive success and survival of hatchery and natural origin spring Chinook salmon differ, and 2) to determine

why differences do or do not exist. Answers to these questions will help to resolve whether supplementation can be used to increase natural production. We are collecting biological data and DNA samples from all spring Chinook captured at Tumwater Dam. Redd microhabitat data will be collected from redds within specific reaches identified in 2004. Data collected from redds within the same geographic reach will allow for a close examination of the data to determine if differences between hatchery and naturally produced fish do exist. All DNA sampled will be analyzed as described in the 2004 annual report.

An important new phase of the project begins in FY2006, when yearling smolts produced in FY 2004 emigrate from the Wenatchee River. DNA samples collected from the smolts will be analyzed to determine if differences in reproductive success are evident. This phase is expected to continue until 2012 or two full spring Chinook generations.

CURRENT Metric / Work Element	Value or description
Produce Annual Report	Submit annual reports to BPA summarizing results of the study.
Collect/Generate/Validate Field and Lab Data	Collect biological and DNA from all spring Chinook captured at Tumwater Dam. Collect DNA from 2000 naturally produced yearling smolts. Collect data from hatchery and naturally produced spring chinook redds.
Analyze/Interpret Data	Determine if the relative reproductive success and survival of hatchery and natural origin spring Chinook salmon differ, and determine why differences do or do not exist.

2005-001-00 - Estuary RME Pilot (Expense) Pacific Northwest National Laborator

Accomplishments

Project 2005-001-00 was initiated in FY05. Contracting is occurring May 2005. In the abbreviated FY05 project-year, we will accomplish essential activities to prepare for FY06 work. The FY05 accomplishments will include:

1. A detailed sampling plan for seining and acoustic telemetry of subyearling Chinook salmon at the Sandy River delta in the tidal freshwater reach of the Columbia River estuary.

2. Applications for scientific sampling permits from NOAA Fisheries and the Oregon Department of Fish and Wildlife.

3. Coordination with restoration and resource managers, monitoring scientists, and others working to improve habitat in the Sandy River delta.

4. A specific agenda, regional communication, and arrangements for a workshop to coordinate and exchange information on monitoring subyearling Chinook salmon in the tidal freshwater reach of the Columbia River estuary. (The workshop will be in FY06.)

PAST Metric / Work Element	Value or description
Coordination	Project 2005-001-00 will involve coordination among researchers monitoring subyearling Chinook salmon ar sites in the tidal freshwater portion of the Col. R.
Manage and Administer Projects	Project 2005-001-00 will include work to manage and administer the project.
Analyze/Interpret Data	Project 2005-001-00 will involve integrating data from multiple monitoring efforts to provide input to resource managers on subyearling Chinook salmon presence in shallow-water habitats of the tidal freshwater portion of the Col. R.

Goals

The FY06 goals of Project 2005-001-00 are to 1) determine presence/absence and abundance (catch per unit effort) through time of subyearling Chinook salmon at the Sandy River delta, and 2) integrate our study results with pertinent results from other estuary monitoring studies, with emphasis on the tidal freshwater reach of the Columbia River estuary.
We anticipate the following accomplishments in FY06:

1. Beach seine data on the presence/absence and abundance of subyearling Chinook salmon and other fishes in shallow water habitats at the Sandy River delta during monthly sampling in 2005.

2. Acoustic telemetry data on the temporal and spatial distributions of subyearling Chinook salmon tagged with Corps of Engineers' JSATS (Juvenile Salmon Acoustic Telemetry System) tags during continuous sampling in 2005.

3. Analysis and reporting of the fisheries data set as baseline, pre-construction information, for use during management decision-making on the proposed tidal slough restoration project.

4. A workshop that integrates all research on subyearling Chinook salmon in the tidal freshwater portion of the Columbia River estuary.

CURRENT Metric / Work Element	Value or description
Coordination	Project 2005-001-00 will involve coordination among researchers monitoring subyearling Chinook salmon ar sites in the tidal freshwater portion of the Col. R.
Manage and Administer Projects	Project 2005-001-00 will include work to manage and administer the project.
Produce Annual Report	Annual report of research accomplshments and data.
Produce/Submit Scientific Findings Report	Data from the annual reports will be amenable for publication in a scientific journal.
Submit/Acquire Data	Data from Project 2005-001-00 will be uploaded to an estuary-wide database when one is developed.
Disseminate Raw & Summary Data	Data from Project 2005-001-00 will be made available to interested parties.
Analyze/Interpret Data	Project 2005-001-00 will involve integrating data from multiple monitoring efforts to provide input to resource managers on subyearling Chinook salmon presence in shallow-water habitats of the tidal freshwater portion of the Col. R.

2001-025-00 - Rattlesnake Cr Salmonid Prod (Expense)

Description: Address a unique opportunity to document habitat conditions and fish population status within the Rattlesnake Creek watershed prior to major habitat restoration activities and before Condit Dam removal and the reintroduction of anadromous salmonids.

Accomplishments

Goals

2001-025-00 - Rattlesnake Cr Salmonid Prod (Expense)

Description: Address a unique opportunity to document habitat conditions and fish population status within the Rattlesnake Creek watershed prior to major habitat restoration activities and before Condit Dam removal and the reintroduction of anadromous salmonids.

Accomplishments

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Extensive communication with public, including 10s of teachers, 100s of students, and 100s of stakeholders. Nine presentations and posters at professional meetings and watershed council meetings with hundreds of public reached.
Produce Inventory or Assessment	Comprehensive riparian, large wood, geomorphology, and stream habitat surveys on an annual basis. Water quality, quantity, and temperature measured at multiple sites every year. Provided data for EDT analysis used in the White Salmon Subbasin Plan.
Coordination	Much coordination and participation with private landowners. Coordination in data collection with the UCD and YN. Coordinated data use for White Salmon EDT with WDFW, YN, UCD, USFWS, Klickitat Co., and others.
Provide Technical Review	Prepared a report on the Geomorphology of Middle Rattlesnake Creek.
Produce Annual Report	Annual reports have been produced and submitted for data collected in 2001-02 and 2002-03. The annual report for data collected in 2003-04 is near completion, and the report for 2004-05 is in preparation.
Produce Status Report	Progress reports have been submitted to BPA for data collected in 2001, 2002, 2003, and 2004. Collection reports have been submitted to WDFW and USFWS for data collected in 2001, 2002, 2003, and 2004.
Install Fish Trap/Monitoring Weir	From 2001 through 2004, a unique instream PIT-tag detector system has detected movements of > 320 rainbow and cutthroat trout from the White Salmon River, and Rattlesnake and Indian creeks. The number of fish tagged and detected is increasing each year.
Develop RM&E Methods and Designs	A unique remote instream PIT-tag interrogation system was installed in 2001 and has continually been modified, adjusted, and improved to detect passing fish with increasing reliability and efficiency. Data collection is ongoing.
Collect/Generate/Validate Field and Lab Data	Biological: Conducted 21.0 km of population surveys, archived genetic samples, profiled diseases of fish, analyzed aquatic life for stable isotopes, and conducted redd surveys. Physical: Annual habitat surveys; 8 stream temperature sites, 4 flow sites.

Mark/Tag Animals	A total of 3,931 rainbow trout and cutthroat trout have been PIT tagged from 2001-2004. Many have been recaptured or detected by our stationary PIT-tag detector. Growth, movement, and other life history aspects have been collected.
Submit/Acquire Data	Submit PIT-tag data to PTAGIS database. Acquire data from PTAGIS to gather life history information, especially movement and growth.
Manage/Maintain Database	Integrated and incorporated the many types of data collected into databases after QA/QC.
Disseminate Raw & Summary Data	Extensive use of the data from this project was used an EDT effort, which was used in the White Salmon Subbasin Plan. Our PTAGIS entries are available to multiple users. Data has been valuable to the USFS's management of the Wild and Scenic Area.
Analyze/Interpret Data	Comprehensive riparian, large wood, geomorphology, and stream habitat surveys on an annual basis. Water quality, quantity, and temperature measured at multiple sites every year. Provided data for EDT analysis used in the White Salmon Subbasin Plan

Goals

These metrics will be achieved only if funding is continued at the 2005 level ($253 K). Otherwise none to few of these metrics could be accomplished, and cooperating agencies (USFWS, USFS) that are contributing valued efforts will have to discontinue their work. If not fully funded, we at least need funding to properly close-out this multi-agency and multi-faceted project ($70 K detailed in Question 1). One huge loss would be having to remove our large stationary PIT-tag detector, which has been serving the Region and Nation extremely well for advancing this technology and its application in small streams.

CURRENT Metric / Work Element	Value or description
Coordination	Continue to coordinate sampling efforts with local landowners, YN, UCD, USFS, WDFW, USFWS, etc. Continue to participate in the Technical Advisory Group meetings to coordinate restoration and stewardship efforts.
Produce Annual Report	Annual report summarizing findings from 2005 will be produced.
Produce Status Report	Progress reports to BPA and collection reports to permitting agencies (WDFW, USFWS) will be submitted
Produce/Submit Scientific Findings Report	We will produce a technical report combining all sample years providing analysis of fish population assemblage, distribution, trends, and limiting factors. Several pieces are slated for publishing in professional fisheries journals.
Develop RM&E Methods and Designs	Continue to develop novel fish population assessment techniques. Continued modifications to refine and improve the instream PIT-tag interrogation technology.

Collect/Generate/Validate Field and Lab Data	Refine population and life history assessment with critical additional years of data prior to Condit Dam removal and anadromous fish re-introduction. Continue to collect stable isotope, water quality, flow, and temperature information.
Mark/Tag Animals	Deploy approximately 1500 PIT tags in order to continue to develop and advance instream PIT-tag detection technology, to develop novel fish population assessment techniques, and to continue to describe life history and productivity patterns.
Submit/Acquire Data	Submit PIT-tag data to PTAGIS database. Acquire data from PTAGIS to gather life history information, especially movement and growth.
Manage/Maintain Database	Integrated and incorporated into electronic databases after QA/QC.
Analyze/Interpret Data	Analyze data to help determine salmonid productivity, life history, limiting factors, and habitat restoration priorities. Develop baseline information on stable isotopes and populations of resident fish species prior to anadromous reintroduction.
Identify and Select Projects	In recognition of a chance to submit a proposal for habitat improvement efforts to BPA in 2007, the data we have collected will provide the information needed to determine appropriate habitat improvement projects.

2001-027-00 - Western Pond Turtle Recovery (Expense) WDFW - Olympia

Description: Protect existing WPT population through habitat improvements, expand WPT population through "head start " program and continue reintroductions at USFWS Pierce National Wildlife Refuge.

Accomplishments

Over the past four years WDFW has continued its efforts to increase the population of western pond turtles in the Columbia River Gorge. WDFW has accomplished the goals and objectives as outlined in the annual scope of work/contracts initiated in 2001.

Maintain “Head Start” Program

2001 – 30 female western pond turtles were monitored producing 26 nests. A total of 119 juvenile hatchlings were reared for release in 2002.
2002 – 31 female western pond turtles were monitored producing 23 nests. A total of 67 juvenile hatchlings were reared for release in2003.
2003 - 30 female western pond turtles were monitored producing 33 nests. A total of 136 juvenile hatchlings were reared for release in 2004.
2004 – 32 female western pond turtles were monitored producing 21 nests. A total of 78 juvenile hatchlings are currently being reared for release in the Gorge next month.

Establish New Populations

Prior to 2001, there were two populations of western pond turtles in the Columbia River Gorge. Recovery goals for the western pond turtle in Washington require three stable populations for downlisting and a fourth for delisting, each supporting a minimum of 250 individuals. In 2001 WDFW and the USFWS signed a MOU to establish a reintroduced population of western pond turtles on Pierce National Wildlife Refuge. To date a total of 250 juvenile turtles have been successfully released at the refuge. Currently WDFW is monitoring this population through a mark/recapture program. Survival of released monitored turtles has been very high to date. Plans are underway for establishing a fourth population in the Gorge as soon as 2006.

PAST Metric / Work Element	Value or description
Remove or Relocate Predaceous Animals	2001-2004 - Non-native fish and bullfrogs were removed from western pond turtle habitat in the Gorge(96 bullfrogs and 50 eggs masses). A total of 90 gallons of non-native fish and bullfrog tadpoles were removed from Pierce NWR.
# of features	2001-2004 Constructed and placed 10 basking platforms in wetlands.Enhanced a total of 41 acres of nesting habitat by removing Scot's broom and blackberrys. Enhanced water source for Klickitat wetland by removing unwanted vegetation.
Manage/Maintain Database	2004 - Developed an enhanced ACCESS database for all western pond turtle captures since the beginning of the project in the mid 1980's. Data base was completed in the spring of 2005.

Goals

Goals

Spring 2006 - A mark-recapture program will be conducted (ongoing since 1996) at each known pond turtle site to determine estimates of current population size. Data will be summarized and sent to the WDFW wildlife data system. Individual turtle information will be recorded and used in a statistical model to estimate population numbers.

All of 2006 - Maintain “head start” program for wild hatchling western pond turtles, and evaluate their survival and growth using mark-recapture techniques.

Spring 2006 - Female western pond turtles will be captured and transmitter–equipped in order for biologists to locate nests and remove juveniles for the “head-start” program.

Fall 2005 – Spring 2006 - Following incubation in the ground, hatchling turtles will be removed from their nests in mid-September to early October. Turtles will be transferred to the Woodland Park and Oregon Zoos until release in the spring.

Summer 2006 - Following their care at the zoos (October to July), juvenile western pond turtles will be released to supplement existing populations in the Columbia River Gorge. All turtles will be monitored for survival through mark recapture trapping efforts.

All of 2006 - Field information will be managed via the recently developed ACCESS data management program.

CURRENT Metric / Work Element	Value or description
Remove or Relocate Predaceous Animals	Control of bullfrogs will be continued as part of an annual effort to reduce predation to juvenile western pond turtles. Bullfrogs will be removed by lethal kill of adults and removal of egg masses.
# of features	Upand vegetation will be managed to improve habitat conditions for nesting female western pond turtles at select sites in the Columbia River Gorge.

2003-065-00 - Bull Trout In Bonneville Reser (Expense) WDFW - Olympia

Accomplishments

Spring 2005 Capture, tag, release and monitor first ever Radio, PIT, and Floy tagged bull trout within Bonneville Reservoir (Results of ODFW coordination)
Summer 2004 Completed renovation of Lyle Falls #5 Fish Ladder
Summer 2004 Completed subcontract with Yakama Nation
Summer 2004 Database design and development
Summer/Fall 2004 Hired Project Biologist and Technician personnel
Sum/Fall/Wnter 2004/2005 Through 02/28/05, 5,112 hours of fish ladder operation and trapping, capture, sample, mark/tag 3,370 salmonids (bull trout=0, chinook=292, coho=2051, steelhead W=539 & H=488). Monitoring and operation 7 days a week annually
Fall 2004 Creel surveys, 89 angler contacts, bull trout public outreach. Documented report of recreationally landed bull trout from Klickitat River, spring 2003, River Mile 8
Winter 2004 Coordination with ODFW, WDFW, USFWS, USGS, FCRPS, YKFP, U of Idaho for bull trout research within Bonneville Reservoir
Winter 2004 Completed PISCES conversion and FY2005 Contract
Spring 2005 FY 2004 annual report
Spring 2005 Public Outreach Meeting, Goldendale, WA
Spring 2005 50% completion to date, of Drano Lakes' bull trout capture methodology research
Spring 2005 March 21, 2005, documented incidental catch of adult bull trout (390mm) at Bonneville Dam by smolt bypass project (Results of FCRPS coordination)
Spring 2005 Lyle High School student internship development. Also approached Mt Hood C.C. Opportunity will be extended Fall 2005

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	secured all necessary permits to perform objectives
Produce Environmental Compliance Documentation	completed NOAA scientific take applications and received necessary permits for FY 2004 and 2005
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Teachers=3(2 high school 1 college), students=1 (Lyle high school internship spring 2005), General public=100 (public meeting for Trout Ulimited Spring 2005, 89 angler contacts fall of 2004), public notices posted throughout basin
Coordination	developed coordination between local landowners, Yakama Nation(subcontract), ODFW for incidental bull trout captures, submit research proposal for access to FCRPS facilities
Operate/Maintain Facility	daily maintenance of fish ladder and associated trapping structure for upstream salmonid migrants at Lyle Falls #5, Klickitat River, mile 2.2
If installing a ladder, does the ladder meet NOAA specifications for attraction flow, pool dimensions, jump height, etc? (Y/N)	yes
Does the structure remove or replace a fish passage barrier? (Y/N)	no, it is a modification of a pre-existing structure at Lyle Falls #5, Klickitat River, mile 2.2.

# of miles of habitat accessed (0.1 mi.)	62
Was barrier Full or Partial? (F/P)	Partial
Develop RM&E Methods and Designs	Develop sample design and protocols for Drano Lake and Lyle Falls research
Collect/Generate/Validate Field and Lab Data	bull trout data collection, Lyle Falls, Klickitat River and Drano Lake
Mark/Tag Animals	Primary and secondary marking of salmonids and bull trout handled at Lyle Falls, Klickitat River and Drano Lake
Manage/Maintain Database	daily updates and management of Access database
Disseminate Raw & Summary Data	disseminate raw data to cooperating entities as per contract requirements

Goals

Many of the FY2006 goals will be analogous to FY2005 with an expanded scope to include radio tracking of the tagged specimen within Bonneville Reservoir and genetic analysis of the DNA sample. Additional efforts to coordinate with multiple entities to monitor ingress/egress within Bonneville Reservoir and increase tagged specimens for tracking.

Sp/Smr/Fall/Wnter 2005 Monitor tagged bull trout in Bonneville Reservoir (Coordination with U of Idaho, ODFW, WDFW)
Sp/Smr/Fall/Wnter 2005 Capture and tag additional bull trout specimens within Bonneville Reservoir
Spring 2005 Complete Drano Lake bull trout capture methodology evaluation
Sp/Smr/Fall/Wnter 2005 Operate Lyle Falls Fish Ladder for migrating bull trout
Sp/Smr/Fall 2005 Creel survey, hatchery spawn and natural spawn sample for mark/recapture analysis.
Fall 2005 High School and Mt Hood C.C. internship development
Fall 2005 Manage Administer Project, FY2006 SOW, bull trout conference
Fall 2005 Outreach and Education, public meetings, TBD
Winter 2005 Analyze data from capture methodology and upstream migrant monitoring,
Winter 2005 FY2005 annual report
Winter 2005 FY2006 SOW
Winter 2005 Yakama Nation subcontract development

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Continued efforts to provide information to general public through flyers, posters, volunteer opportunities and public meetings. Further develop high school and college internship opportunities.
Coordination	Further coordinate entities (WDFW, USFWS, ODFW, FCRPS, USGS & Univ. of Idaho) involved in research within Bonneville Reservoir to maximize results for respective projects.
Collect/Generate/Validate Field and Lab Data	Radio track bull trout specimen within Bonneville Reservoir to determine river of origin. Use tracking data to correlate temporal movements and habitat preferences throughout the reservoir. Continue monitoring at Lyle Falls and Drano Lake for bull trout

Mark/Tag Animals	Capture and radio/acoustic, PIT, and Floy tag additional bull trout specimens within Bonneville Reservoir. Continue upstream monitoring and marking of salmonids and bull trout at Lyle Falls.
Analyze/Interpret Data	Analyze bull trout movements within Bonneville Reservoir. Determine origin of tagged specimen. DNA comparative analysis against extant populations.

1993-040-00 - Fifteenmile Creek Habitat Impr (Expense) ODFW

Description: Provide for continued operation and maintenance of all completed fish habitat treatment measures within the Fifteenmile basin. Provide continued education & demonstration of BMP to landowners throughout the basin.

Accomplishments

Maintained approximately 109 miles of riparian protection fence in good repair on a yearly basis.

Inspected all previously installed in-channel habitat structures.

Installed 9 off-channel livestock watering facilities eliminating high maintenance and environmentally destructive water gaps.

Completed annual spawning ground surveys.

Assisted operation of juvenile out-migrating fish trap.

Collected and compiled water temperature data at 12 geographic locations throughout the basin.

Provided technical support to agencies and landowners concerning habitat improvement/ protection with the basin.

Goals

Inspect and maintain all 109 miles of riparian protection fencing with existing lease agreements.

Inspect all in-channel habitat structures and provide and minor repair necessary.

Install 2 off-channel livestock watering facilities to eliminate high maintenance actions.

Complete annual spawning ground survey.

Collect and analyze thermograph data at 12 locations throughout the basin.

Continue assisting with the out-migrating juvenile fish trap.

Continue outreach, education and technical assistance to agencies, landowners, and others.

2001-020-00 - 15 Mile Cr Riparian Fence/Surv (Expense) ODFW

Description: Construct approximately 30 miles of riparian protection fence over a three year period along Fifteenmile Creek and it's tributaries. Conduct a phyical stream of 90 miles of privatly owned stream in the Fifteenmile Subbasin.

Accomplishments

Miles of riparian protection fence installed:
2001 = 10.42;
2002 = 10.53;
2003 = 9.65;
2004 = 8.9;
2005 = ~8

Number of off-channel livestock water facilities:
2001 = 1
2002 = 2
2003 = 3
2004 = 4
2005 = ~2

Miles of stream surveyed
2001 = 44.6
2002 = 49.4
2003 = 41.2

Goals

Install 8-10 miles of riparian exclusion fencing

Install approximatly 3 off-channel livestock water systems

2001-021-00 - 15 Mile Creek Riparian Buffers (Expense) Wasco County Soil & Water Conserv

Description: Implements ripairan buffer program using cost share provided by USDA, state of Oregon, and private landowners

Accomplishments

Riparian Buffers. Since inception in 2001, 72 buffer plans have been completed resulting in riparian buffer contracts on 78.75 stream miles, protecting 2,333 riparian acres. Fencing, tree planting, and water developments are included along with 14-15 year leases on each contract. Average buffer width is 122 ft. on each side. Total implementation and lease cost from non-BPA sources is $3,946,025.

Goals

Goals for 2006 are 85 landowner contacts, 12 coordination meetings, 12 riparian buffer plans and 12 contracts (est. 50 acres and 1.5 stream miles each) to include planting prescriptions, fencing, and water developments as appropriate, 12 landowners provided technical assistance, 4 outreach activities, 4 quarterly reports and one annual report.

1988-053-03 - Hood River Production M&E - Ws (Expense) Warm Springs Tribe

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.

Accomplishments

2002: Acclimation of spring chinook, summer and winter steelhead, bio-sampling of migrant and non-migrant smolts, mark quality summaries, tag retention summaries, habitat survey and analysis, temperature monitoring for seven locations in the Hood River basin, pesticide monitoring, spring chinook spawning surveys, Pelton Ladder mortality study, fish salvage in irrigation canals, aid co-managers in biosampling fish that pass through the Powerdale Trap, monitoring fish rearing at Oak Springs and Round Butte Hatcheries, forecasting the Hood River spring chinook return, monitor the Hood River tribal fishery, program coordination, and reporting.

2003: Similar work as 2002 however the mortality study at Pelton Ladder ended, there was no tribal fishery to monitor, and the Hood River Program Review was initiated. An independent consultant performed the Program Review, however support and review was required for this work.

2004: Similar work as 2003, but there were no habitat surveys completed in 2004, and the Hood River Program Review was completed.

2005: Similar work as 2004, however there is currently a tribal fishery to monitor, telemetry work is being used to better understand the distribution of spring chinook in the Middle Fork Hood River, and PIT tagging was initiated to better understand the behavior of the smolts and to provide a comparison between migrant and non-migrant returns.

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	The Hood River Production Program operates under an EIS drafted by BPA and completed in 1996.
PIT Tags	PIT tagging operations started in 2005. All non-migrant winter steelhead were tagged and then released into the Columbia, at the confluence of the Hood River. This activity will be expanded in FY 2006.
Produce Inventory or Assessment	Aquatic invertory habitat surveys and analysis were conducted on specific areas of the Hood River subbasin that had not been documented in the past. This work occurred primarily in 2002 and 2003.
Coordination	Planning and coordination with co-managers, landowners, irrigation districts, and other resource partners has been on-going since the initiation of the project.
Manage and Administer Projects	The Hood River Production Program was managed and administered annually. All requirements and deadlines were met. This planning and coordination consisted of: SOW packages, financial reporting, metrics reporting, and Pisces training and implementation.
Produce Annual Report	Annual reports submitted to BPA.
Produce Status Report	Monthly and status reports were submitted to BPA.

Produce/Submit Scientific Findings Report	The Hood River Production Program Review was completed in 2004. The review was completed by an individual contractor however HRPP co-manager data, support, and review was crucial to the outcome and foundation of this document.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation
# of fish released	Approximately 130,000 srping chinook, 40,000 summer steelhead, and 50,000 winter steelhead smolts were acclimated and volitionally released in the Hood River subbasin in 2002, 2003, 2004, and 2005.
Collect/Generate/Validate Field and Lab Data	Data collected and summarized/analyzed: biosampling migrant and non-migrant smolts, fin mark quality, CWT retention, habitat, water temperatures, Pelton Ladder mortality, spawning surveys, pesticide monitoring, telemetry, salvage, and tribal creel.
Mark/Tag Animals	Spring chinook, summer and winter steelhead smolts checked for fin clip quality. Spring chinook smolts checked for CWT retention.

Goals

The Hood River M&E Project goals for FY 2006 include the following.

Achieve adult fish returns consisting of: 850 spring chinook, 2,300 summer steelhead, and 2,700 winter steelhead. This work will include monitoring fish health while juveniles are reared in out-of-basin hatcheries, checking smolts for fin clips and CWT retention, biosampling migrant and non-migrant smolts, acclimating, and volitionally releasing approximately 130,000 spring chinook smolts, 40,000 summer steelhead smolts, 50,000 winter steelhead smolts.

PIT tag a portion of the winter steelhead smolts prior to transport to the acclimation sites in Hood River. This will include both migrant and non-migrant winter steelhead.

Assist ODFW with biosampling adults at the Powerdale Fish Trap.

Monitor temperatures at seven locations in the Hood River subbasin.

Monitor and evaluate spring chinook escapement and natural production above Powerdale Dam by surveying the West Fork Hood River for spawning activity and carcasses.

Forecast the 2006 spring chinook return to the Hood River.

Monitor the tribal fishery above Powerdale Dam if the chinook forecast is such that the fishery is opened on the Hood River.

Conduct fish salvage operations on necessary irrigation canals.

Conduct habitat surveys using the ODFW Aquatic Inventory protocol.

Coordinate with co-managers and other agency and interest groups in the Hood River basin regarding the Hood River

Columbia Gorge — Hood

Production Program and fish management issues in the Hood River subbasin. Submit status and annual reports to BPA.

CURRENT Metric / Work Element	Value or description
PIT Tags	PIT tagging operations started in 2005. This included tagging non-migrant winter steelhead. More extensive PIT tagging is planned for 2006. Depending on the success of the expanded work in 2006, increased funding may be requested in 2007.
Coordination	Coordinate with co-managers and other agency and interest groups in the Hood River basin regarding the Hood River Production Program and fish management issues in the Hood River subbasin.
Produce Annual Report	Produce and submit the FY 2005 annual report to BPA.
Produce Status Report	Produce and submit status reports to BPA.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation
# of fish released	Acclimate and volitionally release approximately 130,000 spring chinook smolts, 40,000 summer steelhead smolts, and 50,000 winter steelhead smolts.
Collect/Generate/Validate Field and Lab Data	Data to collect/generate and summarize/analyze: biosampling migrant and non-migrant smolts, fin mark quality, CWT retention, habitat, water temperatures, spawning surveys, salvage, forecast the spring chinook 2006 return, and tribal creel.

1988-053-04 - Hood River Production M&E-Odfw (Expense) Warm Springs Tribe

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.

Accomplishments

Estimated subbasin steelhead smolt production. Data is critical to managing the subbasin fishery.

Estimated timing of smolt migration in Hood River. Data was critical in reaching an agreement with PacifiCorp to discontinue diverting water at Powerdale Dam (i.e., for power production) during peak smolt migration.

Estimated non-tribal harvest and exploitation rates in the Hood River subbasin. Data is critical to allocating harvest among fisheries.

Collected genetic samples from both juvenile and adult salmonids. Data was critical in developing steelhead broodstock collection protocols.

PIT tagged pre-smolt and smolt salmonids. Data is critical in monitoring 1) life history and movement of pre-smolt migrants and 2) the timing of smolt migration past Bonneville Dam.

Participated in a cooperative inter- and intra- agency steelhead pedigree study. Data was critical in monitoring subbasin wild x hatchery steelhead interactions.

Monitored jack and adult salmonid escapements to the mouth of the Hood River, and to the spawning grounds. Data was critical to 1) allocating harvest among fisheries and 2) evaluating the HRPP relative to its biological fish objectives.

Provided data used in conducting a programmatic review of the HRPP and in 1) populating the Ecosystem Diagnosis and Treatment (EDT) model and 2) validating the EDT's output.

Developed models for predicting future run sizes of summer and winter steelhead. Data is critical in developing pre-season broodstock collection protocols.

Began developing a model to predict subbasin smolt production from summer streamflows. Data will be critical in managing indigenous populations of salmonids.

Participated in a cooperative inter- and intra agency study designed to estimate harvest of winter steelhead in the mainstem Columbia River.

Monitored smolt-to-adult survival rates of wild and hatchery steelhead. Data is critical to evaluating the HRPP relative to its biological fish obj.

Goals

Sample downstream migrant pre-smolt and smolt salmon and steelhead. Sampling is required to implement the ISRP's recommendation to PIT tag downstream migrant salmonids. Data provided by the sampling effort is critical to a) monitoring subbasin smolt production in response to habitat improvement work conducted in the subbasin; b) more accurately identify races of summer and winter steelhead destined for hatchery broodstock; c) monitor wild and hatchery smolt-to-adult adult survival rates, d) evaluate projects proposed in the Hood River Subbasin Plan relative to the subbasins biological fish objectives, and e) determine if a model can be developed to indirectly predict future run size based on the correlation between smolt production, summer flow, harvest, and escapement to Powerdale Dam. This model will be critically important in managing indigenous populations of steelhead post- Powerdale Dam.

Monitor subbasin harvest and escapements. Data is critical to a) allocating harvest among fisheries and b) developing pre-season recommendations for subbasin fisheries.

Continue to participate in a cooperative inter- and intra- agency steelhead pedigree study. Data is critical to monitoring the impact of the HRPP on indigenous populations of steelhead.

PIT tag downstream migrant pre-smolt and smolt salmonids. Data will be critical to 1) identifying contribution of subbasin pre-smolt migrant salmonids (primarily spring chinook salmon) to subbasin production, 2) timing of smolt migration through the mainstem Columbia River, and 3) identifying salmonid life history patterns unique to the Hood River Subbasin.

PIT tag experimental groups of winter steelhead that will be direct released into the upper reaches of the Hood River Subbasin. Data from this experimental group will be critical to determining if returning hatchery adults will hold and spawn over a much wider geographic range than adults that are acclimated and volitionally released at one site.

1988-053-06 - Hood R Prod O&M - Pge (Expense) Portland General Electric

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

Accomplishments

The annual accomplishments of this project have been similar since 2001. Operation and maintenance for residences and hatchery facilities has been consistent. PGE holds an annual coordination meeting with ODFW, PGE, CTWS, and BPA. Annual ladder inspections and repairs occur when the ladder is empty in the late spring. Approximately 175,000 Hood River spring chinook eggs are incubated, ponded, and eventually transferred and split between two ladder cells, and a raceway at Round Butte Hatchery. The fish are all fin marked and coded wire tagged. The fish are reared in their respective locations, and then transferred to acclimation facilities in the Hood River subbasin.

PAST Metric / Work Element	Value or description
Production: # fish released from program, by life stage and species	One raceway at Round Butte Hatchery and Pelton Ladder cells 4 and 5 (approximately 125,000 smolts) were transferred back to the Hood River for acclimation and volitional release each year.
Incubation: # fertilized eggs into incubation program, by species	Approximately 175,000 spring chinook eggs incubated each year.
Incubation: # fry (button-up) produced, by species	Approximately 160,000 spring chinook fry produced each year.
Rearing: # fish into program (fish ponded), by life stage and species	Approximately 35,000 spring chinook juveniles ponded in hatchery raceway, and approximately 110,000 spring chinook juveniles ponded in cells 4 and 5 each year.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation.
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Broodstock collection occurred at Powerdale Trap on the Hood River. Approximately 75 pairs of hatchery chinook were collected for broodstock in the Hood River each year.
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Equal numbers of males and females, and an equal representation of the entire run is the goal of the program each year.
Produce Annual Report	Annual reports produced and submitted.
Produce Status Report	Status reports submitted regularly.
Mark/Tag Animals	All spring chinook were fin marked and coded wire tagged each year prior to release.

Goals

Project goals for FY 2006 will be similar to years past. Operation and maintenance for residences and hatchery facilities will be done. PGE will hold an annual coordination meeting with ODFW, PGE, CTWS, and BPA. Pelton Ladder will be inspected and repaired when the ladder is empty in the late spring 2006. Approximately 175,000 Hood River spring chinook eggs will be incubated, ponded, and eventually transferred and split between two ladder

cells, and a raceway at Round Butte Hatchery. The fish will be fin marked and coded wire tagged. The fish will rear in their respective locations, and then be transferred to acclimation facilities in the Hood River subbasin.

CURRENT Metric / Work Element	Value or description
Production: # fish released from program, by life stage and species	One raceway at Round Butte Hatchery and Pelton Ladder cells 4 and 5 (approximately 125,000 smolts) will be transferred back to the Hood River for acclimation and volitional release.
Incubation: # fertilized eggs into incubation program, by species	Approximately 175,000 spring chinook eggs will be incubated.
Incubation: # fry (button-up) produced, by species	Approximately 160,000 spring chinook fry will be produced.
Rearing: # fish into program (fish ponded), by life stage and species	Approximately 35,000 spring chinook juveniles will be ponded in hatchery raceway, and approximately 110,000 will be ponded in cells 4 and 5.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Broodstock collection for these fish will occur at Powerdale Trap on the Hood River. Approximately 75 pairs of hatchery chinook will be collected for broodstock in the Hood River.
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Equal numbers of males and females, and an equal representation of the entire run is the goal of the program.
Produce Annual Report	Annual report will be produced.
Produce Status Report	Status reports will be submitted regularly.
Mark/Tag Animals	All spring chinook will be fin marked and coded wire tagged prior to release.

1988-053-07 - Hood R Prod O&M - Ws/Odfw (Expense) Warm Springs Tribe

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.

Accomplishments

PFF: The PFF annually held broodstock, spawned adults, cared for eggs, and acclimated spring chinook, summer and winter steelhead. The PFF has acclimated approximately 30,000 spring chinook and 30,000 winter steelhead smolts each year. These fish were acclimated and volitionally released in concrete raceways into the Middle Fork Hood River. If the fish did not migrate they were hauled to the Columbia near the mouth of the Hood River. Spring chinook adults were held, spawned, and the eggs were incubated to the eyed stage, and then transported to the Round Butte Hatchery. Summer and winter steelhead adults were held, spawned, and the eggs were shipped green to OSH. In 2005 genetic sampling determined the genotypes of steelhead before spawning to maintain genetic integrity of the hatchery brood. Tracking of all fish and reporting activities to BPA occurred regularly and as necessary. Regular maintenance and security of the facility has been maintained.

OSH: The OSH annually incubated eggs, reared juveniles, and transported smolts to the Hood River subbasin. OSH incubated and reared approximately 60,000 winter steelhead eggs to produce 50,000 smolts each year. To do this OSH coordinated with, and received approximately 60,000 winter steelhead eggs from Parkdale Fish Facility each spring. Canadian troughs and raceways were used to rear juveniles to meet the production goal of 50,000 smolts. In the fall of each year the juveniles had fins clipped to identify hatchery fish and differentiate between production years. Smolts were transferred to acclimation facilities on the Hood River. OSH incubated and reared approximately 50,000 summer steelhead eggs to produce 40,000 smolts each year. The same practices occurred for summer steelhead as for the winter steelhead.

PAST Metric / Work Element	Value or description
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	PFF: Supplementation
# of fish released	PFF: Approximately 30,000 spring chinook and 30,000 winter steelhead were acclimated and volitionally released each year
Production: # fish released from program, by life stage and species	PFF: Acclimated and volitionally released 30,000 spring chinook and 30,000 winter steelhead smolts each year to the Middle Fork Hood River.
Incubation: # fertilized eggs into incubation program, by species	OSH: Incubated approximately 60,000 winter steelhead eggs and 50,000 summer steelhead eggs each year.
Incubation: # fry (button-up) produced, by species	OSH: Incubated approximately 55,000 winter steelhead fry and 45,000 summer steelhead fry each year.
Rearing: # fish into program (fish ponded), by life stage and species	OSH: Ponded approximately 52,000 winter steelhead and 42,000 summer steelhead each year.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	PFF and OSH: Supplementation.

Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Broodstock collected at the Powerdale Fish Trap and transported to the PFF. Approximately 75 pair of spring chinook (hatchery), 22 pair of winter steelhead (unclipped), and 16 pair of summer steelhead (unclipped) collected each year.
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Equal numbers of males and females, and an equal representation of the entire run for each species and ecotype is the goal of the program each year.
Coordination	PFF and OSH: Coordinated between ODFW and CTWS as necessary to carry out tasks of the program.
Manage and Administer Projects	PFF and OSH: Planned and coordinated as necessary to provide BPA with required information.
Produce Status Report	PFF and OSH: Status reports provided on a regular basis.
Mark/Tag Animals	OSH: Winter and summer steelhead were fin clipped to differentiate hatchery from wild, and between release years.

Goals

The PFF O&M Project goals for FY 2006 include the following:
Complete all coordination, facility maintenance, and reporting required to operate the facility and complete all activities. Acclimate and volitionally release 30,000 spring chinook and 30,000 winter steelhead. Collect, hold, spawn spring chinook and incubate eggs to the swim up fry stage then transport to Round Butte Hatchery. Provide all fish culture techniques to maintain proper fish health. Collect, hold, spawn winter and summer steelhead and transport eggs green to OSH. Provide all fish culture techniques to maintain proper fish health. Utilize the genetics information to spawn fish of the correct ecotype together to maintain genetic diversity in the hatchery populations. Assist in the collection of brood from the Powerdale Fish Trap when necessary. Develop budget and submit reports as required.

The OSH O&M Project goals for FY 2006 include the following:
Complete all coordination and reporting required to accomplish all activities. Receive approximately 60,000 winter steelhead and 50,000 summer steelhead eggs green from Parkdale Fish Facility. Incubate the eggs and rear juveniles in Canadian troughs and raceways. In the fall, fin clip juveniles to identify hatchery fish and differentiate between production years. Transport smolts in the spring to acclimation facilities in the Hood River subbasin. Develop budget and submit reports as required.

CURRENT Metric / Work Element	Value or description
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	PFF and OSH: Supplementation
# of fish released	PFF: Approxmately 30,000 spring chinook and 30,000 winter steelhead each year
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	PFF and OSH: Supplementation

# of fish by origin (ad-clip/non-clip)	Broodstock collected at the Powerdale Fish Trap and transported to the PFF. Approximately 75 pair of spring chinook (hatchery), 22 pair of winter steelhead (unclipped), and 16 pair of summer steelhead (unclipped) collected each year.
Production: # fish released from program, by life stage and species	PFF: Acclimate and volitionally release 30,000 spring chinook and 30,000 winter steelhead smolts to the Middle Fork Hood River
Incubation: # fertilized eggs into incubation program, by species	OSH: Incubate approximately 60,000 winter steelhead eggs and 50,000 summer steelhead eggs
Incubation: # fry (button-up) produced, by species	OSH: Incubate approximately 55,000 winter steelhead fry and 45,000 summer steelhead fry
Rearing: # fish into program (fish ponded), by life stage and species	OSH: Pond approximately 52,000 winter steelhead and 42,000 summer steelhead
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	PFF and OSH: Supplementation.
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Collect broodstock at the Powerdale Fish Trap and transport to the PFF. Approximately 75 pair of spring chinook (hatchery), 22 pair of winter steelhead (unclipped), and 16 pair of summer steelhead (unclipped) will be collected.
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Equal numbers of males and females, and an equal representation of the entire run for each species and ecotype will be the goal.
Coordination	PFF and OSH: Coordinate between ODFW and CTWS as necessary to carry out tasks.
Manage and Administer Projects	PFF and OSH: Plan and coordinate as necessary to provide BPA with required information.
Produce Status Report	PFF and OSH: Produce status reports on a regular basis.
Mark/Tag Animals	OSH: Winter and summer steelhead will be fin clipped to differentiate hatchery from wild, and from release years.

1988-053-07 - Hood R Prod O&M - Ws/Odfw (Expense) Warm Springs Tribe

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.

Accomplishments

Since the last project review in 2001, the Powerdale Fish Facility (PFF) has operated relatively continually throughout the period. All fish escaping to the Hood River must pass through the facility, therefore it is imperative that the facility function effectively without interrupting migration. All mechanical failures associated with the facility have been repaired in timely manner, and minimized migration delays or interruptions. Escapement, life history, and genetic information collected from this project has been essential in the successful implementation and evaluation of the HRPP at the program level. Nearly all projects associated with the HRPP rely on data collected from this facility. Summer steelhead, winter steelhead, and spring chinook broodstock has been successfully collected from the HRPP and transferred to hatchery facilities for spawning and rearing.. Data collected from the PFF was used extensively for the programmatic review that was completed for the HRPP in 2003. In cooperation with the USFWS Conservation Genetics Laboratory, we have recently developed techniques using genetic markers (microsatellite DNA) to refine the projects ability to determine the ecotype of steelhead collected for broodstock. The facility has complied with all NOAA Fisheries 4d permitting processes, and stayed within all prescribed take requirements. This project has successfully coordinated a variety of ongoing management and research activities with all other projects associated with the HRPP.

PAST Metric / Work Element	Value or description
Production: # fish released from program, by life stage and species	Spring chinook broodstock is collected at the Powerdale trap.
Incubation: # fertilized eggs into incubation program, by species	Summer steelhead broodstock is collected at the Powerdale Trap.
Incubation: # fry (button-up) produced, by species	Winter steelhead broodstock is colleceted at the Powerdale Trap.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	The purpose of the Powerdale Trap operation includes elements for Supplementation, Harvest Augmentation, and Research.
# of fish by origin (ad-clip/non-clip)	The trap annually collects up to 700 wild 2,000 hatchery origin summer steelhead, 1,100 wild and 1,000 hatchery origin winter steelead, 100 wild and up to 1,100 hatchery origin spring chinook. Other species of fish are also collected.

Goals

Continue to collect all needed biological data and broodstock from fish passing through the PFF, without causing delay or increasing the mortality rate of fish escaping upstream of Powerdale Dam. Refine the projects ability to successfully identify the ecotype of broodstock collected using both genotypic and phenotypic methods. Explore future sites and methods to monitor escapement and collect broodstock prior to Powerdale Dam removal in 2010.

1988-053-XX - Hood River Production Facilities Modifications/New Const BPA

Accomplishments

174- Produce Plan
Draft of the Master Plan will go to the Council in late 2005 or early 2006.

See other 1988-053-xx projects for other past accomplishments

Goals

Approval of Master Plan
EIS

1998-021-00 - Hood River Fish Habitat (Expense) Warm Springs Tribe

Description: Implement habitat improvement actions that will support wild fish and supplementation efforts 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).

Accomplishments

2002: Hood River Action Plan completed;
2002: Farmers Irrigation Screen installation (replacement screen for 75 cfs diversion on the mainstem Hood River);
2002: Upper Baldwin Creek fence (0.2 miles);
2002: Shelly Creek fence (0.5 miles)

2003: Glacier/Evans Creek Passage and Pipe Project (removal of two culverts, piping, and elimination of interbasin transfer of water);
2003: Evans Creek culvert replacement

2004: East Fork Irrigation Passage/Pipe Phase 1 (1.1 miles of 72" pipe);
2004: Baldwin Creek culvert replacement;
2004: West Fork Hood River Irrigation Feasibility study completed;
2004: Emil Creek fence (0.5 miles)

2005: East Fork Irrigation Passage/Pipe Phase 2a (0.7 miles of 48" pipe);
2005: West Fork Large Wood Placement [in progress]

PAST Metric / Work Element	Value or description
Provide Technical Review	The West Fork Hood River Irrigation Feasibility Study was completed in 2004. It evaluated and reviewed alternatives to irrigation withdrawl from the West Fork Hood River.
Produce Plan	The Hood River Action Plan was completed in 2002 and identified projects and strategies aimed at improving water quality and fish populations in the Hood River subbasin.
Produce Annual Report	Annual reports have been submitted accordingly.
Produce Status Report	Status reports have been submitted on a monthly basis.
# of miles of fence (0.01 mi.)	1.2 miles fenced between three fencing projects.
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	54,300 acre-feet/year
Is the screen New or a Replacement? (N/R)	Replacement
Does the screen meet NOAA/FSOC specs? (Y/N)	Yes
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	75 cfs

If installing a ladder, does the ladder meet NOAA specifications for attraction flow, pool dimensions, jump height, etc? (Y/N)	There were no ladder installations. In the case of the two culvert replacements and the two removals, all specifications met NOAA criteria.
Does the structure remove or replace a fish passage barrier? (Y/N)	All culvert replacements and removals replaced passage barriers.
# of miles of habitat accessed (0.1 mi.)	Evans Creek Culvert: 2.0 miles; Baldwin Creek Culvert: 1.7 miles; Glacier/Evans Project: 0.6 miles (The barrier removal was only part of this project.)
Was barrier Full or Partial? (F/P)	Evans Creek Culvert: Full; Baldwin Creek Culvert: Partial; Glacier/Evans Project: both Full
Estimated # of miles of total stream reach improvement	Glacier/Evans Project: 4.0 miles; East Fork Phase 1 and 2a: following completion of this project 5.0 miles of Neal Creek will have improved water quality; 10.5 miles of Hood River and 7.5 miles of East Fork Hood will have water conserved.
Amount of unprotected water flow returned to the stream by conservation (cfs)	Glacier/Evans Project: approximately 1 cfs; East Fork Project: approximately 5 cfs
Estimated # of miles of primary stream reach improvement	Glacier/Evans Project: 4.0 miles; East Fork Project: 5.0 miles of Neal Creek will have improved water quality; 10.5 miles of Hood River and 7.5 miles of East Fork Hood will have water conserved.
Coordination	Coordination with other agencies, interest groups, and private landowners was required to complete the work from 2002-2005.

Goals

The Hood River Habitat Project goals for FY 2006 include the following.

Finish Phase 2b of the East Fork Irrigation Passage/Pipe Project. This will complete the second of this three phase project. This work will be cost shared with other funds. Upon completion this project will open 2.5 miles of steelhead spawning habitat, eliminate interbasin transfer of water, conserve approximately 5 cfs of water by converting ditch to pipe, remove the need for the current ill-functioning rotary drum fish screen. The last phase of this project is scheduled to be finished in 2007.

Monitor pesticide concentrations in relation to East Fork Hood River habitat utilizing water samples, macroinvertebrate assemblages, and steelhead biomarkers. This is part of an on-going study since 2000, however it was included in the Hood River M&E Project (no. 1988-053-03). This information will also be used as part of a larger monitoring plan for the East Fork Hood River Irrigation Passage/Pipe Project listed above. Partners include ODEQ, Portland State University, Hood River SWCD, and ODFW.

Remove a fish passage barrier and install a fish screen for a diversion on Tony Creek, a tributary to the Middle Fork Hood River that has listed steelhead and bull trout. This will open up approximately 4.0 miles of steelhead and bull trout habitat in Tony Creek.

Implement the West Fork Large Wood Project during the 2006 instream work window. Work on this project was initiated in 2005, and due to permitting delays implementation was not possible in 2005. Preliminary designs have

been completed, cost share funding has been secured, and permitting has been initiated. This work was not covered under the HIP Biological Opinion, therefore an independent consultation with NOAA Fisheries will be required.

CURRENT Metric / Work Element	Value or description
Produce Annual Report	An annual report will be produced to describe all of the activities that occurred in FY 2006.
Produce Status Report	Status reports and/or milestones will be reported to BPA on a consistent basis in FY 2006.
# of stream miles treated (0.01 mi.)	0.5 miles
# of structures installed	21
Start and end lat/long of treated reach (0.1")	start latitude:045 degrees 27' 25.8"N start longitude:121 degrees 46'47.5"W; end latitude:045 degrees 27'44.8" N end longitude:121 degrees 46'49.3"W
# of miles of habitat accessed (0.1 mi.)	4.5 miles
Collect/Generate/Validate Field and Lab Data	Organophosphate pesticide monitoring in the East Fork Hood River subbasin. This work has included annual sampling since 2000. The work includes: water column concentrations, macroinvertebrate assemblages, and steelhead biomarkers.
Estimated # of miles of total stream reach improvement	5.0 miles of Neal Creek: improved water quality; 10.5 miles of Hood River and 7.5 miles of East Fork Hood: water conservation
Amount of unprotected water flow returned to the stream by conservation (cfs)	approximately 5 cfs
Amount of unprotected water flow returned to the stream by conservation (acre-feet)	approximately 3,620 acrefeet/year
Estimated # of miles of primary stream reach improvement	5.0 miles of Neal Creek will have improved water quality by eliminating interbasin transfer of water from the glacial East Fork to the spring-fed Neal Creek. This project will also eliminate a partial fish passage barrier and an ill-functioning screen.
Coordination	Coordination with other agencies, interest groups, and landowners will be necessary to complete the scheduled work in FY 2006.

1988-115-35 - Ykfp - Klickitat Design & Construction (Capital) Confederated Tribes And Bands Of T

Accomplishments

Goals

1988-115-35 - Klickitat - Design and construct (Expense) Confederated Tribes And Bands Of T

Accomplishments

PAST Metric / Work Element	Value or description
Produce Design and/or Specifications	2003- Project contributed to completion of engineering designs for Castile Falls 4/5 and 10/11 fishway improvements augmenting NOAA construction activities.
Produce Design and/or Specifications	2004 – Completed engineering design of the Lyle Falls Facility to the 90% level for Fishway passage improvements and broodstock collection.
Produce Design and/or Specifications	2004 – Completed engineering designs for Castile Falls #10 adult trap and enumeration facility.

Goals

Winter 2005 – Conduct NEPA work for Master Plan
Step II activities:
Winter 2005 – Complete final engineering design for McCreedy Creek Acclimation Site (currently @ 20% design)
Winter 2005 – Complete final engineering design for Lyle Falls Facility (currently @ 90% design)
Summer 2006 - Complete final engineering design for Wahkiacus Hatchery & Acclimation Facility (currently @ 50% design using NOAA funding).
Spring 2006 – Complete Klickitat Hatchery Facility analysis, prioritization and conceptual design.

1988-120-35 - Klickitat Mgmt, Data, Habitat (Expense) Confederated Tribes And Bands Of T

Description: This proposal provides support for Yakama Nation policy, management and administrative activities related to all YKFP operations in the Klickitat River Basin, including all M & E, O & M and Design and Construction activities.

Accomplishments

A primary result of the MD&H project has been the successful implementation of the M&E and KWEP projects, as described in the respective project annual reports. Additional accomplishments in terms of habitat, data and financial resources management are described in the MD&H project annual reports. The MD&H reports can be found at
1) http://www.efw.bpa.gov/Publications/
2) http://www.efw.bpa.gov/Publications/
The Metrics and descriptions included in these comments were cut and pasted from the current statement of work for the Yakama Nation/Bonneville contract implementing the MD&H project. The 255 character limit on metric description text caused some truncation. However all of these project metrics were met and documented in Project Annual Reports from 2002 to present.

PAST Metric / Work Element	Value or description
Council 3-step Process: Step 1	Coordinated with NPCC to develop Klickitat Subbasin Anadromous Fishery Master Plan currently in Step I review.
Produce Plan	Coordination-2001-present. Worked with: WDFW to transition Klickitat Mitchell Act Hatchery maintenance activities at Castile Falls; NPCC to develop Subbasin Plan, Subbasin Supplement; NOAA to develop HGMPs, CRFMP.
Coordination	Coordinated & implemented all YKFP-Klickitat activities; developed SOW, YKFP project documents, contract budgets, compliance with all applicable laws & environmental review requirements, subcontractor procurement, and financial reporting.
Coordination	Coordinated with Federal, state and local government and non-governmental organizations with respect to anadromous fish, stream flows and related matters to promote fish and riparian habitat and streamflow (passage) protection and restoration; monitor rec
Coordination	Coordination of YKFP-Klickitat management and policy development with other government agencies and decision-making bodies; WDFW, BPA, NPCC, NOAA Fisheries, CBFWA, as well as coordination of lead agency activities with appropriate Tribal officials and per
Identify and Select Projects	Identified and sought funding for habitat, passage and instream flow restoration and protection projects within the Klickitat subbasin. Projects were developed pursuant to the NPCC's ongoing planning effort for the Columbia Gorge Province, and were consis
Manage/Maintain Database	Maintained an up-to-dated Information System Management Plan (ISMP) by identifying the YKFP's near and long term data and information management needs within the Klickitat basin. Developed methods to standardize, consolidate and centralize all data. Desi

Collect/Generate/Validate Field and Lab Data	Implemented the ISMP by monitoring the data collection systems of the YKFP, supervising the input of all data into a standardized system and coordinating any necessary reformatting of existing data.
Submit/Acquire Data	Acquired appropriate Klickitat basin data from collection activities performed by YKFP and other relevant entities. Ensured quality control, standardization, and proper storage procedures for all data and information acquired.
Disseminate Raw & Summary Data	Identifed the appropriate data and/or information to be shared with various entities. For a given entity made data available at a useable resolution through appropriate media. This included electronic file transfers for specific data requests or web pages
Provide Technical Review	Participated in Project & Provincial Reviews which are vital part of the annual review and planning cycle that contributes to the research considerations for Klickitat activities within the YKFP.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Expansion of YKFP in Klickitat Subbasin afforded opportunity to assist in ongoing educational outreach into local community. Project staff partnered with the USFWS- Columbia Gorge Information and Education Office to provide outreach activities that are i
Produce Annual Report	Produced annual report detailing the accomplishments for each work element of the Klickitat Management, Data & Habitat Contract.
Produce Status Report	Produced quarterly status report detailing the accomplishments for each work element of the Klickitat Management, Data & Habitat Contract.

Goals

The Yakama Nation will continue performance of YKFP management responsibilities, which generally include:
1. Project planning and budgeting activities;
2. Operation and maintenance activities at YKFP facilities;
3. Project research management in accordance with adaptive management principles;
4. Design and development of a centralized database for Project use and dissemination to others;
5. Identification of habitat restoration and acquisition projects;
6. Outreach and Education; and
7. Dissemination of accumulated project information through the project reviews, conferences, the project web site (ykfp.org), project reports, and other means.
See also the metrics set forth in the Past Accomplishments field. All of these metrics will be used again in FY 2006.

1995-063-35 - Klickitat Fishery Ykfp M & E (Expense) Confederated Tribes And Bands Of T

Description: Collect and integrate baseline information on habitat, demographics and life history to design comprehensive enhancement plans. Monitor production, harvest, gentic and ecological impacts of Klickitat programs to guide adaptive management.

Accomplishments

This project is the primary fish population monitoring and data collection effort occurring in the Klickitat subbasin. Smolt outmigration, spawner abundance, habitat conditions, and basic water quality (including stream temperature) are regularly monitored throughout the subbasin. The age structure of adult and juvenile salmonid populations is assessed through scale sample collection. Other information is collected on a more occasional basis, including sampling for genetic and pathogen testing, and fish barrier assessments. Project staff also assisted on a nutrient enhancement/carcass analog study in Klickitat tributary streams.

PAST Metric / Work Element	Value or description
Install Fish Trap/Monitoring Weir	3 rotary screw traps operated to monitor smolt outmigration (2 traps operated year-round, 1 trap operated for 6 months each year).
Collect/Generate/Validate Field and Lab Data	Spawner surveys for salmon and steelhead conducted on 150 stream miles each year. Stream habitat surveys conducted at 26 sites. Gravel sediment samples collected at 7-17 sites each year. Temperature and water quality monitored at 29-39 sites each year.
Mark/Tag Animals	10,000 hatchery spring chinook PIT-tagged and released in spring 2005.
Submit/Acquire Data	PIT tag data submitted to PTAGIS.
Manage/Maintain Database	Assisted Klickitat Data Manager with development of smolt monitoring database, and preliminary development of water quality and fish distribution databases.
Disseminate Raw & Summary Data	Summary spawner survey and age data submitted to WDFW each year for stock assessment and run forecast requirements. Summary data from this project also disseminated via publication of subbasin and master plans on YKFP, BPA, NPCC, and CBFWA web sites.
Analyze/Interpret Data	Data from habitat surveys and spawner surveys used to populated EDT model for Klickitat subbasin.
Produce Annual Report	Annual reports produced each year which describe data collection methods and summarize results.
Produce Status Report	4 quarterly status reports produced each year.

Goals

It is anticipated that this project will continue to be the primary fish population monitoring and data collection effort in the Klickitat subbasin. Smolt outmigration, spawner abundance, habitat conditions, and basic water quality (including stream temperature) will be regularly monitored throughout the subbasin. The age structure of adult and juvenile salmonid populations will be assessed through scale sample collection. Other information will be collected on a more occasional basis, including sampling for genetic and pathogen testing. An adult salmonid radio telemetry study (a project previously identified in prior BPA solicitations) as a collaborative project with other agencies will also be developed.

CURRENT Metric / Work Element	Value or description
Install Fish Trap/Monitoring Weir	Operate 3 rotary screw traps to monitor smolt outmigration (operate 2 traps year-round, operate 1 trap 6 months). Operate 1 adult fish trap near river mouth to estimate salmonid abundance and run timing.
Collect/Generate/Validate Field and Lab Data	Conduct spawner surveys for salmon and steelhead on 150 stream miles. Conduct stream habitat surveys at 5 sites. Collect gravel sediment samples at 10 sites. Conduct temperature and water quality monitoring at 39 sites.
Mark/Tag Animals	Radio tag 30-50 adult salmonids to determine migration patterns, passage delays, and prespawning holding locations.
Submit/Acquire Data	Submit any relevant data to PTAGIS or other regionwide databases.
Manage/Maintain Database	Assist Klickitat Data Manager with continued development of smolt monitoring database, spawner survey database, water quality database, and fish distribution database.
Disseminate Raw & Summary Data	Submit summary spawner survey and age data to WDFW for stock assessment and run forecast requirements. Disseminate summary data from project on YKFP web site.
Analyze/Interpret Data	Develop estimates of smolt and adult abundance. Populate future runs of EDT model with data from habitat and spawner surveys.
Produce Annual Report	Produce annual report which will describe data collection methods and summarize results.
Produce Status Report	Produce 4 quarterly status reports.

1995-068-00 - Klickitat Passage/Habit Design (Capital) Confederated Tribes And Bands Of T

Description: Integrated watershed anaylsis to produce information that identifies passage, habitat improvements oppurtunities and supplememntation strategies within basin.Test new supplementation techniques to increase natural production, harvest and genetic fitness.

Accomplishments

Goals

1997-013-35 - Klickitat Fishery Ykfp O & M (Expense) Confederated Tribes And Bands Of T

Accomplishments

N/A

Goals

N/A

1997-056-00 - Klickitat Watershed Enhance (Expense) Confederated Tribes And Bands Of T

Description: Improve habitat and riparian conditions for steelhead, coho with cattle exclosure fencing, land aquistions, large woody debris, enhance pool formation, capture spawning gravels, revegetation of riparian areas, augment summer flows, reduce sediment.

Accomplishments

KWEP Activities fall into three main catgories:

1) assessment and prioritization:

Feedback from the last Provincial Review indicated a need to assess watershed conditions and identify priorities as well as better communication of priorities. Consequently, an emphasis has been place on information collection, management and dispersal.

2) protection, enhancment, and restoration

KWEP is the only mechanism of ongoing habitat funding in the Klickitat subbasin. KWEP actions are integrated into a multi-project framework. Nearly all KWEP projects involve cost-sharing and partners. Collectively, KWEP has partnered with 12 different entities including state, federal, and tribal agencies as well as conservation districts, non-profits, and industry. These partnerships have resulted in over $3 million of non-BPA dollars.

3) monitoring:

Monitoring had been a substantial component of KWEP activities. Both site-specific and watershed spatial scales are addressed by the monitoring protocols outlined in the tasks below. While the Klickitat M&E project is the principle element for collection of monitoring data collection, KWEP has taken-on oversight of habitat-related data collection (TFW, temperature, and sediment), quality control, and analysis.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Applicable permits are specific to individual projects, but have collectively included: WDFW Hydraulics Permit, Clean Water Act 401(c) and 404, Shorelines, Tribal Hydraulics permit, NEPA, SEPA, and related archeological and cultural resources clearances.
Produce Environmental Compliance Documentation	Blanket NEPA documentation has been completed for all KWEP-related data collection activities.
# of stream miles treated (0.01 mi.)	Completion of large woody debris (LWD) jams at ten different sites totaling 0.4 miles along the upper Klickitat River
# of stream miles treated (0.01 mi.)	Completion of 22 in-channel and 2 off-channel restoration and enhancement elements at two different reaches totaling 0.55 miles along the Diamond Fork.
# of stream miles treated before realignment (0.1 mi.)	Realigned 0.5 mi of stream channel associated with the Surveyors Creek Fish Passage Enhancement Project resulting in a net gain of 100’ of stream and higher quality pool habitat. Historic culverts were left in-situ to maintain floodplain connectivity.

Develop Alternative Water Source	Provided materials to grazing permittees for spring development and repair off two watering sources along non-fish bearing springs to reduce livestock drifting into Dead Canyon Creek and the Klickitat River.
Develop Alternative Water Source	Repaired 1600' of line associated with a pressurized off-channel livestock water supply.
# of road miles improved, upgraded, or restored	Decreased approach grade, applied crushed aggregate surface, and constructed grade dips for roughly .23 mi of road associated with approaches to stream crossing at Surveyors Creek
# of miles of fence (0.01 mi.)	Completed 0.5 mi of fence restricting access to 3000 feet of the Little Klickitat River
# of riparian miles treated (0.01 mi.; count each bank separately)	Collected prepared and planted 3,085 willow cuttings along 0.23 mi of the Klickitat River in the vicinity of Kessler's Ranch.
# of riparian miles treated (0.01 mi.; count each bank separately)	Collected prepared and planted roughly 900 willow cuttings along 0.21 mi of the Diamond Fork in Klickitat Meadows
# of riparian miles treated (0.01 mi.; count each bank separately)	Collected prepared and planted 5,447 willow cuttings along 0.63 mi of the Diamond Fork
# of riparian miles treated (0.01 mi.; count each bank separately)	Collected prepared and planted a total of 1,582 willow cuttings along roughly 0.15 mi of bank on two reaches totaling 0.49 mi of the Diamond Fork.
# of riparian miles treated (0.01 mi.; count each bank separately)	Planted 1960 sedge plugs along 0.13 mi of bank along a 0.28 mi reach of White Creek
# of riparian miles treated (0.01 mi.; count each bank separately)	Collected prepared and planted over 3000 dogwood cuttings along portions of the bank and floodplain for roughly 0.08 mi of Surveyors Creek.
# of riparian miles treated (0.01 mi.; count each bank separately)	In Cooperation with MCRFEG and volunteers, collected prepared and planted roughly 1000 willow, cottonwood, and dogwood cuttings along portions of the bank and floodplain for roughly 0.09 mi of Snyder Creek
# of riparian miles treated (0.01 mi.; count each bank separately)	Collected prepared and planted a total of 550 willow cuttings along roughly 0.03 mi of bank along the Diamond Fork
Does the structure remove or replace a fish passage barrier? (Y/N)	Replaced a partial barrier on Surveyors Creek restoring access to 8.7 miles of upstream perennial habitat.
# of miles of habitat accessed (0.1 mi.)	Partnered in the Snyder Creek (Klickitat Mill) Fish Passage Restoration Project which replaced two culverts, removed a total-barrier low-head dam, and installed baffles in a 2600' concrete flume and restored access to 2.5 miles of upstream habitat.
Conduct Pre-Acquisition Activities	partnered with Columbia Land Trust to successfully receive SRFB funding for acquisition that included 1.0 miles of tributary and 1.25 mile of the mainstem Klickitat River.

Conduct Pre-Acquisition Activities	partnered with Columbia Land Trust to successfully receive SRFB funding for a conservation acquisition that included 0.5 miles of tributary steelhead habitat. KWEP provided funding for appraisal and grant-writing assistance.
Conduct Pre-Acquisition Activities	Currently partnered with CLT on a SRFB-funded project that will conserve 1.5 miles of primary channel and 2.1 miles of side channel of the mainstem Klickitat. KWEP is conducting a restoration feasibility assessment and partial funding for the appraisal
Identify and Select Projects	Provided content and technical review of Klickitat Lead Entity Strategic Plan which documents geographic priorities and limiting functions of watersheds and reaches within the Klickitat Subbasin.
Identify and Select Projects	Provided inputs for and technical review of result so Klickitat EDT model which assists in identifying geographic priorities and indexing potential benefits.
Identify and Select Projects	Provided content for portions of Klickitat Subbasin Plan including Key Findings and geographic priorities
Produce Inventory or Assessment	Completed channel stability assessment on 13 miles of Swale Creek. Assessment identified priority work sites, conceptual alternatives, and provided rough cost estimates.
Produce Inventory or Assessment	Completed feasibility study for instream restoration on 1800' of Tepee Creek. Assessment modeled site hydraulics, identified conceptual alternatives, and provided rough cost estimates.
Produce Inventory or Assessment	Completed inventory and assessment of large woody debris characteristics and distribution along 29 miles of the lower Klickitat River.
Produce Inventory or Assessment	Completed inventory and assessment of LWD and summer refugia along 6.4 miles of White Creek.
Produce Inventory or Assessment	Completed field work and hydraulic analysis for a feasibility assessment of enhancing floodplain connectivity along 12.2 miles of the Klickitat R. Assessment identified priority work sites, conceptual alternatives, and provided rough cost estimates.
Produce Inventory or Assessment	Completed inventory and assessment of 73 miles of road in the upper White Creek watershed.
Produce Inventory or Assessment	Completed inventory and assessment of roughly 25 miles of road. Prioritized and developed conceptual prescriptions for roughly 100 miles of road in the upper White Creek watershed.
Coordination	Nearly all KWEP project involve cost-sharing and partners, coordination is an important component. Collectively, KWEP has partnered with 12 different entities including state, federal, and tribal agencies as well as coservation districts and non-profits.

Coordination	Not counting volunteer labor, KWEP has coordinated with over 50 private individuals to conduct activities ranging from site assessments to restoration projects.
Coordination	There is a high-degree of interaction between the KWEP and other BPA-funded projects in the subbasin. Klickitat M&E and Data Management project staff work cooperatively on many projects.
Manage and Administer Projects	KWEP has been involved in over 30 different projects since the Provincial Review. Roughly 2/3 of these were KWEP-sponsored. KWEP participated as a partner in the remaining projects.
Manage and Administer Projects	In addition to individual projects, overall management and administration of KWEP is conducted by project staff.
Provide Technical Review	conducted technical review of WDFW design for the Snyder Creek (Klickitat Mill) Fish Passage Restoration Project
Provide Technical Review	conducted technical review of the "Swale Creek Water Temperature Study" by Watershed Professional Network prepared for the Klicktiat Watershed Planning Unit.
Provide Technical Review	conducted technical review of NRCS design for instream project on the Little Klickitat River
Provide Technical Review	conducted technical review of WDNR grazing plan for the upper Diamond Fork watershed
Provide Technical Review	conducted technical review of SRFB grant applications submitted to the Klickitat Lead Entity in 2000, 2001, 2002, and 2004
Provide Technical Review	conducted technical review and assisted writing Biological Assessment for instream project on the Little Klickitat River
Provide Technical Review	conducted technical review of Klickitat Energy Overlay EIS
Provide Technical Review	conducted technical review of USFS' Klickitat Rails-to-Trails Environmental Assessment
Provide Technical Review	Conducted Technical review of 7 chapters (Hydrologic Framework, Water Quantity, Water Quality, Water Use, Land-use Effects, Fish Habitat Quality, and Data Gaps and Recommendations) of the WRIA 30 Watershed Management Plan
Provide Technical Review	provided technical review of portions of Klickitat Subbasin Plan
Provide Technical Review	provided technical review and content for portions of Klickitat Master Plan
Provide Technical Review	provided technical review of Little Klickitat River Watershed Temperature TMDL study
Provide Technical Review	Provided technical assistance for floodway modeling of the Klickitat River in the vicinity of the mouth of Swale Creek

Provide Technical Review	Provided technical assistance for flow modeling of the Klickitat River in the vicinity of Lyle Falls
Provide Technical Review	Provide ongoing technical assistance to the Klickitat Lead Entity as part of the Washington State Salmon Recovery Process
Produce Plan	Provided funding assistance for development of a land management plan (including road maintenance and abandonment) for parcels acquired by Columbia Land Trust for conservation acquisition (discussed under “Conduct Pre-Acquisition Activities”).
Produce Plan	provided content for portions of Klickitat Subbasin Plan
Produce Plan	provided content for portions of Klickitat Master Plan
Produce Plan	provided content for portions of Klickitat Lead Entity Strategic Plan
Produce Design and/or Specifications	Completed design for the Surveyors Creek Fish Passage Enhancement Projec
Produce Design and/or Specifications	Completed design for the Klickitat Meadows Restoration Project
Produce Design and/or Specifications	Completed design for the Klickitat River Meadows Restoration Project
Produce Design and/or Specifications	Completed design for passage restoration on Logging Camp Creek
Produce Design and/or Specifications	Provided design and permitting assistance to Klickitat M&E Project for relocation of a rotary screw trap
Produce Design and/or Specifications	completed preliminary topographic surveys and conceptual design for four partial barriers in the White Creek watershed
Produce Design and/or Specifications	completed topographic surveys and 70% designs for two passage barriers in the Trout Creek watershed
Produce Design and/or Specifications	completed profile and cross-sectional surveys and conceptual design for enhancment of an 800' reach of Swale Creek (RM 2). Project funding is coming from a State LIP grant received by the landowner that KWEP staff assisted writing.
Produce Annual Report	Four annual reports were prepared and submitted to BPA.
Produce Status Report	Fifteen status reports were prepared and submitted to BPA. RPA report forecasts and reporting were also prepared and submitted to BPA for each year.
Collect/Generate/Validate Field and Lab Data	There are over 80 TFW segments within the basin, roughly half were originally inventoried in the 1990s. In 2004 Klickitat M&E and KWEP began revisited 6 previously inventoried segments and plan to average at least that many for reinventory each year.

Collect/Generate/Validate Field and Lab Data	There are currently 31 temperature monitoring sites that are monitored year-round with data loggers. KWEP staff took-on data collection, quality control, and management oversight in 2003. Analysis is ongoing.
Collect/Generate/Validate Field and Lab Data	On average, Klickitat M&E personnel collect spawning gravel samples from 10 sites each year. KWEP staff took-on data collection, quality control, and management oversight in 2003. Analysis is ongoing.
Collect/Generate/Validate Field and Lab Data	There are currently 13 staff gages where KWEP funds regular or semi-regular streamflow measurements. Crest gages have been built and installed in the last year to capture peak flows.
Manage/Maintain Database	A relational databases was created for TFW (Reference Point, Habitat, and Large Woody Debris modules) data. Input forms, queries and reports have been created and checked. Management is ongoing.
Manage/Maintain Database	A relational databases was created for temperature data. Queries and reports have been created and checked. Input forms were not necessary because data is imported electronically from data loggers. Management is ongoing.
Manage/Maintain Database	A relational databases was created for spawning gravel data. Input forms, queries and reports have been created and checked. Management is ongoing.
Manage/Maintain Database	We are currently in the process of centralizing storage of GIS base layers into an ArcSDE geodatabase to minimize redundancy, ensure Quality Control, and free-up local storage on harddrives.
Is the measuring device portable or fixed (P/F)?	Pressure transducers have been installed (fixed) at two locations and are scheduled for installation at nine more in the next twelve months.

Goals

The overall goal of the Klickitat Watershed Enhancement Project (KWEP) is to restore watershed health to aid recovery of salmonid stocks in the Klickitat subbasin. An emphasis is placed on restoration and protection of stream reaches and watersheds supporting native anadromous fish production, particularly steelhead (Oncorhynchus mykiss) and spring Chinook (O. tshawytscha). Steelhead in the Klickitat subbasin are ESA-listed as “Threatened” within the Mid-Columbia ESU.

KWEP activities occur in three main sub-goals:
1) Assess and prioritize watersheds and reaches for restoration activities.
2) Protect, restore, and enhance priority watersheds and reaches.
3) Monitor site-specific and basin-wide conditions.

In FY06 KWEP activities will address numerous metrics including: Produce Environmental Compliance Documentation; Increase Instream Habitat Complexity;
Realign, Connect, and/or Create Channel; Improve Road; Install Fence; Plant Vegetation; Maintain Vegetation; Install Fish Passage Structure; Conduct Pre-Acquisition Activities; Identify and Select Projects; Produce Inventory or Assessment; Coordination; Manage and Administer Projects;
Provide Technical Review; Produce Design and/or Specifications; Produce Annual Report; Produce Status Report;

Collect/Generate/Validate Field and Lab Data; Manage/Maintain Database; Disseminate Raw & Summary Data; Analyze/Interpret Data; Install Flow Measuring Device.

Metric-specific information is being prepared and will be submitted with the FY06 Work Statement proposal to BPA in August.

1999-024-00 - Bull Trout Assessment Col Gorg (Expense) WDFW - Olympia

Description: This project will provide critical information to determine status of bull trout populations in the Wind, Little White Salmon, White Salmon, and Klikitat subbasins and to develop and implement required mgmt actions to restore & maintain healthy population

Accomplishments

Completed surveys of likely bull trout waters in Wind River Subbasin.
Completed surveys of likely bull trout waters in Little White Salmon Subbasin.
Surveyed likely bull trout waters in Upper White Salmon Subbasin.
Surveyed likely bull trout waters in the Klickitat sub-basin Provided comment on AFS Interim Protocol for Determining Bull trout Presence

Goals

WDFW personnel will evaluate completed research and results based upon the two AFS protocols, developed post project completion in Oct. 2004, for 1) bull trout distribution (presence/absence), and 2) determination of potential or suitable bull trout habitat. Future need to revisit this geographic area may be warranted.

1998-019-00 - Wind River Watershed (Expense) Underwood Conservation

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

Accomplishments

Goals

1998-019-00 - Wind River Watershed (Expense) Underwood Conservation

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

Accomplishments

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	USGS, WDFW, and USFS reached potentially several thousand members of the general public and science community through presentations at meetings. UCD and USFS reached over 750 students and adults through educational and outreach activities.
Coordination	Coordinated data use for Wind EDT with WDFW, YN, UCD, USFWS, and others. Worked with USFWS on fish diseases. Worked with OSU on stable isotopes. Worked with LCRFEG on nutrient enhancement research. Meetings held: 38 Watershed Council and 15 TAC.
Manage and Administer Projects	Submitted annual SOWs.Submitted a property inventory to BPA in 2005.Submitted accrual estimates.
Produce Annual Report	Annual reports were submitted for 1998 and 1999 as multi-agency efforts. Since then, each agency has submitted their own annual reports. USGS has submitted through 2002, WDFW through 2004, UCD through 2004, and USFS through 2003. Others are in prep.
Collect/Generate/Validate Field and Lab Data	Performed 11 km of electrofishing surveys, 56 km of snorkel surveys, 111 km of redd surveys, and 32 km of habitat surveys. Maintained 43 thermographs, visited 14 sites for water-quality (140 samples total), and installed and maintained 1 stream gage
Mark/Tag Animals	9,146 steelhead parr were PIT tagged by USGS efforts. Thousands of smolts were PIT tagged or coded wire tagged by WDFW. Hundreds of adult steelhead were floy tagged by WDFW.
Submit/Acquire Data	All PIT-tag data were submitted to the PTAGIS database. Recapture data and out-of-subbasin interrogation data were queried from the PTAGIS database.
Manage/Maintain Database	Habitat, fish population, temperature, and flow data have been entered into electronic format and organized into internal database systems.
# of acres of vegetation planted (0.1 ac.)	Planted 4,400 trees. Underplanted 70 acres of riparian area.
# of acres treated (0.1 ac)	Removed weeds on 17 riparian acres. Thinned 90 forested riparian acres.
# of stream miles treated (0.01 mi.)	6.0 km of stream restoration through addition of LWD.
# of road miles decommissioned (0.01 mi.)	15.9 km of road decommissioned.

If installing a ladder, does the ladder meet NOAA specifications for attraction flow, pool dimensions, jump height, etc? (Y/N)	Upgraded two culvert crossings to bridges
Does the structure remove or replace a fish passage barrier? (Y/N)	N
Was barrier Full or Partial? (F/P)	P
Provide Technical Review	Completed a sediment transport analysis of Hemlock Dam. Completed technical assessment of steelhead performance with Hemlock Dam removed. Completed Environmental Assessment for future restoration work. Provided technical assistance to 14 landowners.
Operate/Maintain Facility	Installed and operated four cameras and two PIT-tag detection antennas in the Hemlock Fish Ladder.
Install Fish Trap/Monitoring Weir	Installed and operated smolt traps each year, currently 4 each year .Operated two adult traps each year.Installed weir in Trout Creek for summer 2004

Goals

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Contact 100s of general public and scientific community through Wind River presentations at Watershed Council and professional meetings in 2006
Coordination	Continue coordination with USFWS Lower Columbia River Fish Health Center.Continue to facilitate Watershed Council and Technical Advisory Group meetings.Continue to collaborate with ongoing nutrient enhancement research funded by LCFRB.
Manage and Administer Projects	Prepare SOWs.Prepare administrative record for Hemlock Dam project.
Produce Annual Report	Continue data analysis and Annual Reporting.
Install Fish Trap/Monitoring Weir	Install and operate four smolt traps.Operate two adult traps.
Collect/Generate/Validate Field and Lab Data	Conduct 2.5 km electrofishing population surveys, 4.1 km snorkel surveys, and 37 km of redd surveys. Maintain 43 thermographs, monitor water quality at 5 sites, and operate 1 stream gage.
Mark/Tag Animals	PIT tag 3,000 steehead parr gained from smolt trapping and instream electrofishing. Thousands of steelhead smolts will be PIT tagged or coded wire tagged through smolt trapping. Hundreds of adult steelhead at Shipherd Fall trap will be floy tagged.

Submit/Acquire Data	Submit PIT tagging data to PTAGIS database.Query out-of-subbasin PIT tag interrogation and recapture information.
Manage/Maintain Database	We will continue to transfer data to electronic format and add to our existing database of fish, habitat, and temperature data.
# of acres of vegetation planted (0.1 ac.)	Plant 1,000 trees in riparian areas
# of acres treated (0.1 ac)	Remove weeds from 7 acres
Produce Plan	Plan installation of fish habitat and bank stabilization structures
# of stream miles treated (0.01 mi.)	Implement 4,800 m of instream work to increase habitat complexity
Operate/Maintain Facility	Continue to evaluate fish passage at Hemlock Dam with cameras and PIT tag readers.

1991-061-00 - Swanson Lake Wildlife Mitigation (Expense) WDFW - Olympia

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.

Accomplishments

Other work elements completed but not found on the metrics list include : Maintain facility, which includes office building, residence, and shop/equipment storage structures, and wells. Maintain roads: graded/graveled one mile of entry road to office, parking areas, and other trails on project as needed.
Other: on-going vehicle/equipment maintenance; maintenance of informational signs, reader board and kiosk; administrative duties and professional development.

PAST Metric / Work Element	Value or description
# of acres of vegetation planted (0.1 ac.)	Summer fallowed and seeded approximately 500 acres to a native perennial grass and forb mix.This is conversion of old agricultural fields to native shrub-steppe habitat.We believe grouse are now nesting in some of these fields, and sightings are frequent.
# of riparian miles treated (0.01 mi.; count each bank separately)	Planted 1,000 deciduous trees and shrubs into area to reestablish riparian habitat for wintering grouse.Most of these plants were placed within protective fence and irrigated using nearby windmill.
# of miles of fence (0.01 mi.)	Completed 2.25 miles of new fence including survey. Maintained and repaired 60 miles of existing fence, including gates with and without locks, and cattleguards.
# of acres treated (0.1 ac)	Chemical and physical treatment of between 500 and 750 acres of noxious weeds annually, between 2002 and 2005. Biological treatment of St. Johnswort, common mullein and Canada thistle: small patches, total of less than 15 acres annually.
Maintain Vegetation	Controlled weeds on newly restored grasslands.Conducted grassland fertilization and herbicide trials to determine usefulness in new grassland plantings.Weeded/tilled plot, planted grass underlayer,and fenced and irrigated new tree/shrub plot.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Average annual figures: Teachers = 10, Students = 100, General public = 200.
Coordination	Coordinate with Colville Confederated and Spokane Tribes, US BLM, USFWS, NRCS, Washington DNR, Lincoln County Conservation District, private landowners, and other WDFW staff, working on shrub-steppe and/or prairie grouse restoration in eastern Washington.
Manage and Administer Projects	Supervise subcontracted activities, develop SOW and budget, purchase and monitor inventory, meet safety and legal requirements, monitor spending, manage staff and volunteers, metric reporting.

Produce Status Report	Produced monthly status reports in past, now using quarterly status reports. Semi-annual status reports also produced. Both types describe progress, re: objectives/milestones in SOW. Produce annual herbicide use/acreage report.
Produce Plan	Worked with various entities to produce Crab Creek Sub-Basin plan. Development of new, WDFW-standardized, wildlife area management plan is in progress.
Collect/Generate/Validate Field and Lab Data	Counted sharp-tailed grouse at known leks and and searched nearby areas for satellite (new) leks, annually. Work with WDFW employee hired to track radio-collared grouse brought to SLWA in 2005, to collect location data.
Produce Inventory or Assessment	Worked with various entities in producing fish, wildlife and habitat inventory and assessment, in process of developing Crab Creek Sub-Basin Plan.
# of acres of renewed lease (0.1 ac.)	Maintain regularly renewing, annual lease of 1280 acres from DNR.Maintain leases with two share croppers:Mauer for 85 acres of hay flat, Nelson for 116 acres of grain.
Start and end dates of lease (mm/dd/yyyy)	Share cropper leases: Mauer 3/1/04 to 12/31/08, Nelson 2/1/02 to 10/31/06.
Produce Annual Report	Produce annual herbicide usage/acreage report.
Maintain Terrestrial Structure	Maintain multiple kestrel and bluebird nest boxes throughout SLWA.
Remove Debris	Remove roadside trash from SLWA.
Mark/Tag Animals	Assist with trapping, installing radio transmitters onto, and transporting sharp-tailed grouse from Idaho to Washington, as part of long-term augmentation effort in support of restoring grouse population in Washington.

Goals

Other work elements anticipated but not found ont he metrics list include: Maintain facility, which includes office building, residence, shop/equipment storage structures, and wells.
Maintain roads: grade/gravel one mile of entry road to office, parking areas, and other trails on project as needed.
Other: on-going vehicle/equipment maintenance; maintenance of informational signs, reader board and kiosk; administrative duties and professional development.

CURRENT Metric / Work Element	Value or description
# of miles of fence (0.01 mi.)	Fence/gate installation as needed, when a component of maintenance and repair. Covers 60 miles of fence and numerous gates both with and without locks, and cattleguards.
# of acres of vegetation planted (0.1 ac.)	Summer fallow and seed approximately 75 acres to a native perennial grass and forb mix.This is conversion of old agricultural fields to native shrub-steppe habitat.We believe grouse are now nesting in some of the previously planted fields.

# of riparian miles treated (0.01 mi.; count each bank separately)	Plant up to 1,000 deciduous trees and shrubs, to reestablish riparian habitat for wintering grouse.Place plants within protective fence and irrigated using nearby windmill or solar power, from existing well.
# of acres treated (0.1 ac)	Chemical and physical treatment of between 500 and 750 acres of noxious weeds. Use Integrated pest management (IPM) as appropriate.
Maintain Vegetation	Control weeds on newly restored grasslands. Inspect grassland fertilization and herbicide trial plots to determine usefulness in new grassland plantings.Weed/till plot, plant grass underlayer,and fence and irrigate tree/shrub plot to be planted in 2006.
# of acres of renewed lease (0.1 ac.)	Maintain regularly renewing, annual lease of 1280 acres from DNR.Maintain leases with two share croppers:Mauer for 85 acres of hay flat, Nelson for 116 acres of grain.
Start and end dates of lease (mm/dd/yyyy)	Share cropper leases: Mauer 3/1/04 to 12/31/08, Nelson 2/1/02 to 10/31/06.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Predicted average annual figures: Teachers = 10, Students = 100, General public = 200.
Produce Inventory or Assessment	Continue to assess vegetation trends. Establish/map photopoint and data collection sites. Collect nested frequency and cover data on key plant species, canopy closure, and planting/seeding survival. Monitor/document recreational use on SLWA.
Manage and Administer Projects	Supervise subcontracted activities, develop SOW and budget, purchase and monitor inventory, meet safety and legal requirements, monitor spending, manage staff and volunteers, metric reporting.
Coordination	Coordinate with Colville Confederated and Spokane Tribes, US BLM, USFWS, NRCS, Washington DNR, Lincoln County Conservation District, private landowners, and other WDFW staff, working on shrub-steppe and/or prairie grouse restoration in eastern Washington.
Produce Plan	Complete new, WDFW-standardized, wildlife area management plan.
Produce Annual Report	Produce annual progress report, including details of accomplishments for each work element, whether deliverables were produced, and if not, why. Produce annual herbicide use/acreage report.
Produce Status Report	Produce quarterly status reports. Semi-annual status reports also produced. Both types describe progress, re: objectives/milestones in SOW.

Collect/Generate/Validate Field and Lab Data	Count sharp-tailed grouse at known leks and and search nearby areas for satellite (new) leks, annually. Work with WDFW employee hired to track radio-collared grouse brought to SLWA in 2005, to collect location data.
Maintain Terrestrial Structure	Maintain multiple kestrel and bluebird nest boxes throughout SLWA.
Remove Debris	Remove roadside trash from SLWA.
Mark/Tag Animals	Assist with trapping, installing radio transmitters onto, and transporting sharp-tailed grouse from other states and/or British Columbia, as part of long-term augmentation effort in support of restoring grouse population in Washington.

1995-028-00 - Assessment Of Fishery Improvem (Expense) WDFW - Olympia

Description: Restore/enhance the failed recreational fishery for resident species in Moses Lake, once the premier fishery for resident game fish in the Columbia Basin, in lieu of lost recreational anadromous fisheries.

Accomplishments

2000-2005: Increased our understanding of Moses Lake trophic dynamics.
Traditional stomach content analysis, stable isotope analysis, bioenergetics modeling.

2003-present: Collected data regarding entrainment rates of fishes from Moses Lake.
A larger than predicted number of fishes are being entrained from Moses Lake.

2004-present: Recorded rates of avian predation on the fishes of Moses Lake.
Unable to obtain permit to harvest birds. Took common mergansers with hunting license. Modified methodology and collected behavioral data to supplement.

2004-2005: Used data to suggest modifying recreational fishing regulations.
Applied data to FAST model (Fisheries Assessmet Simmulation Tools).

2003-2005: Conducted walleye population estimate and species composition of Moses Lake.
Multiple mark-recapture events. Open population model.

2001-present: Monitored fishery within Moses Lake including net pen trout program via creel survey.
Two separate creel surveys. Standardized biological surveys. Species composition, age structure, sex ratio.

2002-2004: Quantified and qualified entire lake habitat using GIS, aerial photos and ground truthing.

1999-2003: Monitored water quality.
Collected nutrient data, various water quality parameters. Monitored littoral turbidity.

2002-2004: Calculated overwinter survivial of young of year fishes.
Spring and fall shoreline abundance estimates.

1999-present: Tracked carp movements and areas of carp concentrations.
Carp telemetry 2003. Recording areas of carp concentrations continuous. Developing carp exclusion and harvest plan.

2000-2004: Quantified secondary production.
Collected macroinvertebrates, zooplankton and conducted analyses determining abundance, composition and density.

2005: Pursue future funding.
Develop scope of work and budget.

1999-present: Remain current with BPA training.

1999-Present: Meet deliverable requirements.

Goals

Fall 2005- spring 2006-Avian predation: Obtain the necessary permits that are needed to better quantify rates of bird predation on Moses Lake and collect common mergansers and cormorants for diet analysis. Monthly counts will be

conducted on all birds to better understand possible predation rates on fishes.
Goal-determine bird predation impacts on resident and net pen fishes.

Present-Summer 2006-Monitor Entrainment: Due to variability of operations and water conditions we will continue to monitor and evaluate the entrainment of fishes from Moses Lake.
Goal-what and how many fishes entrained from Moses Lake.

Spring 2006-funding availablility-Creel Survey: With our data and analyses we have been able to make accurate suggestions regarding fish harvest. Consequently, regulations will be changed and will require monitoring.
Goal-Detect change in fishery with regulation change.

Fall 2005-funding availability-Biological surveys: Standardized spring and fall surveys to determine the impacts of regulation changes, predation and entrainment. Biological data will be collected from all species as well as diets and aging structures from species of concern.
Goals-monitor and detect changes in fishery composition, age structure, predation and mortality.

Associated with Crab Creek sub-basin plan (CCSP) and Upper Columbia Sub-basin Plan (UCSP)as listed in the Subbasin Planning section (consistent and priorities) of this site. It should also be noted that our goals are also our anticipated accomplishments assuming there are no unforseen circumstances hampering our efforts.

2006-003-00 - Desert Wildlife Area (Expense) WDFW

Accomplishments

Obtaining environmental compliance for restoring and enhancing wetlands at sub-project sites has been the primary focus of project work to date.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	This activity has dominated project work to date. Information for JARPA's for all 6 sub-project sites was obtained. JARPA's and SEPA Checklists for 2 of the sub-projects were prepared and submitted to permitting agencies.
Coordination	Project personnel and other WDFW staff negotiated with the BOR and Quincy Irrigation District to obtain authority for water
Manage and Administer Projects	Purchase materials and supplies, hire and supervise project coordinator, secure sub-contractors, and administer contracts.
Produce Annual Report	One annual report was submitted.
Produce Status Report	Several quarterly reports were submitted.
Collect/Generate/Validate Field and Lab Data	Collected data from field sampling for permit applications: all data needed for TD1&2 and part of data needed for the other 4 sub-projects. Conducted pre-project wildlife surveys at 2 sub-project sites. Established photo points at 2 sub-project sites.

Goals

The project goal is to restore and enhance 420 acres of herbaceous wetland habitat at 6 sites on the Desert Wildlife Area. Project work to date has been primarily limited to obtaining environmental compliance and authority to make physical changes to the landscape for accomplishing the goal. Construction will be initiated in the latter part of FY05, if permits are obtained. FY06 funding would be used primarily to complete construction (e.g., excavation, ditching, installation of water control structures, diking) not completed in FY05.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Prepare and submit permit applications for sub-projects TD-3 through TD-6.
Coordination	Negotiate with BOR and Quincy Irrigation District to
Manage and Administer Projects	Purchase materials and supplies, secure sub-contractors, administer contracts, monitor construction.
Produce Annual Report	This report will be prepared and submitted.
Produce Status Report	Required interim reports will be prepared and submitted.
# of acres of vegetation planted (0.1 ac.)	Acreage will not be known until construction is completed. Ditch levees,dikes,and all other distrubed soil will be seeded to establish vegetative cover for erosion control.
# of riparian miles treated (0.01 mi.; count each bank separately)	Vegetation to be established will not be trees or shrubs.
Create, Restore, and/or Enhance Wetland	Construct TD-1 and TD-2 sub-projects.

Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	Approximately 315 acre feet.
Is the screen New or a Replacement? (N/R)	New. Install screen(s) on headgate of warer diversion for TD-1 sub-project.
Does the screen meet NOAA/FSOC specs? (Y/N)	Unknown. Screen has not been designed.
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	Unknown.
Collect/Generate/Validate Field and Lab Data	Collect additional field data for preparing TD-3 through TD-6 permit applications.

1994-042-00 - Trout Creek O&M (Expense) ODFW

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.

Accomplishments

2002-2005 accomplishments

2002-2005
· Conducted ongoing O&M on over 110 miles of riparian exclosure fencing, and 11 offsite water developments.
· Conducted annual redd counts on over 60 stream miles
· Conducted annual smolt outmigration estimate.
· Conducted M&E on project area including water temp, photo points, and cross section data.

2002
· Assisted in the composition and GIS mapping of the fishery section of Trout Creek Watershed Assessment.
· Assisted in the editing of the Trout Creek Watershed Assessment.
· Constructed 2 offsite water developments.
· Assisted in the construction of an offsite water development.
2003
· Assisted in an irrigation mainline project that converted 11.1 acres of flood irrigation to sprinkler, eliminating 1 instream-gravel push up dam and 1.5 miles of open ditch.
· Obtained all necessary permits and NEPA compliance for Trout Creek Berm removal project(Phase 1-3).
· Collected design data for both Phase 1 berm removal project areas.
· Assisted in obtaining an additional $380,000 (DRC, OWEB) for Trout Creek Berm removal project.
· Assisted in the installation of an additional 10 miles of riparian exclosure fencing with 2 offsite water developments.

2004
· Collected design data for both Phase 1 berm removal project areas.
· Completed design of channel/floodplain for phase 1 berm removal project area (2.38 miles of stream).
· Implemented 1.88 miles of stream channel/floodplain construction and created 6.0 surface acres of wetland for phase 1 berm removal project area.
· Assisted in obtaining an additional $100,000 (NRCS) for berm removal project.

2005
· Assisted in the enrollment of 53.7 acres of Phase 1 berm removal project area into CREP program.
· Assisted in the planting of 8200 trees in Phase 1 berm removal project area.
· Collected design data for both Phase 2 berm removal project areas.
· Implemented 0.5 miles of stream channel/floodplain construction and created 0.2 surface acres of wetland

PAST Metric / Work Element	Value or description
# of stream miles treated (0.01 mi.)	2.38
# of structures installed	69
# of stream miles treated before realignment (0.1 mi.)	1.68

# of stream miles treated, including off-channels, after realignment (0.1 mi.)	2.38
# of acres of vegetation planted (0.1 ac.)	53.7
# of riparian miles treated (0.01 mi.; count each bank separately)	4.76

Goals

· Conduct ongoing O&M on over 110 miles of riparian exclosure fencing, and 11 offsite water developments.
· Conduct annual redd counts on over 60 stream miles
· Conduct annual summer steelhead smolt outmigration and adult summer steelhead escapement estimate.
· Conduct M&E on project area including water temp, photo points, and cross section data.
· Collect design data for both Phase 3 berm removal project areas
· Design and implement 4 miles of stream channel/floodplain construction for phase 2and 3 berm removal project area.
· Assist in the enrollment of 50 acres of Phase 2 berm removal project area into CREP program.
· Plant native grass/forb seed on over 50 acres in the Phase 1 berm removal project area.
· Assist in the planting of 10,000 trees in Phase 2 berm removal project area.

CURRENT Metric / Work Element	Value or description
# of stream miles treated (0.01 mi.)	4
# of structures installed	120
# of stream miles treated before realignment (0.1 mi.)	2.76
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	4.0
# of acres of vegetation planted (0.1 ac.)	50
# of riparian miles treated (0.01 mi.; count each bank separately)	8.0

1994-042-00 - Trout Creek O&M (Expense) ODFW

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.

Accomplishments

2002-2005 accomplishments

2002-2005
· Conducted ongoing O&M on over 110 miles of riparian exclosure fencing, and 11 offsite water developments.
· Conducted annual redd counts on over 60 stream miles
· Conducted annual smolt outmigration estimate.
· Conducted M&E on project area including water temp, photo points, and cross section data.

2002
· Assisted in the composition and GIS mapping of the fishery section of Trout Creek Watershed Assessment.
· Assisted in the editing of the Trout Creek Watershed Assessment.
· Constructed 2 offsite water developments.
· Assisted in the construction of an offsite water development.
2003
· Assisted in an irrigation mainline project that converted 11.1 acres of flood irrigation to sprinkler, eliminating 1 instream gravel push up dam and 1.5 miles of open ditch.
· Obtained all necessary permits and NEPA compliance for Trout Creek Berm removal project(Phase 1-3).
· Collected design data for both Phase 1 berm removal project areas.
· Assisted in obtaining an additional $380,000 (DRC, OWEB) for Trout Creek Berm removal project.
· Assisted in the installation of an additional 10 miles of riparian exclosure fencing with 2 offsite water developments.

2004
· Collected design data for both Phase 1 berm removal project areas.
· Completed design of channel/floodplain for phase 1 berm removal project area (2.38 miles of stream).
· Implemented 1.88 miles of stream channel/floodplain construction and created 6.0 surface acres of wetland for phase 1 berm removal project area.
· Assisted in obtaining an additional $100,000 (NRCS) for berm removal project.

2005
· Assisted in the enrollment of 53.7 acres of Phase 1 berm removal project area into CREP program.
· Assisted in the planting of 8200 trees in Phase 1 berm removal project area.
· Collected design data for both Phase 2 berm removal project areas.
· Implemented 0.5 miles of stream channel/floodplain construction and created 0.2 surface acres of wetland for phase 1 berm removal proje

PAST Metric / Work Element	Value or description
# of stream miles treated (0.01 mi.)	2.38
# of structures installed	69
# of stream miles treated before realignment (0.1 mi.)	1.68

# of stream miles treated, including off-channels, after realignment (0.1 mi.)	2.38
# of miles of fence (0.01 mi.)	10.0
# of acres of vegetation planted (0.1 ac.)	53.7
# of riparian miles treated (0.01 mi.; count each bank separately)	4.76

Goals

- Conduct ongoing O&M on over 110 miles of riparian exclosure fencing, and 11 offsite water developments.
- Conduct annual redd counts on over 60 stream miles
- Conduct annual summer steelhead smolt outmigration and adult summer steelhead escapement estimate.
- Conduct M&E on project area including water temp, photo points, and cross section data.
- Collect design data for both Phase 3 berm removal project areas
- Design & implement 4 miles of stream channel/floodplain construction for phase 2and 3 berm removal project area.
- Assist in the enrollment of 50 acres of Phase 2 berm removal project area into CREP program.
- Plant native grass/forb seed on over 50 acres in the Phase 1 berm removal project area.
- Assist in the planting of 10,000 trees in Phase 2 berm removal project area.

CURRENT Metric / Work Element	Value or description
# of stream miles treated (0.01 mi.)	4
# of structures installed	120
# of stream miles treated before realignment (0.1 mi.)	2.76
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	4
# of acres of vegetation planted (0.1 ac.)	50
# of riparian miles treated (0.01 mi.; count each bank separately)	8

1994-054-00 - Bull Trout Life History Project (Expense) ODFW

Description: Provide essential scientific information for the protection, management and recovery of bull trout populations in Oregon and the Pacific Northwest..

Accomplishments

Our study has four major objectives. The objectives and associated accomplishments achieved during FY2002 through FY2004 are listed below:

1. Describe the genetic structure of bull trout populations.

• Published the following scientific article: Spruell, P, A.R. Hemmingsen, P.J. Howell, N. Kanda, and F.W. Allendorf. 2003. Conservation genetics of bull trout: geographic distribution of variation at microsatellite loci. Conservation Genetics 4: 17-29.

• Collected additional genetic samples (245 from John day populations and 258 from Grande Ronde populations) for fine scale population analysis.

• Awarded subcontract to the Wild Trout and Salmon Genetics Laboratory at the University of Montana to characterize the fine-scale population structuring of bull trout within the John Day River and Grande Ronde River subbasins.

2. Determine the life history and migratory patterns of bull trout in Oregon tributaries of the Columbia Basin.

• Radio-tagged 15 adult bull trout in the Umatilla Rver Basin and tracked their distribution for 15 months. Found no use of Lower Umatilla River.

• Developed comprehensive relational database of all radio telemetry to compare migratory patterns among bull trout populations.

• Continuing PIT tagging bull trout in the Mill Creek watershed. Developed relational database to perform analysis of life histories.

3. Develop reliable methods to measure the abundance of bull trout.

• Ran adult trap in Mill Creek and conducted redd census during each year to determine relationship between redd counts and spawner abundance. Developed relationship which showed 1.34 redds/female.

4. Evaluate sampling programs that could be used to monitor the population status of bull trout.

• Developed pilot program to evaluate use of EMAP statistical design to estimate bull trout redd abundance and distribution the the Columbia Plateau Province.

• Implemented pilot EMAP program in FY2002-FY2004. Ninety-six to 149 sites were surveyed each year to obtain estimates. Additionally, the Walla Walla-Umatilla subbasins were censused for bull trout redds to assess the accuracy of the EMAP approach.

• Results were analyzed to assess the precision and accuracy of the EMAP sampling design.

Goals

1. Estimate the abundance of migratory and resident adult bull trout in Mill Creek, a tributary to the Walla Walla River, and compare this abundance to counts of redds.

• Relationship between redd counts and adult abundance for fluvial and resident bull trout.

2. Determine the seasonal movements of fluvial bull trout of the Lostine River.

• Temperature selection of adult fluvial bulltrout in the Wallowa-Lostine watershed.

3. Determine the seasonal movements of sub-adult and adult fluvial bull trout in Mill Creek, a tributary to the Walla Walla River.

• Relationship between migratory patterns and life history of fluvival bull trout in the Mill Creek watershed.

4. Determine the spatial distribution of bull trout redds in the John Day Basin and evaluate various statistical sampling designs.

- Evaluation of various statistical sampling design to estimate the distribution and abundance of bull trout redds in the John Day subbasin.

5. Analyze and synthesize results of this project. Communicate findings in scientific journal publications or summary reports.

- Summary reports or scientific journal publications covering the following study aspects:

o Temperature selection of adult fluvival bull trout in the Lostine river.

o Comparison of migratory patterns of fluvival bull trout populations in selected Oregon river basins

o Life History of bull trout in the Mill Creek Watershed (Walla Walla subbsain).

o Evaluation of monitoring bull trout abundance through redd surveys.

o Fine-scale population structuring of bull trout within the John Day River and Grande Ronde River subbasins.

1994-054-00 - Bull Trout Life History Project (Expense) ODFW

Description: Provide essential scientific information for the protection, management and recovery of bull trout populations in Oregon and the Pacific Northwest..

Accomplishments

Objective1: Monitor trends in relative abundance of juvenile bull trout in the Deschutes subbasin.
- Assessed utility of using index reaches for monitoring trends in juvenile bull trout relative abundance in the Warm Springs R. (1998-present).
- Monitored trends in juvenile bull trout abundance in Shitike Cr. (1998-present).

Objective 2: Determined the sampling efficiency of night snorkeling by comparing day and night snorkeling to electrofishing.
- This objective was completed in 2003. The size of Reservation streams preclude effective electrofishing. Night snorkel surveys were the most efficient way to enumerate juvenile bull trout in Reservation streams.

Objecitve 3: Monitor trends in adult bull trout abundance using redd surveys in Warm Springs R. and Shitike Cr.
- Counted redds annually since 1998.
- We have determined a significant difference in spawning distribution in Warm Spring R. No significant difference detected in Shitike Cr.
- Spawn timing in Warm Springs R. is variable but is consistent in Shitike Creek during the period of study.

Objective 4: Determine the escapement of adult fluvial bull trout in the Warm Springs R. and Shtike Cr.
- We have estimated the numbers of adult bull trout entering the spawning grounds in the Warm Springs R. using underwater videography since 2002. Technical problems have prevented a complete census to date. However we have determined that this population may be a predominantly resident population.
- We have estimated the number of spawning adults in Shitike annually since 2000 using a weir and live box.
- We have estimated a fish per redd ratio in Warm Springs R. and Shitike Cr.

Goals

We would like to continue objective 1, 3 and 4. For objectives 1 and 3 we have statistically significant finding however the test power is low which could lead us towards a type II error. Additional years of surveys will increase the statistical power of our result. We believe a minimum of 10 yrs of surveys will provide sufficient test power. FY 2006 will be year 9.

For objective 4 we have finally met the challenges encountered operating a remote site underwater video system. We anticipate a complete census of spawning adults in the Warm Springs R. in 2005. A complete census for three years will be sufficient to precisely determine the numbers of adult bull trout per redd. FY 2006 will be year two.

Finally, during FY 2006 we will draft and finalize a report describing our findings from 1998-2005. In addition to management recommendations for preserving and protecting bull trout in the lower Deschutes subbasin we will present a cost effective monitoring strategy to assess the health the lower Deschutes River bull trout.

1998-028-00 - Implement Trout Cr Watershed R (Expense) Jefferson County Soil & Water

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.

Accomplishments

2002

· Assisted in the composition and GIS mapping of the fishery section of Trout Creek Watershed Assessment.

· Assisted in the editing of the Trout Creek Watershed Assessment.
· Designed and implemented 5 infiltration galleries in Trout Creek, eliminating 5 gravel pushup dams.
· Designed and assisted in the construction of an offsite water development.

2003

· Designed and assisted in an irrigation mainline project that converted 11.1 acres of flood irrigation to sprinkler, eliminating 1 instream gravel push up dam and 1.5 miles of open ditch.
· Obtained all necessary permits and NEPA compliance for Trout Creek Berm removal project(Phase 1-3).
· Collected design data for both Phase 1 berm removal project areas.
· Assisted in obtaining an additional $380,000 (DRC, OWEB) for Trout Creek Berm removal project.
· Designed and assisted in the installation of 2 offsite water developments.
· Designed 3 water and sediment retention basins.

2004

· Collected design data for both Phase 1 berm removal project areas.
· Completed design of channel/floodplain for phase 1 berm removal project area (2.38 miles of stream).
· Implemented 1.88 miles of stream channel/floodplain construction and created 6.0 surface acres of wetland for phase 1 berm removal project area.
· Assisted in obtaining an additional $100,000 (NRCS) for berm removal project.

2005

· Assisted in the enrollment of 53.7 acres of Phase 1 berm removal project area into CREP program.
· Prescribed and assisted in the planting of 8200 trees in Phase 1 berm removal project area.
· Collected design data for both Phase 2 berm removal project areas.
· Implemented 0.5 miles of stream channel/floodplain construction and created 0.2 surface acres of wetland for phase 1 berm removal project area.
· Planted native grass/forb seed on over 60 acres in the Phase 1 berm removal project area.

PAST Metric / Work Element	Value or description
# of stream miles treated (0.01 mi.)	2.38
# of structures installed	69
# of stream miles treated before realignment (0.1 mi.)	1.68
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	2.38
# of acres of vegetation planted (0.1 ac.)	53.7

# of riparian miles treated (0.01 mi.; count each bank separately)	4.76
# of miles of habitat accessed (0.1 mi.)	Installed 5 Infiltration Galleries, eliminatating 6 gravel pushup dams. These dams were seasonal fish passage barriers during times of low flows .

Goals

· Collect design data for both Phase 3 berm removal project areas
· Design and implement 4 miles of stream channel/floodplain construction for phase 2 and 3 berm removal project area.
· Plan and assist in the enrollment of 50 acres of Phase 2 berm removal project area into CREP program.
· Plant native grass/forb seed on over 50 acres in the Phase 1 berm removal project area.
· Prescribe and assist in the planting of 10,000 trees in Phase 2 berm removal project area.

CURRENT Metric / Work Element	Value or description
# of stream miles treated (0.01 mi.)	4
# of structures installed	120
# of stream miles treated before realignment (0.1 mi.)	2.76
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	4.0
# of acres of vegetation planted (0.1 ac.)	50
# of riparian miles treated (0.01 mi.; count each bank separately)	8.0

2002-016-00 - Lamprey Abundance (Expense) Warm Springs Tribe

Description: The project will determine lamprey species composition and larval distribution in the Deschutes R. and tributaries. Adult abundance will be estimated in the Deschutes R.

Accomplishments

Objective 1: Determine larval distribution and associated habitat in the lower Deschutes R. subbasin.
- Completed larval lamprey distribution surveys in all lower Deschutes River perennial streams except White River and a distribution map has been generated (2003 – present).
- Collected physical habitat characteristics at all sites sampled for larval lamprey presence. Currently working on sites described in the FY 2005 Statement of Work (2003 – present).

Objective 2: Determine species composition of Lampetra in the lower Deschutes R. subbasin.
- Collected ammoceotes and macropthalmia for species identification through the operation of rotary screw traps and backpack electrofishing (2003 – present).

Objective 3: Objective 3: Estimate the numbers of lamprey emigrants, by developmental stage, from Warm Springs R. and Shitike Cr.
- Captured emigrant lampreys in various developmental stages. An inability to hold larval and juvenile lampreys within the screw trap holding boxes preclude us from estimating emigrant numbers. Information on outmigration timing, stream flow, and temperature have been collected (2002 – present).

Objective 4: Evaluate the feasibility of estimating the escapement of adult lamprey in the Deschutes River upstream of Sherar's Falls and estimate lamprey harvest at Sherar's Falls.
- Completed feasibility portion of this objective by developing methods to mark and recapture sufficient numbers of adult lamprey ensuring a high level of precision around the estimate without major violations of the assumptions inherent to a mark-recapture methodology (2003 & 2004).
- Conducted a single access site creel to estimate the number of adult lampreys harvested by Confederated Tribes of Warm Springs tribal members (2003 – present).

Goals

The goals for FY 06 are consistent with the project proposal as recommended during the provincial review.

Objective 1: Determine larval distribution and associated habitat in the lower Deschutes R. subbasin.
- Continue the collection of physical habitat characteristics within the larval lamprey distribution to increase the statistical power of our current results. Our current low test power could lead to type II statistical errors.

Objective 2: Determine species composition of Lampetra in the lower Deschutes R. subbasin.
- Due to low densities of ammoceotes and the absence of macropthalmia in backpack electofishing surveys more time will be needed to collect samples for species identification.
- Continued collection through the operation of rotary screw traps is also necessary to meet objective 2 goals due to low numbers of macropthalmia in the Shitike Creek screw trap.

Objective 3: Objective 3: Estimate the numbers of lamprey emigrants, by developmental stage, from Warm Springs R. and Shitike Cr.
- Conitnue to collect emigrating lampreys through the operation of rotary screw traps.
- Modify existing screw traps to improve trap holding efficiencies. If trap holding efficiencies are adequate to conduct a mark-recapture study, the number of emigrant lampreys will be estimated.

Objective 4: Evaluate the feasibility of estimating the escapement of adult lamprey in the Deschutes River upstream of Sherar's Falls and estimate lamprey harvest at Sherar's Falls.
- Continue conducting creel surveys at Sherar's Falls to estimate the number of adult lampreys harvested by

Confederated Tribes of Warm Springs tribal members.

2002-019-00 - Wasco Riparian Buffers (Expense) Wasco County Soil & Water Conserv

Description: Implement riparian buffer systems using cost share provided by USDA, State of Oregon, and private landowners (RPA Action 152).

Accomplishments

Riparian Buffers. Since inception in 2002, 43 buffer plans have been completed resulting in riparian buffer contracts on 64 stream miles, protecting 2,262 riparian acres. Fencing, tree planting, and water developments are included along with 14-15 year leases on each contract. Average buffer width is 145 ft. on each side. Total implementation and lease cost from non-BPA sources is $3,519,795.

Goals

Goals for 2006 are 100 landowner contacts, 12 coordination meetings, 20 riparian buffer plans and 20 contracts (est. 50 acres and 1.5 stream miles each) to include planting prescriptions, fencing, and water developments as appropriate, 20 landowners provided technical assistance, 4 quarterly reports and one annual report.

1984-021-00 - John Day Habitat Enhancement (Expense) ODFW

Description: Establish long term riparian, fish habitat and tributary passage improvement on private lands within the John Day Subbasin.

Accomplishments

2003 - Completed 12.7 miles of fence, protecting 370 acres (on 6 projects), this included both upland and riparian habitat, 1 solar spring development was installed. Contoured 0.7 miles of mine tail dredging on Granite Cr., a tributary of the North Fork of the John Day River, approximately 70 acres treated. The site was then planted with 100 lbs of native seed and 5,000 native tree seedlings. Project personnel gathered bank stability data on 2.1 miles of Lake Cr. /Hoover property. Steelhead redd counts were conducted on Mountain, Lake, Tex, and Murderers Creek. Maintenance on 66.14 miles of existing fence, 66 watergaps and 33 spring developments.
Established photopoints were retaken on existing projects and new photopoints were established on 2003 projects.
2004 - Completed 17.5 miles of riparian fence on 5 projects, protecting 800 acres of (80%) riparian and (20%) upland habitat. 4 offsite water developments were installed. Fence removal of 3.08 miles of barbed wire fence on 2 of the Cottonwood Creek projects.500 willow cuttings were collected and planted on the Grub Creek/McDaniel property. 450 junipers were cut,hauled and placed on the Mountain Creek/Jones property. 140 yards of pit run material was installed at 3 watergaps on the Jones property. Program conducted a juvenile fish population survey on Mountain Creek/Jones property.
Established photopoints were taken on existing projects and new photopoints were established on 2004 projects. Maintenance on 82.94 miles of existing fence, 71 watergaps and 37 spring developments. In 2003-2004 the fish habitat program utilized the OYCC crew, which is a youth organization that provides job opportunities and on the ground experience. They have assisted with tree and shrub plantings, and removal of old barbed wire.
2005-Scheduled projects are 3 riparian fence projects totaling 10.5 miles, 3 spring developments, 0.7 miles of dredge tail leveling on MFJDR. Maintained 90.34 miles of fence, 71 watergaps and 31 springs.

Goals

FY 2006 goals are to build approximately 15 miles of riparian enhancement fencing on 4 project sites, install 5 spring developments on the 4 sites, plant (1000) aspen trees, which include building a pole fence to protect them at our Phipps Meadows project site. We may install juniper riprap on Mountain Creek/Jones property depending on how well the juniper project completed in 2004 is recovering. Willow cuttings will be placed on existing and new project areas where native vegetation is inadequate.
Maintenance of approximately 94 miles of existing riparian fence, 77 watergaps and 41 spring developments will be completed by project personnel.
A bank stability analysis will be completed on 8 Mile Creek/Leach property, a tributary of the Middle Fork of the John Day River. Photopoints will be taken on existing projects and established on 2006 projects. Steelhead redd counts will be conducted on Lake and Cottonwood (Dayville) Creeks.
During the winter of 2006, a DSL permit will be completed for the installation of structures that will help raise the water table on Fox Creek/Johns property. This project is to be started in 2007, and will take a considerable amount of time acquiring measurements, pictures and drawings. Weed control will be completed by the Grant County Weed department on existing projects.

1993-066-00 - Oregon Fish Screens Project (Capital) ODFW

Description: Protect wild anadromous and resident fish species by installing 20 replacement fish screening devices in irrigation diversion located in critical spawning and rearing areas in the John Day basin and 1 unscreened and 5 replacements in the Walla Walla.

Accomplishments

2003 – 21 fish screens were replaced, all meeting current NOAA criteria.
59.03 CFS of diverted water was protected by the completed projects.
2 – New headgates were installed at projects.
2 – measuring devices installed at projects.
1- Permanent pool and chute ladder installed on Thirtymile Creek.
New heating system installed in John Day Fabrication Shop.

2004 – 22 fish screens were replaced, all meeting current NOAA criteria.
52.9 CFS of diverted water was protected by the completed projects.
4 – New headgates were installed at projects.
1 – Temporary Denil ladder installed on Rock Creek, pending a permanent fix.
An underground sprinkler system was installed to water facility grounds.

To Date
2005 - 9 fish screens replaced all meeting current NOAA criteria.
2 – pump screens installed, both meeting current NOAA criteria.
21.6 CFS of diverted water was protected by the completed projects.
1 – New headgate installed at projects.
1 – Temporary Denil ladder re-installed on Rock Creek, pending a permanent fix.
1 – Permanent Alaska Steeppass ladder installed on Beech Creek.
Work in progress; fire exit for upstairs offices occupancy.

Goals

2006 – Complete 20 fish screen replacement projects, all meeting current NOAA criteria.
Estimated 45 - 65 CFS of diverted water will be protected by the completed projects.
Cost-share to install headgates and measuring devices (as requested by water users).
Complete one passage project, with all associated NEPA Compliance, if identified.

The scope of our project is to replace existing operating screens that currently do not meet NOAA's screening criteria. The benefit of providing fish protection in irrigation diversions by implementing new effective fish screening devices has been well documented. Expected survivability of the fish, while they inhabit their spawning, rearing and migration areas, will be in the range of 90-99%, if the screening devices are constructed to current NOAA Fisheries criteria and are properly operated and maintained.

1998-016-00 - Escapement/Productivity Spring (Expense) ODFW

Description: Monitor natural escapement and productivity of John Day River Basin spring chinook and summer steelhead. Estimate SAR, egg-to-smolt survival, smolt abundance, and adult and parr distribution for chinook and SAR and spawner escapement for steelhead.

Accomplishments

PAST Metric / Work Element	Value or description
Install Fish Trap/Monitoring Weir	During 2003 we installed three rotary screw traps (South Fork, Middle Fork, Upper mainstem) to capture and PIT tag spring Chinook (ChS) and summer steelhead (StS) smolts. We are currently negotiating with BLM to install a fourth trap on the North Fork.
Collect/Generate/Validate Field and Lab Data	Completed habitat surveys of 48 randomly selected, one kilometer survey sections of anadromous salmonid habitat (2004) with accompanying juvenile fish surveys.
Collect/Generate/Validate Field and Lab Data	Completed spawning ground surveys of 48, two kilometer survey sections (2004) and 50 during 2005 for steelhead as well as contributing to annual steelhead index surveys.
Collect/Generate/Validate Field and Lab Data	Completed census and index spawning ground surveys for spring Chinook (2002-04). Proportion of hatchery strays in both the spring Chinook and steelhead spawning populations. Age composition of Chinook spawners (2002-04) and steelhead smolts (2003-04).
Collect/Generate/Validate Field and Lab Data	Completed mark-recapture seining of the Chinook smolt migrants (2002-05). Migrant trap collections of Chinook and Steelhead smolts from the South Fork, Upper Mainstem, and Middle Fork drainages (2004-05).
Collect/Generate/Validate Field and Lab Data	Completed pre-spawn mortality estimates for adult Chinook in selected drainages (2002-04).
Mark/Tag Animals	We PIT tagged 4,000, 6,147, and 4,036 Chinook smolts during 2002, 2003, and 2004, respectively for SAR and abundance estimates. We PIT tagged 3,700 steelhead smolts during 2004. We are near our goals of PIT tagging 5,000 Chinook and steelhead during 2005.
Develop RM&E Methods and Designs	We developed the sampling universe, adapted EMAP to select sample sites, and adapted ODFW Aquatic Inventories methodologies to monitor anadromous salmonid habitat and steelhead spawning and juvenile distribution in the John Day basin.
Disseminate Raw & Summary Data	Requests of our data are frequent and we have disseminated data to the following groups: CRITFC, USFS, USBOR, ODFW, NOAA Fisheries, USFWS, USGS, CTWSRO, OSU, and private landowners.

Disseminate Raw & Summary Data	Our smolt-to-adult return (SAR) data is used annually by the Comparative Survival Rate Study (CSS) for comparisons to Snake River stocks. Survival, abundance, distribution, age and sex composition data was provided to the NOAA Fisheries TRT.
Analyze/Interpret Data	Synthesized data includes annual estimates of basin-wide smolt abundance from mark-recapture efforts (inc. 95% CL's) for Chinook (2000-2004) and steelhead (2004).
Analyze/Interpret Data	Beginning in 2004 watershed-specific (South Fork, Middle Fork, Upper Mainstem), out-migrant abundance (inc. 95% CL's) for Chinook and steelhead from migrant trap captures were estimated.
Analyze/Interpret Data	SAR for spring Chinook (2002-04) were estimated and will soon be estimated for summer steelhead. Spawner escapement for spring Chinook (2002-04) and summer steelhead (2004) were estimated.
Produce Annual Report	We completed and submitted annual progress reports for 2002-04.
Manage/Maintain Database	We developed and maintained an Access database for habitat, juvenile salmonid, and steelhead spawner surveys on our EMAP contract. Maintained an Excell database for spring chinook spawning ground surveys and smolt abundance including SAR estimates.

Goals

Our goal is to continue to provide basin-wide status and trend monitoring of spring Chinook and summer steelhead and their habitats in the John Day basin. We expect to provide: Chinook and steelhead smolt abundance estimates for the Middle Fork, South Fork, Upper Mainstem, and North Fork populations as well as complete subbasin smolt estimates for spring Chinook. SAR estimates (out-of-basin survival) for both Chinook and steelhead. Egg-to-smolt survival rates (within-basin survival) for each of the three Chinook populations. Basin-wide estimates of steelhead and Chinook redd abundance, adult escapement, and proportion of hatchery strays. Continued basin-wide monitoring of spring Chinook and steelhead habitat providing a baseline of habitat conditions and a database for relating juvenile and adult salmonid status and trend to their associated habitats. Continue to provide population parameters for Chinook and steelhead populations to regional review teams.

CURRENT Metric / Work Element	Value or description
Install Fish Trap/Monitoring Weir	We plan to install a fourth migrant trap in the subbasin on the North Fork John Day River.
Mark/Tag Animals	Continue to PIT tag 5,000 each spring Chinook and summer steelhead within the subbasin for SAR estimates.
Collect/Generate/Validate Field and Lab Data	We plan to estimate both steelhead and Chinook outmigrant (smolt)abundance from the South Fork, Middle Fork, North Fork, and Uppermainstem populations.
Collect/Generate/Validate Field and Lab Data	We plan to estimate Basin-wide escapement and redd abundance for both steelhead and Chinook through spawning ground surveys. Subsampling the basin for steelhead (EMAP) and censusing the basin for spring Chinook.

Collect/Generate/Validate Field and Lab Data	Collect age, sex ratio, and fecundity data from spring Chinook carcasses encountered on spawning ground surveys.
Analyze/Interpret Data	Estimate life-stage survival for spring chinook (SAR and egg-to-smolt) and steelhead (SAR). Determine and compare age structure for chinook and steelhead spawners through carcass collections and observations of returning PIT-tagged adults.
Disseminate Raw & Summary Data	Provide regional managers, modelers, and planners with empirical estimates of abundance, survival, distribution, habitat condition, and status and trends of steelhead and spring Chinook.
Collect/Generate/Validate Field and Lab Data	Continue to measure basin-wide habitat conditions for staus and trend monitoring of anadromous salmonid habitat using a probabalistic sampling approach (EMAP).
Produce Annual Report	We plan to continue to provide detailed annual technical reports of our findings.
Manage/Maintain Database	We will continue to update and maintain databases of our habitat, productivity, and escapement monitoring.

1998-017-00 - Gravel Push-Up Dam Removal Low (Expense) Monument Soil & Water Conservatio

Description: Modify irrigation pumping stations by replacing above-ground suction screens with sub-surface collectors. Eliminate flow modification, migration impediments, and vegetation disruption and destruction inflicted during construction of gravel push-up dams.

Accomplishments

In 2002-3 considerable progress was made in exploring appropriate and cost-effective design alternatives for fish-friendly diversions. In 2004 work was completed at four diversion sites and intiated at another 2 sites. This work involved installing 5 shallow water pump screens and installing one lay-flat stanchion dam. Another 10 shallow water screens are scheduled for installation in 2005, along with 3-5 instream structures. Together these will result in fish-friendly diversions at 10 or more sites where diverting water previously required push-up dams and instream use of heavy equipment. We will also make minor improvements to 1-2 structures installed prior to 2002 to improve performance. This work is occuring on the lower North Fork of the John Day and the lower 2 miles of Cottonwood Creek, a tributary rated as the highest priority for restoration in the North Fork Basin in the John Day Subbasin Plan. We are also beginning design work for 2006 sites, especially for mainstem diversions for which devising cost-effective solutions has been challenging. Intensive monitoring of temperature patterns at a push-up site was conducted in the summer of 2004 and photo-monitoring of past installations has been conducted each fall.

PAST Metric / Work Element	Value or description
Produce Design and/or Specifications	Develop designs for FY 2006 projects
Maintain Terrestrial Structure	Rework screens on 1998 to 2000 installations to improve performance.
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	We expect to install 10 screens on pumps that take approximately 3000 gpm from April to end September
Is the screen New or a Replacement? (N/R)	These are new screens, which replace the non-standard screens traditionally used by irrigators
Does the screen meet NOAA/FSOC specs? (Y/N)	Yes
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	Various
# of miles of habitat accessed (0.1 mi.)	30+ miles (currently partially accessible; our primary concern is allowing passage for juveniles during irrigation season)
Collect/Generate/Validate Field and Lab Data	We are continuing temperature and photopoint monitoring of our project sites.

Goals

Goals for FY 2006:

1) Complete replacement of all diversions on lower Cottonwood Creek (2-4 remaining after FY 2005 Work)

2) Work with landowners on Rudio and Deer Creeks to address all diversion related issues on both of these small creeks (which provide excellent steelhead habitat).

3) Replace remaining 5-8 sites on the North Fork
that require large push-up dams; address smaller sites on North Fork as opportunities arise.

4) Continue ongoing temperature and photomonitoring efforts.

5) Work with irrigators to maintain and improve structures installed in past years.

CURRENT Metric / Work Element	Value or description
Produce Design and/or Specifications	We will complete project designs for 2006 sites and any scheduled for subsequent years
Replace/Maintain Instream Structure	We will continue to work with irrigators to assure that all fish-friendly diversions perform well.
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	To be determined; we plan on working on several larger diversions (~2 cfs), so total volumes would be between 5 and 10 cfs)
Is the screen New or a Replacement? (N/R)	New
Does the screen meet NOAA/FSOC specs? (Y/N)	Yes
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	To be determined; we plan on working on several larger diversions (~2 cfs), so total volumes would be between 5 and 10 cfs)
# of miles of habitat accessed (0.1 mi.)	~30 on Cottonwood Creek; perhaps another 10-20 on Deer and Rudio- all cases where partial passage exists, but juvenile passage is blocked during key periods.
Collect/Generate/Validate Field and Lab Data	We will continue temperature and photopoint monitoring of project sites and the effects of push-up dam removal.

1998-018-00 - John Day Watershed Restoration (Capital) Warm Springs Tribe

Description: Implement protection and restoration actions to improve water quality, water quantity, and fish habitat, eliminate passage barriers for anadromous and resident fish.

Accomplishments

This progran has currently replaced 59 pushup diversions by installing; 32 lay-flat stanchions, 19 pumping station and 8 infiltration galleries. we have installed 2 pipelines, 3 irrigation conversions, 7 returnflow cooling systems, cleared 1387 acres of juniper encroachment and reseeded with native mixed grasses for errosion control, Fenced 5 miles on mainstem and tributaries for riparian buffers, planted 12 miles of riparian vegetation and established a native plants nursery to assist local landowners with restoration activities. The program has also developed 14 off channel and upland spring developments to reduce impacts to tributaries and mainstem reaches. We have attended 2 county fairs with our information booth and supported High School, 4H and FFA conservation programs. We are active supporters of local conservation groups and work incooperation with many State and local agencies as well as the Federal intities. Currently we are undertaking and installation of an interprative site on the Forrest Conservation Area in Prairie City and working with the local beaver awarness organization to place a interprative site on the Middle FOrk John Day River.

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	2000
# of features	35
# of miles of fence (0.01 mi.)	5
# of acres of vegetation planted (0.1 ac.)	20
# of riparian miles treated (0.01 mi.; count each bank separately)	12
# of acres treated (0.1 ac)	1387
# of acres treated (0.1 ac)	1387
# of miles of habitat accessed (0.1 mi.)	40
Is the measuring device portable or fixed (P/F)?	F
Estimated # of miles of total stream reach improvement	8
Amount of unprotected water flow returned to the stream by conservation (cfs)	3cfs
Estimated # of miles of primary stream reach improvement	2
Estimated # of miles of total stream reach improvement	8

Amount of unprotected water flow returned to the stream by conservation (cfs)	3
Estimated # of miles of primary stream reach improvement	3

Goals

Increase scope of work to include Monument and Wheeler SWCD's as subcontractors. Continue upland restoration activities. Continue Grant SWCD partnership.
Develop riparian fencing program for tributaries and small landowners.
Continue public relations and outreach program.
Install 5 Diversion replacements 2 return flow cooling returns within the upper John Day.
Install diversion replacements in the lower John Day, tributaries and the NorthFork John Day and tributaries.
Plant and protect 6 miles of riparian area with instream structures (LWD) and riparian plantings.
Develope Native Bunchgrass seed plots for upland restoration activities. Continue effectiveness monitoring program.

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	3000
# of stream miles treated (0.01 mi.)	2
# of structures installed	6
# of features	40
# of miles of fence (0.01 mi.)	2
# of acres of vegetation planted (0.1 ac.)	5
# of riparian miles treated (0.01 mi.; count each bank separately)	6
# of acres treated (0.1 ac)	500
# of acres treated (0.1 ac)	500
# of miles of habitat accessed (0.1 mi.)	17
Is the measuring device portable or fixed (P/F)?	f
Estimated # of miles of secondary stream reach improvement	3
Amount of unprotected water flow returned to the stream by conservation (cfs)	1
Estimated # of miles of primary stream reach improvement	8

1998-022-00 - Pine Creek/Wagner Management (Expense) Warm Springs Tribe

Description: Operations and Maintenance, Monitoring and Evaluation of Pine Creek Ranch.

Accomplishments

Management Highlights
- The Wildlife Habitat and Watershed Management Plan was approved by BPA in 2004.
- Riparian vegetation on Pine Creek is recovering rapidly.
- Volunteers have helped remove 30 miles of interior fences.
- Substantial progress has been made in reducing infestations of noxious weeds.
- Irrigation water rights on Pine Creek and the John Day River are leased to instream flow.
- Three fish passage barrier culverts on Pine Creek have been removed.
- The lower 5.4 miles of Pine Creek are enrolled in the CREP riparian buffer program. Bunchgrasses and trees and shrubs were planted in to improve wildlife habitats and watershed function.
- A prescribed fire was conducted with Prineville District BLM to reduce encroachment of western juniper into grassland and shrub steppe wildlife habitats and improve watershed function.
- Junipers have been cut on approximately 3 miles of Pine Creek and tributary drainages to improve riparian habitats.

Outreach and Education
- A successful public access program includes 500-800 annual user-days for hiking or hunting and thousands viewing the area from the John Day River or Highway 218.
- OMSI brings approximately 1,000 students to the Conservation Area yearly.
- Wheeler SWCD highlights the Conservation Area in watershed tours.

Monitoring
Monitoring is vital to the project's value as an example of watershed recovery and wildlife habitat management. The following types of monitoring are being conducted:
- Photo monitoring
- Pine Creek Stream flow & Water Temperature
- Pine Creek Water Quality, Macro-invertebrates, Channel & Vegetation conditions
- Pine Creek Proper Functioning Condition Assessment
- John Day River Habitat conditions Channel & Vegetation
- Steelhead Spawning Redd Surveys
- Breeding Bird Point Counts
- Winter Game Survey
- Upland Vegetation: Orthophotography, transect sampling, & mapping
- Weather
- HEP (baseline estimate 19,610 HUs)

Goals

The following goals are from the Pine Creek Conservation Area Wildlife Habitat and Watershed Management Plan. Objectives do not fit in the allowed response form.

Pine Creek Conservation Area is intended, as a wildlife and watershed mitigation site, to partially offset wildlife habitat losses caused by John Day Dam on the Columbia River. Habitat management will, as specified in the MOA between BPA and the Tribes, to the extent possible, focus on strategies designed to achieve and maintain native habitat that is naturally self-sustaining.

In many cases, recovery of watershed functions or native plant communities may only occur over the course of several decades. Other changes, such as community dominance by invasive species, may be permanent without active intervention on the part of land managers. Future climate changes may also limit or prevent recovery to

historic conditions.

Where possible, altered or damaged ecosystem functions will be restored through passive restoration techniques, such as the prevention of activities which degrade or prevent recovery. Passive restoration strategies will be paired with active interventions as needed, such as replacement of culverts creating fish passage barriers. It is hoped that these efforts will lead to conservation of biodiversity in the form of native fish, wildlife, and plant communities.

An additional goal for the project is to work in partnership with neighboring landowners, local, state and federal agencies, conservation organizations, and educational groups. Pine Creek Conservation Area has the potential to serve as a model for watershed recovery and wildlife habitat management in the lower John Day Basin. Successful monitoring of changes to vegetation, wildlife, fish use and distribution and hydrology will be critical to this effort, and collection of baseline data is thus an immediate management priority.

1999-010-00 - Pine Hollow/Jackknife Habitat (Expense) Sherman Soil & Water Conservation

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.

Accomplishments

Due to difficulties in clearing cultural resource requirements and also due to drought conditions in FY 2004, projects were postponed until FY 2005. FY 2005 projects are proposed and will be completed by Sept. 30, 2005. Project metrics for FY 2003-2005 are listed by FY below:

FY 2003

– Installed 4 Spring Developments to reduce grazing pressure on 2 miles of streambanks
– Installed 6 Water and Sediment Control Basins (WASCBs) to reduce peak flows and sedimentation from 1,486 acres of crop/rangeland
– Improved 130 acres of pasture grassland to reduce riparian grazing pressure

FY 2004

– Installed 1 Well pumped to a Livestock/Wildlife Watering System to reduce grazing pressure on 1.7 miles of riparian habitat

FY 2005

– Will install 2 WASCBs to reduce peak flows and sedimentation from crop/rangeland
– Will install 6 Livestock/Wildlife Watering Systems and 4 Spring Developments to reduce riparian grazing pressure
– Will install 2 Pasture Cross Fences to improve grass stand health and vigor, and to reduce riparian grazing pressure

Goals

FY 2006 projects will consist of the same project types as the previous three years. As of now 10 WASCBs are planned for 2006 implementation. Off-stream livestock water developments are also planned for FY 2006, but the quantities and extents of these projects are dependent upon other funding and landowner timetables.

2000-015-00 - Oxbow Ranch Management (Expense) Warm Springs Tribe

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.

Accomplishments

Since acquisition of the project in 2001, the Confederated Tribes of Warm Springs have been working to assess the property conditions, identify habitat issues, maintain and repair property facilities, control invasive species, monitor conditions, and protect and enhance important habitat. Project personnel have worked with other agencies and organizations to identify habitat concerns within and adjacent to the property. In 2005, dredge tailings, which have locked a mile of river on the property into a straight and scouring channel will be restored. This work will give management a chance at establishing a healthy riparian and free to river to meander naturally once again. In 2005, 103.6 acres of river corridors will be enrolled in the CREP program, funding much-needed planting of shrubs and trees along the riparian zones.

Completion of the management plan for the property will be submitted as a final draft this 2005 summer. The plan's goals are to continue to protect property habitat and enhance areas deficient to benefit fish and wildlife.

Monitoring objectives on the property include photopoints, bird surveys, steelhead and Chinook salmon redd counts, stream temperature data, vegetative surveys, Habitat Evaluation Procedure, Aquatic Inventory assessment, flow data collection, weed mapping, and snorkeling fish counts.

The project has developed a grazing program to achieve management objectives, aid local economy, while continuing to protect fish and wildlife through careful monitoring of grazing practices.

Goals

2006 will be the first year of implementing an approved property management plan. O&M and M&E activities will continue under the framework of the property management plan. These activities include riparian planting, upland planting, fencing improvements, grazing program continuance, facility repairs, vegetation browse protection installation, visitor access management, etc. There is also many monitoring activities planned.

Many larger projects are also planned, but are not funded. Additional BPA funding requests under the budget section will not cover the following projects. Property management will search for outside funding to complete these projects unless the Oxbow budget is significantly expanded. Projects include: Butte Creek Fish Passage Restoration project (BOR design), large wood placement project (BOR design), CREP planting completion, Beaver Creek culvert replacement (fish passage issue, on Malheur NF land, partnering project). If the floodplain restoration is completed in 2005, the newly restored floodplain will be entered into the CREP program, resulting in exclusion fencing and intensive riparian planting funding. Also planned is a partnering with multiple landowners on a forest thinning and prescribed fire project for a section of the property.

2000-031-00 - Enhance North Fork John Day Rim (Expense) Confederated Tribes Of The Umatilla

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

Accomplishments

PAST Metric / Work Element	Value or description
Maintain Terrestrial Structure	WE 18 - Riparian corridor fences and off-stream water developments (spring sites and wells)were maintained at project sites as needed.
Maintain Vegetation	WE 22 - Treated noxious weeds with herbicides in existing project areas; installed nexar tubing and tree shelters around trees to prevent animal browse; installed woven wire around cottonwoods to prevent beaver damage.
# of riparian miles protected (0.01 mi.)	WE 92 - 2.4 stream miles; initial implementation efforts were carried out on an additional 5.1 stream miles for easements that were obtained in 2001
# of acres of new lease. (0.1 ac.)	WE 92 -77 acres; initial implementation efforts were carried out on an additional 114 acres for easements that were obtained in 2001
Start and end dates of lease (mm/dd/yyyy)	WE 92 - 09/01/2003 - 08/31/2018
Identify and Select Projects	WE 114 - Identified, prioritized & selected projects through subbasin planning, watershed assessment review, public outreach, landowner coordination, watershed council coordination & interagency communication.
Coordination	WE 118 - Developed & submitted grant proposals through the North Fork John Day Watershed Council & to various local, state & federal entities & the Columbia River Inter-Tribal Fish Commission.
Provide Technical Review	WE 122 - Coordinated with NRCS on combined BPA/CREP projects & reviewed NRCS planting, fencing & water development plans; inspected subcontract services to determine whether they conformed to specifications; reviewed Camas Creek Watershed Assessment.
Produce Plan	WE 174 - Coordinated with the U.S. Army Corps of Engineers & subcontracted Ecovista to prepare and complete the Camas Creek Watershed Assessment.
Produce Annual Report	WE 132 - Developed annual reports of progress as per contract specifications between the CTUIR and BPA, which included details of accomplishments for work elements included within the Statement of Work, and submitted to BPA.

Produce Status Report	WE 141 - Produced quarterly reports to summarize status of project milestones. Quarterly reports documented project accomplishments, problems encountered, planned activities for the following quarter & purchases of non-expendable & sensitive items.
Collect/Generate/Validate Field and Lab Data	WE 157 - Collected pre & post project data to monitor enhancement effects of existing habitat projects. Data collected included longitudinal & cross-section surveys, percent shade, stream temperature, photo point monitoring, land-use & percent substrate.
Submit/Acquire Data	WE 159 - Stream temperature data was provided to the Monument SWCD, who reformatted the data & uploaded the information to NOAA's access database; this database provides one point of storage and retrieval for stream temerature data.
Estimated # of miles of primary stream reach improvement	WE 82 - 0.5 miles (developed two wells for off-stream watering in lieu of water gaps)
Estimated # of miles of total stream reach improvement	WE 82 - 1 mile (developed two wells for off-stream watering in lieu of water gaps)
Amount of unprotected water flow returned to the stream by conservation (cfs)	WE 82 - Primarily reduces maintenance costs associated with water gaps & protects water quality.
Amount of unprotected water flow returned to the stream by conservation (acre-feet)	WE 82 - Primarily reduces maintenance costs associated with water gaps & protects water quality.
Estimated # of miles of total stream reach improvement	WE 149 - 0.5 stream miles (2,950 feet of pvc installed for off-site water developments and wells)
Amount of unprotected water flow returned to the stream by conservation (cfs)	WE 149 - Primarily reduces maintenance costs associated with water gaps and protects water quality.
Amount of unprotected water flow returned to the stream by conservation (acre-feet)	WE 149 - Primarily reduces maintenance costs associated with water gaps and protects water quality.
Estimated # of miles of primary stream reach improvement	WE 149 - 1 stream mile
Produce Environmental Compliance Documentation	WE 165 - Completed & submitted BPA Watershed NEPA Checklists to BPA; conducted cultural & archeological surveys; completed & submitted BPA Herbicide Applications forms to BPA.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	WE 99 - Conducted outreach efforts (public meetings, tours, mailings & presentations) to obtain input, identify landowner & resource agency concerns, provide educational opportunities, & promote stream habitat restoration & protection (350 people reached)

Manage and Administer Projects	WE 119 - Prepared & submitted BiOp metrics reports, draft SOW package, Inventory, Spending Plan, budget and accrual estimates, property inventory and accomplishment narratives to BPA.
Develop Alternative Water Source	WE 34 - Developed springs for off-stream livestock water sources to better disburse livestock & better utilize available forage in uplands & relieve erosion problems in riparian & floodplain areas.
# of miles of fence (0.01 mi.)	WE 40 - 7.6 miles of new riparian corridor fences have been constructed and 1.8 miles of existing on-site fencing was repaired as new projects were initiated.
# of acres of vegetation planted (0.1 ac.)	WE 47 - 130 acres of native willows, black cottonwood, wild rose, red alder, snowberry, red & black elderberry, choke cherry, redosier dogwood, black hawthorn, ponderosa pine and native grasses.
# of riparian miles treated (0.01 mi.; count each bank separately)	WE 47 - 15 stream miles of native willows, black cottonwood, wild rose, red alder, snowberry, red & black elderberry, choke cherry, redosier dogwood, black hawthorn, ponderosa pine and native grasses.
Conduct Pre-Acquisition Activities	WE 172 - Negotiated terms/developed easements with landowners, which permitted CTUIR restoration efforts & restricted certain land uses, such as grazing, vegetation removal, construction of buildings, etc. in exchange for improvement/maintenance costs.

Goals

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	WE 165 - Complete & submit BPA Watershed NEPA Checklists to BPA; conduct cultural & archeological surveys; complete & submit BPA Herbicide Applications forms to BPA.
Develop Alternative Water Source	WE 34 - Develop springs for off-stream livestock water sources to better disburse livestock & better utilize available forage in uplands & relieve erosion problems in riparian & floodplain areas.
# of miles of fence (0.01 mi.)	WE 40 - Approximately 10 miles of new riparian corridor fences will be constructed.
# of acres of vegetation planted (0.1 ac.)	WE 47 - Approximately 90 acres of native willows, black cottonwood, wild rose, red alder, snowberry, red & black elderberry, choke cherry, redosier dogwood, black hawthorn, ponderosa pine and native grasses will be planted.
# of riparian miles treated (0.01 mi.; count each bank separately)	WE 47 - Approximately 8 stream miles of native willows, black cottonwood, wild rose, red alder, snowberry, red & black elderberry, choke cherry, redosier dogwood, black hawthorn, ponderosa pine and native grasses will be planted.

Conduct Pre-Acquisition Activities	WE 172 - Negotiate terms/develop easements with landowners, which permit CTUIR restoration efforts & restrict certain land uses, such as grazing, vegetation removal, construction of buildings, etc. in exchange for improvement/maintenance costs.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	WE 99 - Conduct outreach efforts (public meetings, tours, mailings & presentations) to obtain input, identify landowner & resource agency concerns, provide educational opportunities, & promote stream habitat restoration & protection (reach 100 people)
Manage and Administer Projects	WE 119 - Prepare & submitt BiOp metrics reports, draft SOW package, Inventory, Spending Plan, budget and accrual estimates, property inventory and accomplishment narratives to BPA.
Identify and Select Projects	WE 114 - Identify, prioritize & select projects through subbasin plan prioritization, watershed assessment review, public outreach, landowner coordination, watershed council coordination & interagency communication.
Coordination	WE 118 - Develop & submit grant proposals through the North Fork John Day Watershed Council & to various local, state & federal entities & the Columbia River Inter-Tribal Fish Commission.
Provide Technical Review	WE 122 - Coordinate with NRCS on combined BPA/CREP projects & review NRCS planting, fencing & water development plans; inspect subcontract services to determine whether they conform to specifications; review Camas Creek Watershed Assessment.
Produce Annual Report	WE 132 - Develop annual report of progress as per contract specifications between the CTUIR and BPA, which shall include details of accomplishments for work elements included within the Statement of Work, and submit to BPA.
Produce Status Report	WE 141 - Produce quarterly reports to summarize status of project milestones. Quarterly reports document project accomplishments, problems encountered, planned activities for the following quarter & purchases of non-expendable & sensitive items.
Maintain Terrestrial Structure	WE 18 - Maintain riparian corridor fences and off-stream water developments (spring sites and wells) at project sites as needed.
Maintain Vegetation	WE 22 - Treat noxious weeds with herbicides in existing project areas; install nexar tubing and tree shelters around trees to prevent animal browse; install woven wire around cottonwoods to prevent beaver damage.
Collect/Generate/Validate Field and Lab Data	WE 157 - Collect pre & post project data to monitor enhancement effects of existing habitat projects. Data collected shall include longitudinal & cross-section surveys, percent shade,stream temperature, photo point monitoring, land-use & percent substrate

Submit/Acquire Data	WE 159 - Stream temperature data shall continue to be provided to the Monument SWCD and uploaded to NOAA's access database; this database provides one point of storage and retrieval for stream temerature data.
Estimated # of miles of primary stream reach improvement	WE 82 - O.5 miles (for off-stream watering in lieu of water gaps)
Estimated # of miles of total stream reach improvement	WE 82 - 1 mile (for off-stream watering in lieu of water gaps)
Amount of unprotected water flow returned to the stream by conservation (cfs)	We 82 - Primarily reduces maintenance costs associated with water gaps.
Amount of unprotected water flow returned to the stream by conservation (acre-feet)	We 82 - Primarily reduces maintenance costs associated with water gaps.
Estimated # of miles of total stream reach improvement	WE 149 - 0.5 stream miles (pvc installed for off-site water developments and wells)
Amount of unprotected water flow returned to the stream by conservation (cfs)	WE 149 - Primarily reduces maintenance costs associated with water gaps and protects water quality.
Amount of unprotected water flow returned to the stream by conservation (acre-feet)	WE 149 - Primarily reduces maintenance costs associated with water gaps and protects water quality.
Estimated # of miles of primary stream reach improvement	WE 149 - 1 stream mile
# of riparian miles protected (0.01 mi.)	WE 92 - approximately 5 stream miles
# of acres of new lease. (0.1 ac.)	We 92 - approximately 150 acres
Start and end dates of lease (mm/dd/yyyy)	WE 92 - 2006 easements not yet negotiated.

2001-041-01 - Forrest Ranch Management (Expense) Warm Springs Tribe

Description: Acquire approximately 4,295 acres of land, 12.2 miles of streams, 25.2 cfs of senior water rights, and structures on the Middle Fork and upper mainstem John Day Rivers known as the Forrest Ranch.

Accomplishments

2001

Established riparian monitoring reaches and completed the following:
greenline assessment, channel cross sections, photo points, water temperature, snorkeling, spring Chinook redd counts.
Installed 7 miles of riparian fence

2002

- Acquired the 4,232 acre Forrest Ranch with 25 cfs of water rights and equipment
- Negotiated MOA with the BPA
- Established moderate level grazing and haying program

2003

- Conducted HEP field survey
- Formed Management Plan advisory group
- Converted residential house to CTWSRO John Day Basin Office
- Noxious weed inventory
- Establish public access for hunting and fishing
- Installed exclosure fencing in recently planted riparian areas
- Treated 400 acres of juniper by removal
- Medusa Head Rye herbicide test plots
- Boundary surveys
- Replaced two diversions with lay flat stanchions that maintain fish passage
- Began irrigation consolidation project with adjacent landowners

2004

Completed habitat assessments

- GIS Property Habitat Map
- Aquatic Habitat Inventory
- Proper Functioning Condition
- Independent Grazing Evaluation
- Flow measurements of tributaries and rivers
- Participated with BOR for property instream flow assessment

2005

- HEP report
- Expected July submission of Property and Habitat Management Plan to BPA
- Enroll 150 acres in CREP for riparian planting
- Enhanced public fishing through trout stocking of pond
- Participated with BOR for survey and design of instream log weirs, dike removal, and channel reconfiguration projects

2002-2005 Annual O&M and Monitoring

- Planted 10,000/5 acres hardwood cuttings along riparian greenline areas
- Supplement instream flows through non-use of some water rights
- Property boundary fencing
- Noxious weed control
- Facility and systems upgrade
- Spring Chinook and steelhead redd counts/holding pool counts
- Spring bird census counts
- Big game census counts

- Photo points

Goals

Winter 2005
Begin phase 1 for noxious weed control of Medusahead Rye. The phase will treat 25% of known concentrations with herbicides.

Complete consultation with DSL, USFW, and NOAA for channel reconfiguration project and culvert removal.

Coordinate with local natural resource agencies on Strawberry Creek reconnection project.

Spring 2006
Begin phase 1 of the cultural resource survey for the flood plain area of the mainstem property. The goal is to survey 545 acres. The survey will complete SHPO compliance for control burn treatments, CREP planting and fencing projects, interior fencing projects, and dike removal projects.

Treat 50 acres of noxious weed infested areas.

Plant upland areas of the property with shrubs and hardwoods.

Conduct steelhead redd counts.

Conduct spring bird census counts.

Solicit NRCS and FSA for the enrollment of additional acres on the mainstem property into the CREP program.

Summer/Fall 2006
Implement planting of 30,000 native woody species along the riparian on the Middle Fork property through the CREP program.

Coordinate with BOR for survey and design portion of instream log weirs, dike removal, and channel reconfiguration restoration projects.

Remove culvert that is a fish passage barrier on Placer Gulch, complete channel reconfiguration, and re establish fish passage in to Dead Cow Gulch both are tributaries of the Middle Fork John Day River.

Conduct annual monitoring of property; bird census, big game census, photo points, greenline assessments, snorkeling surveys, spring Chinook and steelhead redd counts/holding pools.

Work with local Oregon Youth Conservation Corp. in volunteer restoration projects of noxious weed control and planting.

Conduct grazing and haying program.

2002-015-00 - Watershed Council Sherman Co (Expense) Sherman Soil & Water Conservation

Description: One watershed council coordinator and two planner/designers will provide support to five watershed councils in Sherman County. All future conservation projects will be based on watershed plans and individual ranch plans developed by these positions.

Accomplishments

While BPA funds in this project do not go directly into project costs, they fill the need for technical assistance and project coordination necessary to get projects on the ground.

FY 03

– Provided technical assistance on CREP contracts resulting in 2.1 miles of streambank enrolled, excluding 38.2 acres or riparian habitat from livestock until 2017.
– Implemented water quality improvement projects resulting in the installation of over 50 Water and Sediment Control Basins (WASCBs), several thousand feet of terraces, fencing, brush clearing, and 11 water developments, and 130 acres of pasture seeding
– The total dollar amount leveraged for watershed improvement and CREP projects was in excess of $170,000
– Grant awards in the amount of $220,000 were received through the watershed coordinator and district technicians

FY 04

– Provided technical assistance on CREP contracts resulting in 30.8 miles of streambank enrolled, excluding 589.4 acres or riparian habitat from livestock until 2018.
– Implemented water quality improvement projects resulting in the installation of over 50 WASCBs, several thousand feet of terraces, fencing, brush clearing, and water developments
– The total dollar amount leveraged for watershed improvement and CREP projects was in excess of $325,000
– Grant awards in the amount of $170,000 were received through the watershed coordinator and district technicians
– A grant was received for $60,000 to develop a watershed assessment of Grass Valley Canyon

FY 05

– Provided technical assistance on CREP contracts resulting in 19.3 miles of streambank enrolled, excluding 355.4 acres or riparian habitat from livestock until 2019.
– Implemented 30 WASCBs, several thousand feet of terraces, fencing, and will implement numerous water developments in the second half of FY 2005
– The total dollar amount leveraged for watershed improvement and CREP projects was in excess of $200,000
– Grant awards in the amount of $104,000 were received through the watershed coordinator and district technicians

Goals

FY 2006 projects will consist of the same project types as the previous three years. CREP contracts are expected to double from the amount implemented in FY 2005, resulting in over 40 miles of streambank enrolled and over 600 acres of riparian habitat excluded from livestock. As of now 10 WASCBs are planned for 2006 implementation in the Pine Hollow project 1999-010-00 alone. Off-stream livestock water developments are also planned for FY 2006, but the quantities and extents of these projects are dependent upon other funding and landowner timetables. It is expected that water quality projects will be implemented in similar quantities to the previous three years.

2002-033-00 - John Day Recovery Monitoring (Expense) Warm Springs Tribe

Description: Update salmonid reproduction goals, compile data to develop predictive models to guide future restoration efforts, compile data that presents historical riparian condition, investigate missing bull trout status information.

Accomplishments

Installation of flood irrigation monitoring equipment and wells.
Installation of permenate cross sections and scour chain locations.
Installation of water quality and flow gauging stations on the Middle Fork and mainstem John Day Rivers.
Database and associated GIS information for all historic steelhead and Chinook spawning data within the John Day Basin.

Goals

Continue ongoin studies on flood irrigation, scour effects and water quality. Increase scope of program to incllude macroinvertabrate studie to address water quality and irrigation diversion replacements.

2002-034-00 - Wheeler Co Riparian Buffers (Expense) Wheeler County Soil & Watershed C

Description: This project will implement a riparian buffer program using cost share funding from USDA, State of Oregon and private landowners.

Accomplishments

The year of 2002 was spent hiring and training staff; working with FSA and ODFW on stream determinations in the work area; and setting up office infrastructure. The staff position was filled January 2003.
Eighty two (82) landowner contacts have been made resulting in twenty seven (27) on-site visits and seven (7) contracts signed. These contracts resulted in 224 acres and 14.5 miles of riparian areas buffered on seven different streams. On-going work continues on over eight (8) potential contracts.
Since 2002, forty five (45) informal meetings, involving NRCS, FSA or the John Day Subbasin Plan process, have been attended. Eight (8) presentations, tours and displays have been produced. These included displays at the Wheeler County fair (avg. 500 attended) and at the Wheeler SWCD annual meetings (avg. 50 attended) for two years ('03 & '04); the Twilight Tour and Barbecue (35 attended), done in partnership with the Confederated Tribes of Warm Springs, showcased a successful CREP project on Pine Creek. Our area has two watershed councils: the Bridge Creek and the Mid-John Day Watershed Council. The Riparian Buffer Specialist attended all of the watershed council meetings and made four (4) presentations. At every Wheeler Soil and Water Conservation District meeting (26) a CREP status report was given by the Riparian Buffer Specialist. Staff has attended over five (5) trainings and six (6) articles have been published in the Wheeler SWCD quarterly newsletter and two annual reports (cir 700+). Since 2005 began, staff has worked to alleviate communication issues with the Farm Services Agency and to clarify their CREP determinations. The future is looking very positive and staff is diligently working to increase deliverables on the scope of work.

Goals

The goals of this project are to implement restoration strategies by serving the county as Riparian Buffer Specialist. Those restoration strategies will directly improve riparian habitat, protect existing high quality and priority habitat and provide education and outreach to the project area landowners and land managers.
The anticipated accomplishments of the project include:
Meeting with 35 interested landowners to assess eligibility of stream reach implementation of CREP/CCRP riparian buffers/filter strip system agreements.
Attending 12 informal meetings with agencies, including NRCS, FSA, ODF & ODFW.
Preparing inventory assessments for each potential site including T&E species, cultural resources, riparian plant community determination and information relative to landowner's operation.
Preparing designs and specifications for planting prescriptions, fencing design, off-stream water developments or other conservation practices as a part of the conservation plan.
Developing and preparing 8 conservation plans for private landowners.
Faciliating the signing of 8 CREP/CCRP agreements with landowners, NRCS and FSA.
Providing technical assistance and implementation of NRCS conservation practices to 12 landowners.
Preparing and publishing 5 news articles and/or presentations informing landowners of program availability.
Attending project related meetings including BPA, NWPCC, CBFWA conferences & workshops.
Preparing and submitting 4 quarterly status reports posting Annual Report on website. Creating statement of work, budget, spending plan & inventory list for next project fiscal year. Providing leadership, supervision, administration and fiscal accounting for contract 2002-034-00.

2002-035-00 - Gilliam Co Riparian Buffers (Expense) Gilliam County Road Department

Description: Plan and implement riparian buffer program using USDA, Oregon and private landowner costshare

Accomplishments

Riparian Buffers. Since 2002, 43 buffer plans have been completed resulting in riparian buffer contracts on 1402 acres. Fencing, tree planting, and water developments are included along with 10-15 year leases on each contract.

Goals

Goals for 2006 are 20 contacts, 12 riparian buffer contracts and plans to include planting prescriptions, fencin,and water developments as appropriate, 4 quarterly reports and on annual report.

1994-044-00 - Sagebrush Flat Wl Mitigation (Expense) WDFW - Olympia

Description: Protect, and enhance shrub-steppe habitat necessary to maintian and expand viable populations of pygmy rabbits, sage grouse, sharp-tailed grouse and other shrub-steppe obligate species.

Accomplishments

PAST Metric / Work Element	Value or description
# of miles of fence (0.01 mi.)	Constructed 8 miles of new fence to eliminate trespass cattle issues. Fence construction took place on the Dormaier, Chester Butte and West Foster Creek units.
# of acres of vegetation planted (0.1 ac.)	Planted approximately 115 acres of former ag fields to native grasses and shrubs. All work took place on the West Foster Creek unit. Planted 8 acres of disturbed ground & 2 miles of unused road on the Sagebrush Flat unit with native grasses and shrubs.
# of riparian miles treated (0.01 mi.; count each bank separately)	Treated 5 miles of riparian miles. Planted approximately 9,000 willow cuttings, 350 water birch, 400 woods rose, 200 chokecherry, 200 nutka rose and 80 cottonwood..
# of riparian miles treated (0.01 mi.; count each bank separately)	Treated 3 miles of riparian area. Hand seeded approximately 400 pounds of grass seeds on degraded streambanks.
# of acres of vegetation planted (0.1 ac.)	Planted 2 acres of highly disturbed and erodable soil with grasses and shrubs. West Foster Creek unit.
# of road miles improved, upgraded, or restored	Improved 2.25 miles of steep dirt roadways. Improvements includes addition of gravel and water bars. West Foster Creek unit.
# of acres treated (0.1 ac)	Treated approximately 700 acres of the wildlife area to remove, reduce and control noxious weeds. Used Integrated Pest Management methods including chemical, biological, mechanical and cultural means to treat weed issues.
Create, Restore, and/or Enhance Wetland	Contructed 3 rock wiers in West Foster Creek to enhance wetland and riparian habitats. Enhanced approximately 2.5 acres.
Maintain Terrestrial Structure	Maintained 30 kestrel nest boxes located on the Area.
Maintain Vegetation	Constructed irrigation system to water newly planted grass on 8 acre site.
Maintain Vegetation	Put welded wire fencing around established cottonwood trees to prevent beaver damage.
Maintain Vegetation	Treated annual and perennial weeds in 76 acres of newly planted fields of permanent cover (native grasses and shrubs).
Maintain Vegetation	Spread 400 pounds of fertilizer onto established native shrubs and trees.
Maintain Vegetation	Constructed a drip irrigation system to irrigate 260 newly planted shrubs and trees. Purchased and installed a solar powered water pump to provide water for the irrigation system.

Maintain Vegetation	Contructed 1,200 feet of deer fencing to prevent deer browsing damage to newly planted trees and shrubs.
Remove Debris	Removed 7 miles of old delapidated fence from the West Foster Creek, Chester Butte and Sagebrush Flat units.
Remove Debris	Removed 3,000 feet of old broken PVC water line (provided water for cattle)from the Chester Butte unit.
Remove Debris	Removed trash including sofas, home appliances, tires, engine blocks and other vehicle parts as well as household garbage that gets dumped on and adjacent to the Areas.
Prepare HEP Report	Assisted with HEP surveys on the Chester Butte and West Foster Creek units.
Conduct Pre-Acquisition Activities	Provide information including legal descriptions, maps as well as wildlife and habitat assessments to Real Estate Division regarding properties identified for acquisition.
Conduct Pre-Acquisition Activities	Applied to the IAC for grant monies necessary to acquire property identified as critical habitat for sharp-tailed grouse (listed as state threatened and petitioned for federal listing as threatened. Properties are adjacent to the West Foster Creek unit.
Conduct Pre-Acquisition Activities	Based on the strength of the above mentioned presetation, the IAC approved the grant for the full dollar amount, about 2.4 million dollars. The WA Legislature voted to fund the IAC's request.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Created a Citizens Advisory Group and began annual meetings. The group is comprised of 14 people representing government agencies, interest groups and the general public.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Prepared a brief presentation for the biennial meeting of the Western States Sage and Sharp-tailed Grouse Working Group. Described to the group our restoration and management efforts. Approximately 130 people attended.
Manage and Administer Projects	Planned and implemented a variety of habitat restoration and management projects.
Produce Plan	Per direction from Olympia, began developing a new management plan for the Wildlife Area.
Produce Plan	Provided input, maps and wrote sections of the Sagebrush Flat Addendum and the 2002 Provencial Project Review.
Produce Design and/or Specifications	Designed rock wiers and produced a JARPA Application.
Produce Annual Report	Produced semi-annual project report.
Produce Status Report	Produce monthly progress reports.
Produce Annual Report	Produce annual weed control report.

Collect/Generate/Validate Field and Lab Data	Conduct annual surveys of sage and sharp-tailed grouse leks.
Collect/Generate/Validate Field and Lab Data	Survey fields identified for restoration for Washington ground squirrels.
Mark/Tag Animals	Traveled to Idaho to capture Columbian sharp-tailed grouse for translocation to the Wildlife Area. All birds captured were banded and radio-tagged. This will improve genetic diversity and viability of the resident population
Submit/Acquire Data	Submit grouse survey data to research biologist.

Goals

CURRENT Metric / Work Element	Value or description
# of road miles improved, upgraded, or restored	Grade and repair up to 12 miles of road as needed
# of miles of fence (0.01 mi.)	Repair and improve up to 21 gates on the Wildlife Area.
# of acres of vegetation planted (0.1 ac.)	Begin work to restore and replant 100 acre former old ag field to native grasses, forbs and shrubs to enhance and expand pygmy rabbit and sage grouse habitat.
# of riparian miles treated (0.01 mi.; count each bank separately)	Plant native riparian trees, shrubs and grass on up to 3 miles of streambank.
# of acres of vegetation planted (0.1 ac.)	Plant native grasses and shrub on degraded sites within the Wildlife Area. Treat up to 5 acres.
# of acres treated (0.1 ac)	Continue using IPM methods to control noxious weeds on up to 250 acres.
Create, Restore, and/or Enhance Wetland	Construct 1-2 rock wiers in West Foster Creek to improve riparian and wetland habitat.
Maintain Terrestrial Structure	Maintain 30 kestrel nest boxes located on the area.
Maintain Vegetation	Maintain recently planted fields as necessary by mowing and/or herbicide application.
Maintain Vegetation	Maintain recently planted shrubs and trees by mowing, herbicide applications or hand-pulling to reduce noxious weeds and other competing vegetation.
Maintain Vegetation	Construct drip irrigation system to irrigate newly planted trees and shrubs.
Maintain Vegetation	Construct deer fence to protect newly planted trees and shrubs from deer browsing.
Maintain Vegetation	Fertilize recently planted trees and shrubs.
Remove Debris	Remove up to 8 miles of old unneeded fence from the Wildlife Area.
Remove Debris	Remove trash and garbage as needed from the Wildlife Area.

Conduct Pre-Acquisition Activities	Provide information including legal descriptions, maps as well as wildlife and habitat assessments to Real Estate Division regarding properties identified for acquisition.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Conduct annual meeting the Citizens Advisory Group. Up to 15 people.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Conduct presentations to interested public groups as needed.
Manage and Administer Projects	Plan and implement a variety of habitat restoration and management projects.
Manage and Administer Projects	Prepare annual SOW package and other required reports.
Produce Plan	Per direction from Olympia, continue developing a new management plan for the Wildlife Area.
Produce Design and/or Specifications	Design rock wiers and complete a JARPA application for the work.
Produce Annual Report	Produce semi-annual project report.
Produce Annual Report	Produce annual weed control report.
Produce Status Report	Produce monthly progress reports.
Collect/Generate/Validate Field and Lab Data	Conduct annual surveys of sage and sharp-tailed grouse leks.
Collect/Generate/Validate Field and Lab Data	Survey fields identified for restoration for Washington ground squirrels.
Mark/Tag Animals	Travel to Idaho and/or Utah/British Columbia to capture Columbian sharp-tailed grouse for translocation to the Wildlife Area. All birds captured were banded and radio-tagged. Translocated with improve genetic diversity and viability of resident population
Submit/Acquire Data	Submit grouse survey data to research biologist.

1994-069-00 - Spawning Habitat Model - Snake (Expense) US DOE

Description: Develop a production potential estimate for fall chinook salmon in the Hanford Reach, and evaluate whether the Hanford Reach functions as a healthy alluvial river.

Accomplishments

2001-2005 data collection: bathymetric and hydraulic data from 20 mi; water quality (temp, oxygen), hydr grad, and permeability from 111 piezometers; surf- and subsurface substrate samples (>40 cores) at 9 sites; 2 yrs of photos of fall Chinook redds; 4 yrs of temperature and water level data from hyporheic zone and river at 9 sites.
2001-2005 data analysis: availability and use of fall Chinook spawning habitat (based on depth, substrate, and velocity) at 9 sites throughout 20 mi; creation of riverbed geomorphologic index of spawning site use; eval of substrate quality based on grainsize dist, gradient between hyporheic zone and river, permeability, specific discharge, and water quality (oxy and temp) at 9 sites; statistical and graphical summaries of 4 yrs of data logger information on water temp and water level from hyporheic zone and river at 9 sites.
2001-2003 reporting: progress report on 2001-2003 activities was submitted to BPA in September, 2003. Since the inception of the project in 1994, over 13 peer-reviewed articles have been published by PNNL staff using data collected as part of this project, including 5 since the last rolling review:
Visser et al. 2002. Use of aerial photography to monitor fall Chinook salmon spawning in the Columbia River. Trans. Am. Fish. Soc. 131: 1173-1179.
Hanrahan et al. 2005. Substrate quality of historic fall Chinook salmon spawning habitat in the Snake River, Idaho, USA. Riv. Res. Appl.
Hanrahan et al. 2004. An estimate of Chinook salmon spawning habitat and redd capacity upstream of a migration barrier in the upper Columbia River. Can. J. Fish. Aq. Sci. 61(1): 23-33.
Moser et al. 2003. Biogeochemical processes and microbial characteristics across groundwater - surface water boundaries of the Hanford Reach of the Columbia River. Env. Sci. Tech. 37:5127-5134.
Dauble et al. 2003. Impacts of hydroelectric development on mainstem habitats of fall Chinook salmon. N. Am. J. Fish. Mgt. 23(3): 641-659.

Goals

The goals of the project remain as they were in the original review, i.e., the information learned in this project will be used to determine whether the Hanford Reach fall Chinook salmon are healthy enough to be used as a core population to re-seed other ancillary satellite areas. There are two specific goals for FY 2006. Goal 1 is to complete data analysis, interpretation, and reporting (in the form of manuscripts) for the data collected since the Council review. This is a priority goal and will be completed in 2006 by finishing data analysis, finalizing data interpretation, writing, and submitting to peer-reviewed journals several manuscripts. Goal 2 is to acquire bathymetry data and begin revising our existing spawning habitat model for the upper and lower sections of the Hanford Reach; this data currently resides with the Columbia River Intertribal Fish Commission, US Fish and Wildlife Service, and/or the US Geological Survey. As described in a letter to Patty O'Toole (May 13, 2004 letter to Patty O'Toole from David Geist), the development of the spawning habitat model for the entire Reach was approved in the original proposal but subject to availability of bathymetric data. Through a separate contract, this information is now available and if it can be acquired from the previously mentioned agencies, will be used to construct a revised spawning habitat model.

CURRENT Metric / Work Element	Value or description
Produce Annual Report	An annual progress report describing details of each work element will be produced.
Produce/Submit Scientific Findings Report	Multiple manuscripts will be sumbitted to peer-reviewed journals for publication.
Collect/Generate/Validate Field and Lab Data	Data collection will consist of incorporating additional bathymetry into revised spawning habitat model that will cover the entire 51 miles of the Hanford Reach.

Analyze/Interpret Data	Data analysis and interpretation of existing and new data will continue.

1994-018-07 - Habitat For Fall Chinook, Stee (Garfield sediment reduction Pomeroy Soil & Water

Description: Coordinate, implement, and monitor conservation practices for the reduction of sediment from the uplands of Garfield County and enhance habitat in the riparian zones of the streams to improve water quality for Steelhead and Chinook Salmon.

Accomplishments

5,800 ft.of pipeline
over 1,000 acres of CREP has been installed in the Alpowa, Deadman, and Pataha watersheds since it was introduced in 2003.

PAST Metric / Work Element	Value or description
Develop Alternative Water Source	one spring development
# of acres treated (0.1 ac)	2 acres sediment basins
# of acres treated (0.1 ac)	28.5 acres of critical area seeding
# of acres treated (0.1 ac)	2 acres of grass waterway installed
# of acres treated (0.1 ac)	1,266 acres of direct seed
# of acres treated (0.1 ac)	1,986 acres of no-till seeding
# of miles of fence (0.01 mi.)	.62 miles of fence installed
# of acres of vegetation planted (0.1 ac.)	.5 of native trees planted
# of riparian miles treated (0.01 mi.; count each bank separately)	.25 riparian miles treated
Produce Plan	Lower Snake Sub-basin plan developed. Provided information for Tucannon Sub-basin plan
Manage and Administer Projects	provided management and administration of the on the ground implementation of all projects. Provided financial reports as needed, developed SOW package.
Identify and Select Projects	the district identified, prioritized, and selected the projects that were implemented and cost shared.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	the district provides landowners and producers with newsletters and newspaper articles that informs them of district activities and funding opportunities. The district also operates an aquarium at the Pomeroy Grade School.
Produce Annual Report	the district provides an annual report of yearly activities and practices implemented to the BPA
Manage/Maintain Database	the district maintains a database of all practices implemented in the district since 1993 and has provided most of this information to Paladin (database management company)Projects are also entered into a GIS program.

Goals

The district will continue with its effort to enroll more CREP and CCRP acres in the county. We will also continue

to administer two Department of Ecology grants that are being used to improve water quality with improved management of livestock within the riparian areas of all the streams in Garfield County.

CURRENT Metric / Work Element	Value or description
Manage and Administer Projects	the district will continue to maintain a database of all practices implemented in the district since 1993 and will provide this years information to Paladin (database management company)Projects will also be entered into a GIS program.
Manage and Administer Projects	continue to provide management and administration of all the on the ground implementation of projects. Provide financial reports as needed, develope SOW package for FY07.
Produce Annual Report	the district will produce an annual report of yearly activities and practices implemented
Produce Status Report	the district will prepare and submit status reports of all activities and practices implemented.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	the district will continue to provide landowners and producers with newsletters and newspaper articles that informs them of district activities and funding opportunities. The district will continue to operate an aquarium at the Pomeroy Grade School.
Identify and Select Projects	the district will identify, priorit, and select the projects that will be implemented and cost shared with this funding.
# of acres treated (0.1 ac)	10 ac. of terrace and sediment basin installation. Other practices such as grassed waterways may also be installed
# of acres treated (0.1 ac)	1,333 acres of No-till seeding 1,500 acres of Direct Seeding
# of miles of fence (0.01 mi.)	.63 miles of fence
# of acres of vegetation planted (0.1 ac.)	10 acres of native tree and schrub planting
# of riparian miles treated (0.01 mi.; count each bank separately)	.83 riparian miles
Develop Alternative Water Source	develop two off site watering facilites. These could be spring developments or piggybacked with other fundings for wells.
Collect/Generate/Validate Field and Lab Data	continue to work with WSU in the collection and evaluation of water quality sampling on the Pataha, Alpowa, Deadman, and Meadow creeks.

2002-006-00 - Bull Trout Movement:Tucannon (Expense) USFWS

Description: Determine spatial and temporal distribution of migratory bull trout in the Tucannon River and Lower Snake River. Estimate "take" and identify passage limitations in the Snake River resulting from the hydropower system.

Accomplishments

Since the inception of this project, we have PIT-tagged 525 bull trout, and radio-tagged 101 bull trout in the Tucannon River. The success of radio-tagged fish carrying their tags over the winter has increased from 10% in 2002 and 28% in 2003, to 56% in 2004; this change is due to focusing our tagging efforts on small and sub-adult fish in the fall, rather than pre-spawn adults in the spring and early summer. As a result, we observed radio-tagged bull trout utilizing the mainstem Snake River during the winter of 2004/2005.

In addition, it might be important to note three seperate incidents suggesting mainstem use by PIT-tagged fish:

1. Personnel from the NOAA Northwest Science Center Avian Predation Study interrogated one of our PIT tags from a bull trout tagged in the Tucannon River in 2002 on an island in the Columbia River.

2. One fish tagged with an ATS transmitter disappeared in October, 2003 after we located the fish in the Tucannon River at RM 10. In February 2004, this radio-tag was detected during a helicopter flight at RM 0.7 in Alkali Flat Creek, which enters the Snake River from the north about 5 miles upstream of its confluence with the Tucannon River. The tag was no longer being carried by a fish.

3. One of our PIT-tagged bull trout from the 2003 trapping and tagging efforts was detected in the the Grande Ronde River Basin at an automated detection device in the outlet tube of the Catherine Creek acclimation pond on March 18, 2004. If this detection and tag code is not in error, the fish would have either needed to be: 1) in the pond during release and detected while exiting, or 2) attempting to travel up the tube as it subsequently triggered the tag detector. In either case, this fish would have moved upstream through Little Goose and Lower Granite dams.

Goals

Spring/Summer 2005 - Increase efforts to PIT-tag juvenile and sub-adult bull trout during sampling efforts.

Fall/Winter 2005 - Capture and radio-tag up to 40 small adult and sub-adult bull trout in the lower reaches of the Tucannon River (downstream of the Hwy 12 bridge). Monitor their winter movements and migration, and extend extra efforts to follow their movements in the mainstem Snake River

2002-006-00 - Bull Trout Movement:Tucannon (Expense) USFWS

Description: Determine spatial and temporal distribution of migratory bull trout in the Tucannon River and Lower Snake River. Estimate "take" and identify passage limitations in the Snake River resulting from the hydropower system.

Accomplishments

Since the initiation of this project, WDFW and USFWS have radio tagged 101 bull trout and PIT tagged 525 bull trout. We have tracked the spatial distribution, migration timing, and movements of radio tagged bull trout at weekly intervals from the headwaters of the Tucannon River to its mouth. We changed our tagging emphasis to radio tag smaller adult/subadult bull trout in fall and winter to increase tag retention and tracking through the winter. This has improved radio tag retention from 10-28% in 2002-03 to 56% in 2004. In addition a radio tagged bull trout was tracked into the Snake River during the winter/spring of 2004-2005. We have completed 2 annual reports and our draft annual report for 2004 will be completed in early June.

Goals

Capture and radio tag up to 40 small adult or subadult bull trout in the lower reaches of the Tucannon River. Monitor their winter movements and migration weekly, and follow any movements in the mainstem Snake River. This effort will be paired with another project to track PIT tagged bull trout with a PIT tag antenna near the mouth of the Tucannon River. The two projects should provide a much more complete picture of the numbers or percentage of bull trout from the Tucannon River that migrate to the Snake River, and possibly return.

2002-027-00 - Hydrodynamics & Water Quality (Expense) US DOE

Description: The objective of this work is to apply state-of-the-art computer models that can describe the complex hydrodynamic and water quality environment in the lower Snake River, and to relate that information to migrating salmon.

Accomplishments

Goals

2002-027-00 - Hydrodynamics & Water Quality (Expense) US DOE

Description: The objective of this work is to apply state-of-the-art computer models that can describe the complex hydrodynamic and water quality environment in the lower Snake River, and to relate that information to migrating salmon.

Accomplishments

During previous years of this project, PNNL collected bathymetric, meteorological (AgriMet Station SILW), hydrodynamic (i.e., boat mounted ADCP data), and water quality (~100 self-contained temperature loggers deployed at various locations and depths, plus conductivity-temperature-depth profiles during logger maintenance trips) data in Lower Granite Reservoir (Snake RM 116.5 thru RM 142 & Clearwater mouth thru RM 2). These data were entered into a database and analyzed using various mathematical tools to better understand the complex three-dimensional hydrodynamics downstream of the Clearwater/Snake River confluence (Cook et al. 2003). This dataset has also been used to develop boundary condition input files and calibration datasets for a three-dimensional computational fluid dynamics model (non-hydrostatic, free-surface, transient, Reynolds-averaged Navier-Stokes model) of the confluence zone (Cook and Richmond, 2004).

Data collected directly by PNNL in LGR and the US Army Corps of Engineers has been used to aide development of numerical models of the four Lower Snake reservoirs. These data were used to construct boundary condition input files for CE-QUAL-W2 (W2), a two-dimensional hydrodynamic and water quality model. W2 models of Lower Granite, Little Goose, Lower Monumental, and Ice Harbor reservoirs have been calibrated and validated for the spring, summer, and early fall periods of 2002, 2003, and 2004.

Cook, CB and MC Richmond (2004). Monitoring and Simulating 3-D Density Currents at the Confluence of the Snake and Clearwater Rivers, in Critical Transitions in Water and Environmental Resources Management, edited by G. Sehike, D. Hayes and D. Stevens, American Society of Civil Engineering Press, 2004.

Cook CB, MC Richmond, CL Rakowski, SP Titzler, AM Coleman, and MD Bleich (2003). “Numerically Simulating the Hydrodynamic and Water Quality Environment for Migrating Salmon in the Lower Snake River”, PNNL-14297, Pacific Northwest National Lab.

PAST Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Numerous (~100) water temperature time-series data, ADCP water velocity profiles, and real-time web accessible meteorological data have been collected between April and Nov of 2002 through 2004.
Submit/Acquire Data	Data collected during 2002 through 2004 has been processed following our QA/QC plan and released to the StreamNet Independent Datasets page and the US Army Corps of Engineers.
Analyze/Interpret Data	3-D CFD and 2-D CE-QUAL-W2 models of the entire Lower Snake Reservoirs have been developed. 2-D and 3-D particle tracking (fish surrogate) modeling is ongoing.

Goals

The recent ISAB documents 2005-3 “Recommendation to Study Effects of Load Following on Juvenile Salmon Migratory Behavior and Survival” and 2003-1 “Review of Flow Augmentation: Update and Clarification” make a compelling argument for seiche in the lowermost three Snake River reservoirs (LGS, LMN, and IHR). Although hydrodynamics, including seiche, are covered under our current scope, we have not studied these impacts; focusing our ADCP efforts in LGR. If approved, we agree with ISAB 2005-3, and suggest that 2005 presents a unique opportunity to answer critical questions concerning the effects of flow interruption.

We recommend that water velocity (self-contained ADCP), water temperature, stage (pressure), and turbidity be measured in the Lower Snake Reservoirs this summer under this project. To achieve this, we will reschedule the analysis and modeling tasks until FY06. We will produce an annual report in FY05, however not the final project report. The final project will be produced in FY06, and will cover the analysis of seiche, impacts of flow augmentation on river conditions, density currents at the confluence of the Snake and Clearwater rivers, and summarize application of 2- and 3-D hydrodynamic and water quality models.

CURRENT Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Collect and validate water velocity, temperature, and TDS data to determine strength of internal waves (baroclinic and barotropic seiche) in the Lower Snake reservoirs. Study design will be submitted to Council.
Submit/Acquire Data	Data collected during the survey, once it has been processed following our QA/QC plan, will be submitted to the StreamNet Independent Datasets page and the US Army Corps of Engineers.
Analyze/Interpret Data	Seiche data will be analyzed and interpreted. 3-D CFD and 2-D CE-QUAL-W2 models will be calibrated/validated against observed field data. 2-D and 3-D particle tracking (numerical fish surrogate) modeling will be completed.
Produce/Submit Scientific Findings Report	Scientific journal papers will be produced that summarize findings on seiche, impacts of flow augmentation, density currents at the confluence, and the Lower Snake River management models. Completion report on seiche will be submitted to Council.

1994-018-06 - Tucannon Stream And Riparian R (Expense) Columbia Conservation District

Description: Restore, protect, & enhance fish habitat, riparian, & upland areas to address FWP measure 7.6, habitat goal, policies, & objectives.

Accomplishments

The Tucannon River Model Watershed program has implemented habitat projects, based on a cooperative process with private citizens, technical agencies, government entities, and tribes. Projects have been identified and designed to address identified limiting factors through the Tucannon River Model Watershed, Tucannon Subbasin Plan, and the Snake River Salmon Recovery Plan, June 2005 version.
The program implements a variety of project to address watershed scale habitat needs as identified though planning documents. Projects include upland management to reduce sediment impacts; buffer development through livestock prescribed grazing and/or total exclusion and the Conservation Reserve Enhancement Program (CREP); and water conservation through screens, flow meters and irrigation efficiencies. The 3 water conservation sprinkler projects resulted in trusting 8.998 cfs & 507.88 acre feet through the Washington Water Trust (Washington Department of Ecology) for an instream stream flow and fish usage. Monitoring and evaluation activities have been and will continue to guide protection, enhancement, and restoration efforts.

PAST Metric / Work Element	Value or description
# of miles of fence (0.01 mi.)	2002-2004: 4.0 miles of fence, 99.7 acres buffer
Estimated # of miles of total stream reach improvement	2002-2004: 3 projects - 12.73 miles
Amount of unprotected water flow returned to the stream by conservation (cfs)	2002-2004: 3 projects - 8.998 cfs
Amount of unprotected water flow returned to the stream by conservation (acre-feet)	2002-2004: 3 projects - 507.88 acre-feet
Estimated # of miles of primary stream reach improvement	2002-2004: 3 projects - 10.0 miles
Develop Alternative Water Source	2002-2004: Installed 3 systems (3 wells, 3 tanks, 7 trought, and associated pipeline) - 116.5 acres of buffer created & 4,588 acres of range opened for more effective utilization
# of acres of vegetation planted (0.1 ac.)	2002-2004: 674.1 acres planted to native trees & shrubs
# of riparian miles treated (0.01 mi.; count each bank separately)	2002-2004: 32.5 miles of stream planted to native trees & shrubs
# of acres treated (0.1 ac)	2002-2003: 1,070.7 production agriculture acres treated with direct seeding management techniques
Produce Inventory or Assessment	2002-2004: Assessed 17 sites for irrigation efficiencies to determine possible trustable water savings & for new compliant fish screen and flow meters
Analyze/Interpret Data	2003-2004: Conducted the Tucannon River Model Watershed Milestone Assessment to measure habitat protection, enhancement, and restoration projects conducted/installed since 1996.

Collect/Generate/Validate Field and Lab Data	2002-2004: work cooperatively with WDFW to maintain water temperature loggers to monitor progress toward addressing this limiting factor
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	2002-2004: 2,302 acre-feet/year has been screened at the 12 separate locations
Is the screen New or a Replacement? (N/R)	2002-2004: All 12 screens are new
Does the screen meet NOAA/FSOC specs? (Y/N)	2002-2004: All 12 screens meet NOAA/USF&WS new specifications
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	2002-2004: 15.662 cfs has been screened at 12 separate locations
Replace/Maintain Instream Structure	Re-established habitat structure integrity (vortex weir, woody debris, j-hook vane) at 3 previously installed projects in areas utilized by 3 ESA listed species.

Goals

Implement projects in priority Restoration and Protection Areas that address Plan Biological Objectives utilizing Strategies identified, developed and supported by agency technical staff and citizen input during Plan development. Plan Objectives targeted are reducing embeddedness, stimulating a decrease in percent fines and turbidity; continue riparian recovery efforts, increase complexity, width and reestablishment; decrease summer daily maximum temperatures; and increase instream flows where possible. Utilizing the identified strategies from the Plan which have cooperator and community support will enhance resource conditions and program success. Numerous Strategies identified are repeated across the various Biological Objectives and Geographic Areas providing multiple resource benefits when implemented.

Aquatic Strategies were also developed for two additional categories: 1) Priority Protection Areas and 2) Imminent Threats as well as an Aquatic Special Topic-Instream Flow. Priority Protection Geographic Areas are those areas that EDT analysis or empirical data suggest would have the most negative impacts on focal species if they were allowed to degrade further. Because all Priority Restoration Areas are also considered Priority Protection Areas, these Strategies would apply to both types of Geographic Areas. Priority Protection Area Strategies include but are not limited to implementation of riparian buffers, upland enhancement, alternative water development, expanding participation in the Conservation Reserve Program & similar efforts and water conservation.

District goals include the coordination and consistency of Strategy implementation between the various planning processes occurring in SE Washington, Subbasin Planning, Regional Recovery Planning and Ecology's 2514 Watershed Planning. National Marine Fisheries Service (NMFS) has identified Major Spawning Aggregate (MSA) and Minor Spawning Aggregate (mSA) for guidance in prioritizing recovery efforts.

2000-019-00 - Tucannon River Spring Chinook (Expense) WDFW - Olympia

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.

Accomplishments

We collected captive broodstock for the 1997-2001 brood years (5 yrs. = 1 generation) plus additional captive broodstock from the 2002 BY to have extra males on hand to spawn with captive females towards the end of the program. All annual reports have been uploaded to the BPA website.

PAST Metric / Work Element	Value or description
PIT Tags	2002 - 1,000 smolts PIT tagged. 2003 - 1,000 smolts PIT tagged. 2004 - 1,000 smolts PIT tagged
Produce Annual Report	All annual reports have been completed and uploaded to the BPA website.
Production: # fish released from program, by life stage and species	In 2003 released 140,396 (BY01) yearling smolts; also released 20,592 (BY01) parr in 2002.In 2004 released 44,784 (BY02) yearling smolts. (+ adult outplants)In 2005 released 130,064 (BY03) yearling smolts.
Incubation: # fertilized eggs into incubation program, by species	In 2002 the eggtake was 176,544 eggs.In 2003 the eggtake was 309,416 eggs.In 2004 the eggtake was 310,819 eggs.
Rearing: # fish into program (fish ponded), by life stage and species	In 2002 we ponded 55,711 fish.In 2003 we ponded 164,800 fish.In 2004 we ponded 158,902 fish.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S = Captive Broodstock (Supplementation)
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	During 2002 there were 242 mature fish (113 males, 129 females).During 2003 there were 319 mature fish (90 males, 229 females).During 2004 there were 385 mature fish (166 males, 219 females).
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Mature fish: 2002-15 Age 5 (2 m,13 f) 124 Age 4 (11 m,113 f) 103 Age 3 (100 m,3 f)2003-7 Age 5 (1 m,6 f) 167 Age 4 (6 m,161 f) 145 Age 3 (83 m,62 f)2004-17 Age 5 (3 m,14 f) 176 Age 4 (2 m,174 f) 192 Age 3 (161m,31 f)

Goals

The final spawning of the captive broodstock will take place in 2006 with the final release of smolts in 2008. Females from the 2002 BY (originally collected just to have extra males on hand) will be spawned along with the females from the 2001 BY. No further funding will be required after the 2008 smolt release. The captive brood program will be ended after the 2008 smolt release.

CURRENT Metric / Work Element	Value or description
PIT Tags	Plan to PIT tag 1,000 captive brood smolts to monitor their progress and relative survival through the migration corridor.
Production: # fish released from program, by life stage and species	Depends on the number of mature fish spawned and survival of the progeny.
Incubation: # fertilized eggs into incubation program, by species	Depends on the number of mature fish spawned and survival of the progeny.
Incubation: # fry (button-up) produced, by species	Depends on the number of mature fish spawned and survival of the progeny.
Rearing: # fish into program (fish ponded), by life stage and species	To date we have 4 (00 BY), 191 (01 BY) and 184 (02 BY) fish on hand.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S = Captive Brood Program (Supplementation)
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Broodstock collection will depend upon the number of captive broodstock that mature.

1983-435-00 - Umatilla Hatchery O&M - Ctuir (Expense) Confederated Tribes Of The Umatilla

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.

Accomplishments

Held 3,902 adult summer steelhead, and fall and spring Chinook salmon in project facilities from 2002 through 2004 for spawning.

Spawned 3,173 (1,614 females) adult summer steelhead, and fall and spring Chinook salmon in project facilities from 2002 through 2004.

Approximately 6.51 million summer steelhead, and fall and spring Chinook salmon eggs were taken at project facilities from 2002 through 2004 and transported to Umatilla and other hatcheries for incubation, rearing and later release back into project juvenile acclimation/release facilities.

Acclimated and released approximately 10.99 million juvenile summer steelhead, coho, and fall and spring Chinook salmon from project facilities from 2002 through 2005.

Temporarily held 929 spring Chinook adults at SFWW from 2002 through 2004 for later out planting into the Walla Walla River basin. 856 actual fish released.

Routine preventative and/or corrective maintenance was performed at seven adult holding/spawning and juvenile acclimation/release facilities.

Compiled and completed quarterly progress reports from 2002 through 2004.

Compiled and completed annual progress reports for 2002 and 2003.

Goals

Hold approximately 1,100 adult summer steelhead, and fall and spring Chinook salmon in project facilities in 2006 for spawning.

Spawn approximately 481 pairs of adult summer steelhead, and fall and spring Chinook salmon at project facilities in 2006.

Take approximately 1.936 million eggs and transport them to Umatilla and other hatcheries for incubation, rearing and later release back into project acclimation/release facilities.

Acclimate and release approximately 3.19 million juvenile summer steelhead, coho, and fall and spring Chinook salmon from project facilities in 2006.

Temporarily hold up to 500 spring Chinook adults at SFWW in FY 2006 for later out planting into the Walla Walla River basin.

Potentially hold temporarily up to 1,000 fall Chinook adults at Three Mile Dam in FY 2006 for later out planting into the Umatilla River basin.

Provide routine preventative and/or corrective maintenance at seven adult holding/spawning and juvenile acclimation/release facilities.

Compile and complete quarterly and annual progress reports for FY 2006.

1983-435-00 - Umatilla Hatchery O&M - Ctuir (Expense) Confederated Tribes Of The Umatilla

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.

Accomplishments

For the U.S. Fish & Wildlife Service portion of this contract:

FY2002

Successfully reared 394,336 healthy brood year 2000 spring Chinook smolts at Little White Salmon NFH weighing 18,308 pounds for transfer to the Imeques Pond on the Umatilla River. Initiated the production of 348,801 brood year 2001 spring Chinook for transfer during 2003.

Marked brood year 2001 spring Chinook at Little White Salmon NFH. A total of 40,351 spring Chinook received a coded wire tag, adipose fin clip, and ventral clip. An additional 308,450 spring Chinook received an adipose fin clip only.

Completed 12 monthly, 1 ponding, 9 diagnostic and 3 pre-release fish health exams to assure optimum fish health and the production of healthy, viable smolts.

FY2003

Successfully reared 338,491 healthy brood year 2001 spring Chinook smolts at Little White Salmon NFH weighing 17,249 pounds for transfer to the Imeques Pond on the Umatilla River. Initiated the production of 372,388 brood year 2002 spring Chinook for transfer during 2004.

Marked brood year 2002 spring Chinook at Little White Salmon NFH. A total of 40,523 spring Chinook received a coded wire tag, adipose fin clip, and ventral clip. An additional 329,087 spring Chinook received an adipose fin clip only.

Completed 12 monthly, 1 ponding, 9 diagnostic and 3 pre-release fish health exams to assure optimum fish health and the production of healthy, viable smolts.

FY2004

Successfully reared 371,248 healthy brood year 2002 spring Chinook smolts at Little White Salmon NFH weighing 18,834 pounds for transfer to the Imeques Pond on the Umatilla River. Initiated the production of 348,801 brood year 2003 spring Chinook for transfer during 2005.

Marked brood year 2003 spring Chinook at Little White Salmon NFH. A total of 40,155 spring Chinook received a coded wire tag, adipose fin clip, and ventral clip. An additional 206,308 spring Chinook received an adipose fin clip only.

Completed 12 monthly, 1 ponding, 9

Goals

Rear 210,000 brood year 2004 spring Chinook at Little White Salmon NFH for transfer to the Imeques Pond on the Umatilla River.

Initiate production of 210,000 brood year 2005 spring Chinook at Little White Salmon NFH for transfer to the

Imeques Pond during 2007.

Mark 170,000 juvenile spring Chinook at Little White Salmon NFH with an adipose fin clip.

Mark and coded wire tag 40,000 spring Chinook at Little White Salmon NFH with an adipose and ventral fin clip.

Conduct 12 monthly, 1 ponding, 9 diagnostic and 3 pre-release fish health exams.

1983-436-00 - Umatilla Passage O&M (Expense) Westland Irrigation

Description: Provide Operations and Maintenance services of fish passage and satellite facilities in the Umatilla Basin.

Accomplishments

Ongoing maintenance of fish trapping, spawning, and acclimation sites in addition to O & M of ladders, screen facilities, and bypasses. Have successfully overhauled and rehabbed three fish screens each year to ensure design and criteria operation is in compliance.

PAST Metric / Work Element	Value or description
Operate/Maintain Facility	Increased adult and juvenile migrant survival in the Umatilla Basin is accomplished for both hatchery and natural production by operating and maintaining ladders, bypasses, screen sites, and trap facilities plus supporting spawning and acclimation sites.
Maintain Vegetation	Undesirable plants at project site locations are controlled by mechanical means and herbicide application as needed. Predacious animals are kept from site locations by maintenance of existing fencing.
Produce Environmental Compliance Documentation	Necessary information is assembled and reported to Bonneville compliance officials regarding herbicide application, and road maintenance activity required.

Goals

1) Continue operation and maintenance activities at screens, ladders, spawning, and acclimation sites.
2) Continue fish screen rehab at diversion sites.
3) Continue enviromental compliance tasks.

CURRENT Metric / Work Element	Value or description
Operate/Maintain Facility	Continue project objective of increased adult and juvenile migrant survival for both hatchery and natural production by operating and maintaining ladders, bypasses, screen sites, and trap facilities plus supporting O & M at spawning and acclimation sites.
Maintain Vegetation	Continue control of undesirable plants at project site locations by mechanical means and herbicide application as needed. Keep predacious animals from site locations by maintenance of existing fencing.
Produce Environmental Compliance Documentation	Continue to assemble and report necessary information to Bonneville compliance officials regarding herbicide application, road maintenance, and other as requested.

1987-100-01 - Umatilla Anad Fish Hab - Ctuir (Expense) Confederated Tribes Of The Umatilla

Description: Increase natural production potential of existing summer steelhead and re-introduce chinook salmon and coho salmon in the Umatilla River Basin.

Accomplishments

Seven new easments consumated
Stream channel improvement in Spring Hollow Creek
Culvert replacement in Sears Creek
Design obtained for stream channel improvement in Mission Cr.
Five miles of new fencing installed
Two miles of streambank vegetation planted
Twenty miles of fencing maintained
Weed control on 200 acres
Engineering design contracted and/or obtained for four passage impromement sites
Two Biological Assessments and two NEPA checklists prepared/submitted for instream projects
Planted willows on about two miles of Wildhorse Creek streambanks

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	A NEPA checklist will be prepared that addresses those work elements in the project SOW that could impact fish, wildlife, and historic resources.
Produce Environmental Compliance Documentation	A Biogical Assessment will be prepared for instream/riparian improvements for Meacham Creek along with submittal of applications or approvals to/from USCE/CTUIR Dept. of Water Resources, NOAA/USF&WS consultation, historical preservation surveys.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	10 teachers300 students10 public
Produce Inventory or Assessment	Umatilla River and major tributary properties will be surveyed to determine need and feasibility of easement acquisition
Coordination	S&WCD, UBWC, USFS, USBR, USCE, Umatilla County Dept. of Public Works, NOAA, USF&WS, ODF&W
Manage and Administer Projects	Management will continue for project prioritizations, problem identification, easement identification/negotiation, budgeting/reporting, easement maintenance, and project implementation
Provide Technical Review	Review/comment on plans/proposals forwarded by USCE, USBR, USFS, NRCS, and Umatilla Basin Watershed Council
Produce Plan	Management plans prepared for 5 easment properties
Produce Design and/or Specifications	Engineering design will be completed for alternative irrigation diversion for the Broun property and concrete fish ladder for the Hoeft property

Produce Annual Report	Annual report will be prepared summarizing project findings and accomplishments.
Produce Status Report	Quarterly reports will be prepared that provide project status, accomplishments, and problems.
# of stream miles treated (0.01 mi.)	2 miles
# of structures installed	6 large woody debris sites; 2 passage barrier improvement sites
Start and end lat/long of treated reach (0.1")	118 degrees 21 minutes; 45 degrees 30 minutes to 45 degrees 45 minutes
# of miles of fence (0.01 mi.)	15 miles
# of acres of vegetation planted (0.1 ac.)	5 acres
# of riparian miles treated (0.01 mi.; count each bank separately)	0.5 miles
# of acres treated (0.1 ac)	300 acres
# of acres treated (0.1 ac)	500 acres (headwaters fencing)
Enhance Floodplain	200 acres
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	0.5 cfs = 1 AF/day (Broun property)
Is the screen New or a Replacement? (N/R)	new
Does the screen meet NOAA/FSOC specs? (Y/N)	yes
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	0.5 cfs
# of miles of habitat accessed (0.1 mi.)	50 miles
If installing a ladder, does the ladder meet NOAA specifications for attraction flow, pool dimensions, jump height, etc? (Y/N)	Y
Does the structure remove or replace a fish passage barrier? (Y/N)	Y
# of miles of habitat accessed (0.1 mi.)	40

Was barrier Full or Partial? (F/P)	P
Conduct Pre-Acquisition Activities	An estimated three private landowners will be contacted to negotiate for easements for stream channel/riparian protection
Collect/Generate/Validate Field and Lab Data	Calibrate and install some 25 thermisters for water and air temperature recording, six Isco suspended sediment/turbidity samplers, and six aquatic macroinvertebrate sampling stations in relation to project sites.

Goals

1. Identify priority habitat problem properties and consumate easements with landowners for habitat improvements.
2. Implement instream/riparian habitat improvements on new easements including: (a) fish pasage improvements in the Birch Creek watershed,(b)instream/riparian improvements in upper McKay Creek watershed, and (c)passage/riparian improvements in Meacham Creek watershed.
3. Coordinate and collaborate with other entities in planning and implementing instream, riparian, and flood plain improvements.
4. Obtain habitat improvement grants from such entities as Dept. of Agriculture NRCS, NOAA, USF&WS, and Pacific Coastal Salmon Recovery Fund.

1987-100-02 - Umatilla Anad. Fish Hab - Odfw (Expense) ODFW

Description: Protect and enhance coldwater 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.

Accomplishments

PAST Metric / Work Element	Value or description
Produce Annual Report	Produced 2003 Annual Report outlining program accomplishments for the 2003 calendar year, as well as activities carried out from 1996 to 2002. Produced 2004 Annual Report – DRAFT
# of miles of fence (0.01 mi.)	Riparian Fence Construction on 2 properties along East Birch Creek – 4.57 miles: 2002, 2003
Develop Alternative Water Source	Installed 1 Off-Site Water Development (electric pump and heated trough) on East Birch Creek: 2002
# of acres of vegetation planted (0.1 ac.)	Riparian Planting Projects (willow cuttings and rooted stock) on 2 properties along East Birch Creek – 26,800 stems on approximately 0.75 ac: 2002-2004
Replace/Maintain Instream Structure	Maintenance of Stable Channel Design project – 0.5 stream miles: 2002. Maintenance of Instream Habitat Structures (rock weirs) on Westgate Creek – 8 structures: 2004
Maintain Terrestrial Structure	Annual Riparian Fence Maintenance (including watergaps and stream crossings) on all properties under lease – 16.48 miles: 2002-2005
# of acres treated (0.1 ac)	Annual Weed Control Treatments on all properties under lease – 319.8 acres: 2002-2005
Maintain Vegetation	Maintenance of Riparian Planting projects – 26,800 stems: 2002-2005
Collect/Generate/Validate Field and Lab Data	Stream Temperature Data Collection within Birch and Meacham creeks – 11 sites: 2002-2005
Collect/Generate/Validate Field and Lab Data	Post-project Fish Species Habitat Utilization and Population Assessments on 2 properties along East Birch Creek: 2.8 stream miles: 2004. Pre-project Fish Species Habitat Utilization and Population Assessments on West Birch Creek – 3.42 stream miles: 2004
Collect/Generate/Validate Field and Lab Data	Spawning Ground Surveys on East and West Birch and Pearson Creeks – 6 stream miles: 2002-2004
Collect/Generate/Validate Field and Lab Data	Forward Looking Infrared (FLIR) flights conducted within the Birch Creek Watershed 52.4 stream miles: 2004
Is the measuring device portable or fixed (P/F)?	Installed 2 fixed stream flow gauging stations (with air and water temperature probes) at the mouths of East and West Birch creeks: 2005

Collect/Generate/Validate Field and Lab Data	Photos taken at 109 permanent Photopoint locations throughout the Program's area of operation
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Gave presentations showcasing program accomplishments to various community groups, stakeholder groups and members of the public
Produce Plan	Currently developing a 5-Year Action plan in cooperation with the CTUIR Habitat Program aimed at directing Fish Habitat Improvement efforts and advancing Subbasin Plan recommendations for the years 2006 to 2010
Produce Environmental Compliance Documentation	Completed a "Biological Assessment" and "Habitat Improvement Program Biological Opinion Implementation Monitoring Report" for instream maintenance activities conducted on Westgate Creek: 2004
Produce Annual Report	Produced 2004 Annual Report – DRAFT
Replace/Maintain Instream Structure	Maintenance of Instream Habitat Structures (rock weirs) on Westgate Creek – 8 structures: 2004
Collect/Generate/Validate Field and Lab Data	Pre-project Fish Species Habitat Utilization and Population Assessments on West Birch Creek – 3.42 stream miles: 2004

Goals

The program will continue to coordination with Umatilla Subbasin Landowners in order to develop working relationships and sign additional Cooperative Agreements for fish habitat improvement. Agreements will enable the program to identify, design, plan, implement, maintain, monitor and evaluate additional Passive Restoration projects within the Umatilla River Subbasin. Our program will also work towards identifying and designing Active Restoration projects (including barrier remediation, instream habitat improvements and bridge replacements) within the Subbasin, so that such projects will be ready for implementation should funding become available in out years. Additional details regarding specific project tasks, will be outlined in the Program's FY2006 Statement of Work and Budget.

CURRENT Metric / Work Element	Value or description
Identify and Select Projects	Expand the Program's operating area to include a greater portion of the Umatilla Subbasin, in addition to Birch and Meacham creeks, based on priorities identified in the Subbasin Plan and 5-Year Action Plan
Identify and Select Projects	Initiate Landowner contacts and develop working relationships with willing landowners - Sign new Cooperative Agreements for Habitat Improvement projects
Produce Plan	Develop plans for 2 bridge replacements within the upper West Birch Creek watershed – contingent on Landowner cooperation
Produce Plan	Develop plans for 6 barrier remediation projects in the Birch Creek Subbasin – contingent on Landowner cooperation
Collect/Generate/Validate Field and Lab Data	Locate and collect Reference Reach Data for use in the development of future Stable Channel Design projects
Produce Environmental Compliance Documentation	Complete NEPA consultation activities (NEPA checklists, etc.) for all applicable program activities

# of stream miles treated (0.01 mi.)	Install Vegetated Geogrid Bank Stabilization Treatments at two sites, along a 300-foot (0.06 mi.) section of East Birch Creek
# of miles of fence (0.01 mi.)	Construct Livestock Exclusion Fence on 4.5 miles of stream in the Upper Meacham and Birch creek watersheds
Develop Alternative Water Source	Install 3 Off-Site Water Developments within the Birch and Meacham creek watersheds
Replace/Maintain Instream Structure	Inspect and Maintain Instream Habitat Structures and Stable Channel Design projects
Maintain Terrestrial Structure	Maintain Fence (including watergaps and stream crossings) on all properties under lease
Maintain Terrestrial Structure	Maintain Off-Site Water Developments on all properties under lease
# of acres treated (0.1 ac)	Conduct Weed Control Treatments on all properties under lease
Maintain Vegetation	Maintain Riparian Planting projects – re-plant as required
Maintain Vegetation	Coordinate with willing Landowners enrolled in the Federal Conservation Reserve Enhancement Program (CREP) to provide maintenance of CREP sponsored Riparian Planting projects
Collect/Generate/Validate Field and Lab Data	Collect Stream Temperature Data at 11 sites within Birch and Meacham creek watersheds.
Collect/Generate/Validate Field and Lab Data	Collect stream flow, stream temperature and air temperature data form gauging stations installed on East and West Birch creeks
Collect/Generate/Validate Field and Lab Data	Complete Habitat Monitoring Transect surveys at historical projects sites within the Program's operating areas
Produce Annual Report	Produce Annual Project Completion Report for the 2005 calendar year
Coordination	Work cooperatively with the CTUIR Fish Habitat Program to ensure efficient coverage of Habitat Improvement efforts throughout the Subbasin based on priorities outlined in the Subbasin Plan and using the approach described in the 5-Year Action Plan
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Continue to present Fish Habitat Improvement Program results to various community groups, stakeholder groups and members of the public, as opportunities arise

1988-022-00 - Umatilla Fish Passage Ops (Expense) Confederated Tribes Of The Umatilla

Description: Operate passage facilities, flow enhancement measures, trap facilities and hauling equipment to maximize juvenile and adult migrant survival in Umatilla and Walla Walla basins.

Accomplishments

Assisted in the restoration of salmon and steelhead in the Umatilla River by increasing the survival of migrating juvenile and adult salmon and steelhead.

PAST Metric / Work Element	Value or description
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Collected and transported broodstock for basin artificial production programs on an annual basis.
# of fish transported	Since 2002, the project annually trapped from 15,655 to 36,898 adults at Threemile Dam. Of the adults trapped, 1164 to 1261 adults were collected and hauled for brood.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Hauled surplus hatchery adult salmon to the Umatilla basin to supplement natural spawning on an annual basis.
# of fish transported	Since 2002, the project has hauled from 737 to 950 adult fall chinook annually from WDFW hatcheries to the Umatilla River to supplement natural spawning.
# of fish	Trapping and transportation of adult salmonids has occurred annually to increase survival adult migrants. Since 2002, the project annually trapped from 15,655 to 36,898 adults at Threemile Dam. Of these, the project hauled 74 to 393 adults upstream.
# of fish	Transport of juvenile salmonids has occurred annually to increase survival of juvenile migrants. The project has transported 44 to 205 pounds of juveniles around dewatered sections of the Umatilla River.
Operate/Maintain Facility	Operated and monitored passage facilities, including screen sites, juvenile bypasses, traps, and adult ladders annually to increase survival of juvenile and adult migrants.
Coordination	Oversite and coordination of the Umatilla Basin Project flow enhancement effort has occurred annually to provide increased flows during critical migration periods.
Coordination	Coordination of the operation and maintenance of the passage facilities on a weekly basis with Passage Facility Operation and Maintenance staff.
Collect/Generate/Validate Field and Lab Data	Collected and provided data on adult returns to Threemile Dam on an annual basis.
Provide Technical Review	The project provided technical expertise related to the development of physical passage facilities, traps, and related flow enhancement plans.

Produce Annual Report	Produced and submitted annual and monthly reports identifying current and anticipated passage concerns in the Umatilla Basin.

Goals

To assist in the restoration of salmon and steelhead in the Umatilla River by increasing the survival of migrating juvenile and adult salmon and steelhead.

CURRENT Metric / Work Element	Value or description
Coordination	Coordinate the operation and maintenance of passage facilities with Passage Facility Operation and Maintenance on a weekly basis.
Provide Technical Review	Continue to provide technical input related to the development and/or refinement of physical passage facilities, traps, and related flow enhancement efforts. Continue to contribute to removing or improving passage impediments in the lower Umatilla River.
Coordination	Provide oversite and coordinate the Umatilla Basin Project flow enhancement efforts to provide increased flows during critical migration periods.
# of fish	Safely transport juvenile salmonids around dewatered sections of the lower Umatilla River.
# of fish	Safely transport adults during critical migration periods in order to increase survival of adult migrants.
Collect/Generate/Validate Field and Lab Data	Collect and provide data on adult returns to Threemile Dam.
Operate/Maintain Facility	Operate and monitor passage facilities, including screen sites, juvenile bypasses, traps, and adult ladders in order to increase survival of juvenile and adult migrants.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Collect and transport broodstock for basin artificial production programs.
# of fish transported	Broodstock goals are addressed annually by the number of adult returns.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Haul surplus hatchery adult salmon to the Umatilla basin to supplement natural spawning.
# of fish transported	The number of adults available are determined by the surplus at WDFW hatcheries.
Produce Status Report	Produce quarterly and monthly status reports for BPA.
Produce Annual Report	Produce annual report for 2004-2005.

1989-024-01 - Eval Um Juvenile Sal Out Migra (Expense) ODFW

Description: Determine migration patterns, evaluate health, estimate abundance and survival of outmigrating juvenile salmonids in the Umatilla River; investigate effect of environmental variables on fish migration and video-document passage at Three Mile Falls Dam.

Accomplishments

Highlights of principal project accomplishments since 2001 include:
·In most years migration patterns of hatchery fish were similar to patterns of natural fish. The one exception to this was seen in sub-yearling fall chinook salmon.
·Annual smolt abundance has ranged from 24,748 (+/-4,980) to 77,016 (+/-7,821) in natural summer steelhead, 7,406 (+/-3,612) to 50,922 (+/-14,779) in natural spring chinook salmon, and 8,084 (+/-1,042) to 28,133 (+/-13,391) in natural fall chinook.
·The average annual smolt production for natural summer steelhead is 49,488.
·Mean smolt-yield-per-spawner is 28 for natural summer steelhead, 44 for spring chinook salmon and 55 for natural fall chinook salmon.
·Overall performance of hatchery species has been poor and variable from year to year. Mean in-basin survival of hatchery migrants has ranged from 57.8% in summer steelhead to 74.8% in sub-yearling fall chinook salmon.
·Comparisons btw standard transferred and fall-transferred spring chinook salmon revealed no significant difference in in-basin survival between the two groups.
·Comparisons between acclimated and direct-released sub-yearling fall chinook suggest improved in-basin survival for direct-released fish.
·Migration timing of natural migrants has varied between species and years.
·Natural steelhead have shown no association with environmental variables.
·In 2002, 91% of sub-yearling fall chinook left the river in water temperatures greater then 17.5 C and flows less than 300 cfs.
·PIT tag equipment was upgraded at Three Mile Falls Dam juvenile bypass facility.
·Design specifications were developed for installation of an adult ladder detector at Three Mile Falls Dam.
·Reach survival tests revealed a trend of improved survival with decreased river mile of release.
·Survival of transported fish was higher than that of in-river migrants.

PAST Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Operated and maintained PIT tag detection equipment at Three Mile Falls Dam. Edited and managed tag files of fish detected at Three Mile Dam and mainstem Columbia River sites.
Submit/Acquire Data	Uploaded tagging, interrogation and recapture files to the PTAGIS database. Extracted PIT tag summary reports.
Produce Design and/or Specifications	Developed detailed plans & designs for installation of a permanent adult ladder detector at Three Mile Falls Dam. Engineered drawings are currently being completed (2005).
Collect/Generate/Validate Field and Lab Data	Monitored hatchery and natural salmonids via smolt trapping and PIT tag interrogation at TMFD. Fish were identified to species, race and origin and biological data collected. Conducted trap efficiency tests, data entry, compilation and quality control.
Mark/Tag Animals	Pit-tagged fish for trap efficiency tests and production release monitoring.

Analyze/Interpret Data	Migration patterns of hatchery fish were similar to patterns of natural fish, with the exception of CHF0. Mean in-basin survival of hatchery migrants has ranged from 57.8% in STS to 74.8% in CHF0.
Analyze/Interpret Data	Comparisons between std-transferred and fall-transferred CHS revealed no signif. difference in in-basin survival between the two groups. Comparisons between acclimated and direct-released CHF0 suggest improved in-basin survival for direct-released fish.
Analyze/Interpret Data	Annual smolt abundance has ranged from 24,748 (+/-4,980) to 77,016 (+/-7,821) in NSTS, 7,406 (+/-3,612) to 50,922 (+/-14,779) in NCHS, and 8,084 (+/-1,042) to 28,133 (+/-13,391) in NCHF migrants. The average annual smolt production for NSTS is 49,488.
Analyze/Interpret Data	Mean smolt-yield-per-spawner is 28 for natural summer steelhead, 44 for spring chinook salmon and 55 for natural fall chinook salmon. Migration timing of natural migrants has varied between species and years.
Collect/Generate/Validate Field and Lab Data	Collected size, age, condition, health and smolt status data for hatchery and natural migrants sampled at West Extension Canal and the rotary screw trap.
Analyze/Interpret Data	Mean fork length of natural salmonids was 101.2 mm for CHS, 75.3 mm for CHF and 173.2 mm for STS. STS are leaving at a broad distribution of ages (age 1-4), with 80% emigrating at age 2. NCHS emigrate between Jan and Jun and NCHF between Apr and Dec.
Analyze/Interpret Data	Monitoring in late Jun & Jul during the critical low flow/high temp period has shown this to be the time when natural CHF0 migrate out. In 2002 an estimated 91% of CHF0 left the river in water temp. > 17.5 C and flows <300 cfs.
Collect/Generate/Validate Field and Lab Data	Collected information on environmental variables, flow enhancement (reservoir releases & exchange pumping) and canal operations. Conducted species-specific test releases to document movement & passage delays within West Extension Canal.
Analyze/Interpret Data	Efficiency of the juvenile bypass is influenced by water temp., river flow and canal diversion rate. Relationships are species specific and variable from yr to yr. All species except STS are influenced by water temp, river flow and canal diversion.
Collect/Generate/Validate Field and Lab Data	Conducted reach survival tests with large and small grade summer steelhead and sub-yearling fall Chinook salmon.
Analyze/Interpret Data	Reach survival tests revealed a trend of improved survival with decreased river mile of release. Results of this study have initiated a change in hatchery release strategies. STS are now being released lower down in the system.

Collect/Generate/Validate Field and Lab Data	Conducted transport evaluation tests.
Analyze/Interpret Data	Transport evaluation tests revealed transported fish had a higher overall detection rate at Umatilla and Columbia River dams than in-river migrants suggesting survival of transported fish may be higher. Results are currently inconclusive.
Collect/Generate/Validate Field and Lab Data	19 species of resident fish were documented in the lower Umatilla River: 10 nonendemic / 9 endemic. Chiselmouth, largescale suckers, and bridgelip suckers were the dominate species observed during the monitoring season.
Collect/Generate/Validate Field and Lab Data	Lamprey emigration timing spans from November to March. 28,585 (± 13,595) juvenile lamprey were estimated to have emigrated from the Umatilla River in 2001. Too few were captured in 2002 and 2003 to conduct mark-recapture tests.
Produce Environmental Compliance Documentation	Submitted 4(d) take application & report.
Manage and Administer Projects	Produced BiOp Metrics Report and submitted Statement of Work & budget.
Produce Annual Report	Compiled annual report.
Produce Plan	Completion of the Comprehensive RM&E Plan for Umatilla Subbasin Summer Steelhead and Chinook Salmon (Sept 2004). Submitted the draft Subbasin Plan (May 2004).
Coordination	Coordinated with local and regional management groups, projects and researchers and integrated information from these groups into assessments of the Umatilla Subbasin fisheries program.
Coordination	Attended monthly River Operators Group meetings, UMMEOC meetings and development of the Annual Operating Plan for the Umatilla Hatchery & Subbasin. Coordination associated with completion of the Umatilla Subbasin Plan & RM&E Plan

Goals

Highlights of FY06 goals:
·Develop plans to implement RM&E and Subbasin Plan Objectives.
·Acquire funding for construction of the adult ladder detector at Three Mile Falls Dam.
·Assess outmigration performance of hatchery-origin fish relative to naturally produced species (ie. migration patterns).
·Determine in-basin survival of hatchery smolts from various rearing and release strategies.
·Monitor smolt abundance and in-basin survival of naturally-produced species and trends in annual production. Compute smolt-per-spawner ratios as a measure of productivity and trends over time.
·Monitor juvenile life history characteristics of hatchery and natural migrants and assess trends over time.
·Investigate the effects of river, canal and fishway operations and environmental variables on juvenile migration and survival.
·Document the temporal distribution and diversity of resident fish species at lower river trap sites.

CURRENT Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Operate and maintain PIT tag detection equipment at Three Mile Falls Dam. Edit and manage tag files of fish detected at in-basin and mainstem Columbia River sites.
Submit/Acquire Data	Upload tagging, interrogation and recapture files to the PTAGIS database. Extract PIT tag summary reports.
Manage and Administer Projects	Acquire funding for installation of the adult ladder detector at Three Mile Falls Dam. Develop SOW.
Collect/Generate/Validate Field and Lab Data	Monitor hatchery and natural salmonids via smolt trapping and PIT tag interrogation at Three Mile Falls Dam. Identify to species, race and origin and collect biological data. Conduct trap efficiency tests, data entry, compilation and quality control.
Mark/Tag Animals	Pit-tag fish for trap efficiency tests and coho salmon production release monitoring. Assist with tagging of various hatchery release groups.
Analyze/Interpret Data	Calculate migration timing and in-basin survival of hatchery-released fish by species and release group. Compare outmigration performance of hatchery and naturally-produced smolts. Includes statistical analysis.
Analyze/Interpret Data	Calculate smolt abundance, migration timing, and in-basin survival of natural salmonids. Assess timing variability between species & years. Monitor and interpret annual data & trends over time. Acquire spawner data. Compute smolt-yield-per-spawner.
Collect/Generate/Validate Field and Lab Data	Collect size, age, condition, health and smolt status data for hatchery and natural migrants sampled at West Extension Canal and the rotary screw trap.
Analyze/Interpret Data	Length, age, condition, health and smot status data synthesis and statistical analysis.
Collect/Generate/Validate Field and Lab Data	Collect information on environmental variables, flow enhancement (reservoir releases & exchange pumping) and canal operations. Assess movement & passage delays within West Extension Canal.
Analyze/Interpret Data	Examine relationships between environmental variables, fish transport, and flow enhancement efforts on fish migration & survival. Examine associations btw passage and canal operations & fish behavior. Data synthesis & statistical analysis.
Collect/Generate/Validate Field and Lab Data	Document prevalence and size of resident fish species present in the lower river. Assist with pacific lamprey trapping & data collection.
Produce Environmental Compliance Documentation	Submit 4(d) take application & report.
Manage and Administer Projects	Produce BiOp Metrics Report. Develop statement of work & budget.

Produce Annual Report	Compile and submit annual report.
Coordination	Coordinate with local and regional management groups, projects and researchers and integrated information from these groups into assessments of the Umatilla Subbasin fisheries program.
Coordination	Attend monthly River Operators Group meetings, UMMEOC meetings and development of the Annual Operating Plan for the Umatilla Hatchery & Subbasin. Coordination associated with completion of the Umatilla Subbasin Plan and the RM&E Plan.

1989-027-00 - Power Repay Umatilla Basin Pro (Expense) BPA

Accomplishments

Goals

1989-035-00 - Umatilla Hatchery O&M - Odfw (Expense) ODFW

Description: Umatilla Fish hatchery produces the majority of the fish production for the purposes of rehabiliting chinook salmonand enhancing steelhead populations in the Umatilla River.

Accomplishments

Fish production
2002 620,000 sub-yearling fall chinook, 514,000 spring chinook yearlings, 160,000 steelhead smolts. Transfer of 1.5 million coho from Cascade/Oxbow hatchery, 350,000 spring chinook from Little White, and 540,000 yearling fall chinook Bonneville Hatchery.
2003: 625,000 sub-yearling fall chinook, 460,000 spring chinook yearlings, 127,000 steelhead smolts. Transfer of 1.5 million coho from Cascade/Oxbow hatchery, 350,000 spring chinook from Little White, and 540,000 yearling fall chinook Bonneville Hatchery.
2004: 608,000 sub-yearling fall chinook, 494,000 spring chinook yearlings, 130,000 steelhead smolts. Transfer of 1.5 million coho from Cascade/Oxbow hatchery, 350,000 spring chinook from Little White, and 480,000 yearling fall chinook Bonneville Hatchery.

Goals

Current Umatilla Hatchery Fish production:
Fall chinook- 600,000 sub-yearlings
Steelhead—150,000 smolts
Spring Chinook-600,000 starting in 2005
Fish transfers: 1.5 million Coho, 480,000 fall chinook yearlings, and 210,000 spring chinook yearlings

1990-005-00 - Umatilla Hatchery - M&E (Expense) ODFW

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.

Accomplishments

Highlights of accomplishments since 2002 review:

Estimated smolt-to-adult survival (SAS) for fall and spring Chinook salmon and summer steelhead for brood years 1991-1996. SAS of the 1995 and 1996 broods of yearling spring Chinook salmon increased above 0.73%, whereas SAS for summer steelhead and fall Chinook salmon have remained low and variable.

Determined annual catch, harvest, and effort for summer steelhead, spring and fall Chinook salmon, and coho salmon recreatonal fisheries in the Umatilla River. The spring Chinook fishery has been successful, meeting or exceeding the 10% harvest goal in recent years.

Compared life history traits of hatchery versus natural steelhead. Run timing and age structure were similar, but a higher proportion of natural steelhead adult returns are female.

Determined annual ocean and in-river fisheries contributions for fall and spring Chinook salmon and steelhead.

Provided annual run predictions essential for setting harvest seasons and quotas within the Umatilla River.

Began monitoring two release strategies for subyearling fall Chinook salmon, and began a summer steelhead release site evaluation.

Implemented adaptive management changes based on past evaluations, including shifting all yearling spring Chinook rearing at Umatilla hatchery to Michigan raceways, and increasing yearling spring Chinook salmon rearing to 600,000 smolts at Umatilla Hatchery due to results of survival and fish health monitoring activities.

ODFW completed the draft “Comprehensive assessment of salmonid restoration and enhancement efforts in the Umatilla River Basin” and submitted it to ISRP and NPCC for review.

Completed releases for the evaluation of a fall transfer, cold-water rearing stage for yearling spring Chinook salmon.

Completed the draft of the “Comprehensive research, monitoring and evaluation plan for Umatilla Subbasin summer steelhead and Chinook salmon” to guide RM&E activities in the next decade.

PAST Metric / Work Element	Value or description
Coordination	Coordinated with CTUIR, state and federal agencies to create monitoring and evaluation plans and reports and coordinate research and management
Produce Plan	Completed Comprehensive Research, Monitoring, and Evaluation Plan for Umatilla Subbasin Summer Steelhead and Chinook Salmon for ISRP and NPCC review
Produce Annual Report	Produced 1999-2002 annual reports
Produce/Submit Scientific Findings Report	Completed draft of Comprehensive Assessment of Salmonid Restoration and Enhancement efforts in the Umatilla River Basin

Collect/Generate/Validate Field and Lab Data	Quantified harvest of Umatilla steelhead and Chinook salmon in out-of-subbasin fisheries
Analyze/Interpret Data	Monitored smolt production, smolt condition and migration performance, smolt-to-adult survival, adult production, and harvest and spawning contributions of hatchery-reared steelhead and Chinook salmon to ensure full accounting of all artificial production
Collect/Generate/Validate Field and Lab Data	Monitored and assessed the status and trends of adult Chinook salmon and summer steelhead abundance, life history, returns to the Umatilla River, and productivity by hatchery- and naturally-reared origin in cooperation with CTUIR
Collect/Generate/Validate Field and Lab Data	Quantified fishing effort, catch, and harvest by gear type for non-tribal Chinook salmon and summer steelhead fisheries in the Umatilla River
Analyze/Interpret Data	Monitored summer steelhead and Chinook salmon broodstock collection and artificial spawning to assess whether collection and spawning goals and protocols are met
Analyze/Interpret Data	Evaluated if a colder, more natural temperature environment in fall will increase smolt-to-adult survival of spring Chinook salmon compared to standard rearing at Umatilla Fish Hatchery
Analyze/Interpret Data	Evaluated if smolt-to-adult survival of subyearling hatchery fall Chinook salmon can be improved by programmatic changes including larger size-at-release and direct-stream release lower in the subbasin
Analyze/Interpret Data	Evaluated whether smolt-to-adult survival differs for fall Chinook salmon reared at three densities in Michigan raceways
Analyze/Interpret Data	Evaluated whether smolt-to-adult survival differs for spring Chinook salmon reared in Michigan versus Oregon raceways
Analyze/Interpret Data	Monitored and assessed straying of adult summer steelhead and fall Chinook salmon returns from the Umatilla Subbasin hatchery program
Analyze/Interpret Data	Monitored progeny-per-parent productivity of hatchery-reared summer steelhead and Chinook salmon and compared to progeny-per-parent productivity of naturally-reared summer steelhead and Chinook salmon in cooperation with CTUIR
Analyze/Interpret Data	Monitored and assessed life history characteristics of hatchery-reared summer steelhead and compared to life history characteristics of naturally-reared steelhead in cooperation with CTUIR
Analyze/Interpret Data	Developed models for pre-season estimation of Umatilla River returns to facilitate management of subbasin fisheries
Maintain Fish Health	Monitored fish health

Collect/Generate/Validate Field and Lab Data	Assessed whether management actions optimize fishing opportunities while meeting production and population objectives

Goals

Highlights for 2006 FY Goals:

· Complete releases for subyearling fall Chinook salmon release strategy monitoring

· Complete adult return data for fall vs. winter transfer evaluation for acclimated yearling spring Chinook salmon

· Create and submit manuscript on Michigan-Oregon (oxygen supplementation) rearing strategy for scientific publication

· Develop plans to implement new RM&E objectives from Comprehensive RM&E Plan

· Perform creel surveys for non-tribal recreational fisheries in the Umatilla River

· Continue collecting monitoring data for Umatilla Hatchery program (smolt releases, adult returns, straying, harvest)

· Continue analyzing data for Umatilla Hatchery Program (survival, straying, progeny-per-parent ratios, stock-recruitment, run predictions)

· Continue coordination with tribal, state, and federal management agencies.

CURRENT Metric / Work Element	Value or description
Coordination	Coordinate with local and regional management groups and integrate information from these groups into assessments of Umatilla Subbasin fisheries programs
Produce Annual Report	Produce 2005 annual report
Produce/Submit Scientific Findings Report	Create and submit manuscript on Oregon/Michigan evaluation studies for scientific publication.
Develop RM&E Methods and Designs	Develop plans to implement high priority RM&E objectives from Comprehensive Research, Monitoring, and Evaluation Plan for Umatilla Subbasin Summer Steelhead and Chinook Salmon
Collect/Generate/Validate Field and Lab Data	Quantify harvest of Umatilla steelhead and Chinook salmon in out-of-subbasin fisheries
Analyze/Interpret Data	Monitor smolt production, smolt condition and migration performance, smolt-to-adult survival, adult production, and harvest and spawning contributions of hatchery-reared steelhead and Chinook salmon to ensure an accounting of all artificial production
Collect/Generate/Validate Field and Lab Data	Monitor and assess the status and trends of adult Chinook salmon and summer steelhead abundance, life history, returns to the Umatilla River, and productivity of hatchery- and naturally-reared origin in cooperation with CTUIR

Collect/Generate/Validate Field and Lab Data	Quantify fishing effort, catch, and harvest by gear type for non-tribal Chinook salmon and steelhead fisheries in the Umatilla River
Collect/Generate/Validate Field and Lab Data	Assess whether management actions optimize fishery opportunities while meeting production and population objectives
Analyze/Interpret Data	Monitor summer steelhead and Chinook salmon broodstock collection and artificial spawning to assess whether collection and spawning goals and protocols are met
Analyze/Interpret Data	Evaluate if a colder, more natural temperature environment in fall will increase smolt-to-adult survival of spring Chinook salmon compared to standard rearing at Umatilla Fish Hatchery
Analyze/Interpret Data	Evaluate if smolt-to-adult survival of subyearling hatchery fall Chinook salmon can be improved by programmatic changes including larger size-at-release and direct-stream release lower in the subbasin
Analyze/Interpret Data	Evaluate whether smolt-to-adult survival differs for fall Chinook salmon reared at three densities in Michigan raceways
Analyze/Interpret Data	Evaluate whether smolt-to-adult survival differs for spring Chinook salmon reared in Michigan versus Oregon raceways
Analyze/Interpret Data	Monitor and assess straying of adult summer steelhead and Chinook salmon returns from the Umatilla Subbasin hatchery program
Analyze/Interpret Data	Monitor progeny-per-parent productivity of hatchery-reared summer steelhead and Chinook salmon and compare to progeny-per-parent productivity of naturally-reared summer steelhead and Chinook salmon in cooperation with CTUIR
Analyze/Interpret Data	Monitor and assess life history characteristics of hatchery-reared summer steelhead and compare to life history characteristics of naturally-reared steelhead in cooperation with CTUIR
Analyze/Interpret Data	Develop models for pre-season estimation of Umatilla River returns to facilitate management of subbasin fisheries in cooperation with CTUIR
Maintain Fish Health	Monitor fish health

1990-005-01 - Umatilla Basin Nat Prod M&E (Expense) Confederated Tribes Of The Umatilla

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

Accomplishments

UNPMEP has collected and analyzed extensive data sets describing water temperature conditions, juvenile fish community structure, resident fish population structure, spawner distributions and densities, passage, habitat conditions, age and growth, and tribal harvest. Project staff have studied the presence and potential impacts of hatchery residuals on naturally producing anadromous and resident salmonids, and have advised on the release location and timing of hatchery projects. Staff have assisted in the development and implementation of a variety of critical uncertainty research projects including the delineation of ESA-listed summer Steelhead population structure, and the development of progeny markers for evaluating the success of hatchery programs. In addition project staff support local efforts to monitor and restore endemic bull trout by providing spawner, distribution, age and growth, and movement data to state and federal lead entities. Collectively these data have been utilized in a number of plans and management actions including limiting factors analysis, habitat plans, passage restoration, flow augmentation, and harvest planning. Most recently project staff worked with other regional scientists using CTUIR data to develop, run, and evaluate the Umatilla Subbasin Ecosystem Diagnosis and Treatment model used in the Umatilla Subbasin Plan. That model, and the resulting Management Plan (Chapter 5, SBP), clearly demonstrated the efficacy of this project and the importance of its work. The project used EDT to quantify the potential of the Umatilla Subbasin to produce on average thousands of additional spawners via the restoration of specific habitat attributes in priority reaches. During this same period UNPMEP has documented the status and trends in natural production of anadromous and resident fish. This information has been effectively communicated to managers, and a great deal of the information has been archived and made public via the internet.

PAST Metric / Work Element	Value or description
Develop RM&E Methods and Designs	Developed Umatilla steelhead and Chinook RM&E Plan, and RM&E section of the Umatilla Subbasin Plan. Worked with regional coordinating entities (CSMEP and PNAMP) to develop standards and methods for RM&E programs.
Collect/Generate/Validate Field and Lab Data	Collected spawner, carcass, age and growth, stream temperature, and tribal harvest data
Manage/Maintain Database	Developed relational database, interactive maps, and web-server tool for stream temperature data.
Disseminate Raw & Summary Data	Published data, analysis, evaluations, and conclusions in annual reports, web-based data servers, technical meetings, and planning meetings. Disseminated information to tribal, city, county, state, and federal scientists and planners.
Analyze/Interpret Data	Analyzed and evaluated spawner, carcass, juvenile fish, age and growth, fecundity, habitat, stream temperature, and tribal harvest data for annual reports, mathematical models, and regional plans including the Umatilla Subbasin Summary and Subbasin Plan.

Goals

Our primary goal is to provide information to tribal, state and federal fisheries managers by monitoring the status and trends in the abundance, distribution, movement and survival of bull trout, mountain whitefish, redband trout, summer steelhead and spring Chinook salmon during adult migration, spawning, rearing and juvenile migration in the Umatilla River Drainage and evaluate these trends in relation to environmental, ecological, and anthropogenic

factors. Other project goals include coordination and cooperation with other restoration and monitoring projects, assisting in fish salvage efforts, and other activities such as technical review, results dissemination, and proposal development when circumstances dictate. In the coming year UNPMEP will continue to monitor stream temperatures, spring Chinook and summer steelhead spawning, resident and anadromous salmonid age and growth, and tribal harvest. We will continue to participate in the various planning, modeling, and management processes associated with the recovery of endangered stocks, and the restoration of salmonids throughout the Umatilla Subbasin. In addition we are requesting a sufficient increase in budget to support activities approved in the provincial review process, but not supported fiscally by BPA during 2004. These include spawner/carcass surveys of fall Chinook and coho, and the assessment of rearing juvenile salmonids and their habitat in priority tributaries where habitat actions are imminent. The fall Chinook and coho data is needed to adequately monitoring the status and trend of fall Chinook spawning, and to evaluate the effectiveness of the fall Chinook hatchery program. The juvenile fish and habitat information is needed to effectively evaluate the impacts of habitat actions on natural production. In addition this increased fiscal support is essential to support juvenile fish salvage activities that result directly in increased productivity and abundance of managed stocks.

CURRENT Metric / Work Element	Value or description
Develop RM&E Methods and Designs	Work with PNAMP, CSMEP, and BPA to develop regional standards for RM&E, and integrate with Umatilla RM&E plan. Continue to coordinate locally within the UMMEOC forum.
Collect/Generate/Validate Field and Lab Data	Collect data addressed the distribution and and condition of spawners, carcasses, juvenile and resident salmonids, habitat, stream temperature, age and growth, and tribal harvest.
Manage/Maintain Database	Develop databases, interactive maps, and web servers for spawners, carcasses, juvenile and resident salmonids, habitat, age and growth, and tribal harvest data sets. Continue to manage data and post to internal servers.
Disseminate Raw & Summary Data	Present data at local, regional, and national planning meetings. Produce at least two peer-reviewed papers discussing project results, and present at the 2006 American Fisheries Society conference.
Analyze/Interpret Data	Analyze and interpret spawner, carcass, juvenile and resident salmonid, habitat, age and growth, stream temperature and tribal harvest data.

1990-092-00 - Wanaket Wildlife Area (Expense) Confederated Tribes Of The Umatilla

Description: Protect, enhance, and mitigate for wildlife habitats impacted by the McNary Hydroelectric Project. Achieve NPPC wildlife mitigation objectives in a cost effecient manner with in-kind habitats located on-site where original habitat inundation occurred.

Accomplishments

2002, 2003, and 2004 - Provide approximately 2,334 Habitat Units of protection credits for 7 wildlife mitigation species on the Wanaket Wildlife Area. Protection and enhancement is acheived by maintain boundary fences, irrigation infrastructure, and signs, provide regulated public access, removing unwanted vegetation, protecting the area from tresspass, planting desirable vegetation, and collecting data on wildlife species and habitats.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Environmental compliance was conducted each year, as needed.
Coordination	Participate in Columbia Basin Fish and Wildlife Authority and Northwest Power Planning Council Processes. Includes project reviews, funding prioritization, and standards development and adherence.
Manage and Administer Projects	Manage and administor work on 2,817 acres of wildlife habitat, including preparation, coordination and oversight of subcontracts.
Produce Annual Report	Produced annual report each year
Produce Status Report	Produced 4 quarterly reports each year
# of acres of vegetation planted (0.1 ac.)	2004 - planted 900 acres with big sagebrush. 2005 - planted 30 acres with bluebunch wheatgrass. 2002 - planted 1,200 acres with native perennial grasses.
# of acres treated (0.1 ac)	Control noxious weed infestations, control competing and unwanted vegetation and maintain a professional agreement for fire protection
Maintain Terrestrial Structure	Maintain 12 miles of project boundary fence and gates.
Operate/Maintain Facility	2004 - installed new self-cleaning screens. ANNUALLY - Maintain functionality of irrigation facilities, including inspection, repair and routine maintenance of intake screen, pumps and motors, flow meters, irrigation ditches and water control structures
Remove Debris	Remove debris resulting from illegal dumping

Goals

Overall, the project protects and enhances 2817 acres of wildlife habitat, providing 2,334 Habitat Units of protection credits for 7 wildlife mitigation species.

Additional metrics could include:
1. Prevent tresspass. Prevent unregulated human and livestock tresspass.

2. Provide public access. Provide regulated public access, for consumptive (approximately 950 hunter visits per year)and non-consumptive uses (6 weeks of public access). Maintain access signs.

3. Collect Data. Collect, manage and interpret data on breeding waterfowl (pair and brood counts) and public use.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Complete environmental compliance on all projects, as needed.
Coordination	Participate in Columbia Basin Fish and Wildlife Authority and Northwest Power Planning Council Processes. Includes project reviews, funding prioritization, and standards development and adherence.
Manage and Administer Projects	Manage and administor work on 2,817 acres of wildlife habitat.
Produce Annual Report	Prepare annual report.
Produce Status Report	Produce quarterly reports.
# of acres of vegetation planted (0.1 ac.)	Plant bitterbrush and sagebrush seedlings on 10 acres.
Maintain Terrestrial Structure	Maintain project boundary fence and gates.
Maintain Vegetation	Control noxious weed infestations, control competing and unwanted vegetation and maintain a professional agreement for fire protection
Operate/Maintain Facility	Maintain functionality of irrigation facilities, including inspection, repair and routine maintenance of intake screen, pumps and motors, flow meters, irrigation ditches and water control structures and electrical system.
Remove Debris	Remove debris resulting from illegal dumping

1994-026-00 - Pacific Lamprey Population Sta (Expense) Confederated Tribes Of The Umatilla

Description: Assess status and survival limitations of Pacific lamprey in the Umatilla, Walla Walla, John Day, Tucannon, Grande Ronde basins. Implement and monitor restoration plan developed for the Umatilla River.

Accomplishments

2003:
1)Continued efforts to increase larval densities of Pacific lamprey by outplanting sexually mature adults into the Umatilla River.
2)Estimated: larval densities at index sites and the abundance of outmigrating and upmigrating lamprey in the Umatilla River.
3)Conducted a pilot study to determine spawning habitat requirements.
4)Investigated the role of olfaction in the migration and spawning behaviors of adult Pacific lampreys.
5)Initiated study to identify stressors adversely affecting lampreys along the west coast.
6)Using inter-population estimates of genetic distance we described population genetic affinities in allele frequency across two loci.
7) Published three peer reviewed journal articles.

2004:
1)Continued efforts to increase larval densities of Pacific lamprey by outplanting sexually mature adults in the upper watershed of the Umatilla River.
2)Estimated larval densities at index sites (electro shocking); abundance of larval and metamorphosed lamprey migrating out of the Umatilla River.
3) Continued efforts to identify stressors adversely affecting lampreys along the west coast.
4) Published three peer-reviewed journal articles.

2005:

1) Continued efforts to increase larval densities of Pacific lamprey by outplanting sexually mature adults in the upper watershed of the Umatilla River.
3) Estimate larval densities, outmigrants and upmigrants in the Umatilla River.
4) Initiated a study to quantitatively assess the migratory behavior and timing of adult lamprey in the Umatilla River.
5) Began study to assess the functional role of larval Pacific lamprey in the river ecosystem.
6) Continued efforts to characterize stress related steroids in Pacific lamprey.
7) Continued efforts to analyze the population genetics of Pacific lamprey by applying AFLP and FIASCO techniques to seven different populations from different geographic locations.

PAST Metric / Work Element	Value or description
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation into the Umatilla River
# of fish by origin (ad-clip/non-clip)	2003 outplanted 484 Pacific lamprey broodstock 2004 outplanted 133 Pacific lamprey broodstock 2005 outplanted 60 Pacific lamprey broodstock
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation into the Umatilla River

# of fish transported	Transported Pacific lamprey from Bonneville Dam to CTUIR hatchery facilities: 2003 = 484 2004 = 133 2005 = 480

Goals

1) We will continue efforts to increase larval densities in the Umatilla River by collecting, holding and outplanting sexually mature adults in the upper watershed.
2) We will estimate larval densities at index sites (electro shocking); abundance of larval and metamorphosed lamprey migrating out of the Umatilla River to begin the ocean stage of their life cycle; and the number of adult lampreys migrating in the Umatilla River. We will statistically analyze the five-year data set to observe trends in lamprey densities.
3) Continue study to quantitatively assess the migratory behavior and timing of adult lamprey in the Umatilla River to determine the passage success of adult Pacific lamprey at Three Mile Dam and irrigation diversions on the Umatilla River; document the rate and route of migration; and quantitatively assess the spawning habitat selection of adult lamprey.
4) We will continue efforts to characterize stress related steroids in Pacific lamprey.

CURRENT Metric / Work Element	Value or description
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation of Pacific lamprey into the Umatilla River.
# of fish by origin (ad-clip/non-clip)	Per our permit, up to 500 fish will be collected for mainstem Columbia dams.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation of Pacific lamprey into the Umatilla River.
# of fish transported	Up to 500 fish will be transported from mainstem Columbia dams to fish maintenance facilities.

1995-060-01 - Iskuulpa Watershed Project (Expense) Confederated Tribes Of The Umatilla

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

Accomplishments

Management and oversight of Iskuulpa Watershed provides protection of watershed and fish and wildlife resources and 4,568 habitat units of protection credit to Bonneville Power Administration for seven wildlife mitigation species.

Annual operations and maintenance address key strategies for habitat protection and enhancement. The following activities were completed annually, from 2002 to 2005. Grazing leases were purchased and rested from livestock grazing. Fences were maintained to prevent trespass livestock. Spring developments were maintained to protect riparian areas from livestock grazing. A seasonal road closure was enforced to protect riparian areas and salmonid spawning habitat. Monitoring data were collected to refine data on size, distribution, and of focal terrestrial habitat types.

In 2002, data were collected for a HEP evaluation of the project area. The report was completed in 2003. The total habitat units credited to BPA for the Iskuulpa Watershed Project and its seven indicator species is 4,567 habitat units.

In 2004, a time change analysis of grassland habitats was completed using a combination of remotely-sensed and field-collected data to detect changes in grassland community composition (perennial versus annual).

In 2003, large wood additionas were made to approximately 4 miles of Iskuulpa Creek.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Environmental compliance completed each year, from 2002 to 2005
Coordination	Participate in Columbia Basin Fish and Wildlife Authority and Northwest Power Planning Council Processes, including project reviews, and funding prioritization
Produce Annual Report	Produced annual reports, each year, from 2002 to 2005
Produce Status Report	Produced 4 quarterly reports, each year, from 2002 to 2005
# of acres of vegetation planted (0.1 ac.)	2004 - Conifer and hardwood trees were planted on 20 acres. 2003 - 400 willow stakes were planted to mainstem Iskuulpa Creek
Maintain Terrestrial Structure	Maintain fences to prevent tresspass livestock on approximately 20,177 acres and 13 miles of fish-bearing streams rested from livestock grazing.
Prepare HEP Report	Completed a HEP Report in 2003
# of acres of renewed lease (0.1 ac.)	20,177 acres leased and rested from grazing each year, from 2002 to 2005

Goals

In addition to the metrics listed, goals include 1) conduct avian point counts to gather information on focal species distribution and abundance in a grassland, a focal habitat type.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Complete environmental compliance for project work.
Coordination	Participate in Columbia Basin Fish and Wildlife Authority and Northwest Power Planning Council Processes, including coordination with mitigation co-managers and NWPPC staff.
Manage and Administer Projects	Manage and administer the Iskuulpa Watershed Project, which provides approximately 4,568 habitat units of protection credit to Bonneville Power Administration for seven wildlife mitigation species. Includes planning work and administering sub-contracts.
Produce Annual Report	Produce annual report
Produce Status Report	Produce 4 quarterly reports
# of structures installed	15 to 20 complexes of 2 or more trees each
# of acres of vegetation planted (0.1 ac.)	Plant approximatly 50 acres with bluebunch wheatgrass
# of acres treated (0.1 ac)	Treat approximately 50 acres of noxious weeds and/or competing and unwanted vegetation.
Maintain Terrestrial Structure	Maintain range allotment boundary fence so its capable of excluding livestoc, approximately 10 miles of fence
# of acres of renewed lease (0.1 ac.)	Purchase two grazing leases for two Bureau of Indian Affairs grazing units, encompassing approximately 20,000 acres.

2002-026-00 - Morrow County Riparian Buffers (Expense) Morrow Soil & Water Conservation D

Description: Implements ripairan buffer program using cost share provided by USDA, State of Oregon, and private landowners.

Accomplishments

Outreach

Technician has used the following outreach techniques to increase awareness of program; Mail, phone, local paper, FSA paper and informational workshops. Persons contacted include: general public, private landowners, Kiwanis Club, Heppner Chamber of Commerce and Cattlemen's Association.

May 2002-Dec 2002
Landowners contacted: 39
Buffer acres protected: In progress
Linear stream miles protected: In progress
Contracts negotiated: 0
Note- The four contracts that were in progress in 2002 were signed in 2003 and will be included in that year.

January 2003- Dec 2003
Landowners contacted: 129
Buffer acres protected: 303.2
Linear stream miles protected: 23.85
Contracts negotiated: 21
Feet of Fence installed: 44,443
Spring Dev. installed: 6
Troughs/pipeline systems installed: 25

January 2004- Dec 2004
Landowners contacted: 136
Buffer acres protected: 271.2
Linear stream miles protected: 15.4
Contracts negotiated: 11
Feet of Fence installed: 53,855
Spring Dev. installed: 3
Troughs/pipeline systems installed: 3
Guzzlers installed: 4

January 2005- May 2005
Landowners contacted: 23
Buffer acres protected: 296.1
Linear stream miles protected: 13.66
Contracts negotiated: 11
Feet of Fence installed: 16,833
Spring Dev. installed: 0
Troughs/pipeline systems installed: 0
Guzzlers installed: 0

Overview-
June 2005-Dec 2005, 2006

The expanded CREP agreement throughout Morrow County, NRCS Conservation Security Program and word of

mouth has greatly increased awareness and enrollment in CREP for Morrow County. Having said this, the 2005 year will be a significant improvement over previous years. In 2005 there have already been 11 contracts signed and more in progress.

Goals

Technician will continue the following outreach techniques; Mail, phone, local paper, FSA paper and informational workshops.

The expanded CREP agreement throughout Morrow County, NRCS Conservation Security Program and word of mouth should maintain an increased awareness and enrollment for CREP in Morrow County in FY 2006.

FY January 2006- Dec 2006

Projected landowners contacted: 60
Projected contracts: 15
Work includes associated practices, such as fence, off stream water, plantings.

2002-026-00 - Morrow County Riparian Buffers (Expense) Morrow Soil & Water Conservation D

Description: Implements ripairan buffer program using cost share provided by USDA, State of Oregon, and private landowners.

Accomplishments

Project 2002-026-00 Morrow County Buffers.

Outreach

Technician has used the following outreach techniques to increase awareness of program. Mail, phone, local paper, FSA paper and informational workshops. Persons contacted include: general public, private landowners, Kiwanis Club, Heppner Chamber of Commerce and Cattlemen's Association.

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Goals

Project 2002-026-00 Morrow County Buffers.

Technician will continue the following outreach techniques; Mail, phone, local paper, FSA paper and informational workshops.

The expanded CREP agreement throughout Morrow County, NRCS Conservation Security Program and word of mouth should maintain an increased awareness and enrollment for CREP in Morrow County in FY 2006.

FY January 2006- Dec 2006

Projected landowners contacted: 60
Projected contracts: 15
Associated practices

2002-030-00 - Salmonid Progeny Markers (Expense) Confederated Tribes Of The Umatilla

Description: A chemical progeny mark would be developed and tested to evaluate natural reproductive success of supplemented steelhead . The mark would be administered to female parents and would be detectable in the otolith of their progeny.

Accomplishments

The Progeny Marker project has completed a number of milestones and objectives including: 1) the selection and hiring of a project leader and graduate student; 2)the development, review and execution of an experimental design; 3) the acquisition, procurement or use of test fish, holding facilities, egg incubation systems, progeny rearing tanks, etc.; 4) the development and refinement of marker concentrations, marker delivery methods, treatment and handling protocols, otolith extraction and otolith preparation protocols; 5) the completion of three marking trials with associated control and treatment groups; 6) the analysis of otolith microchemistry with a wavelength dispersive microprobe, 7) assessment of significant separation in Sr:Ca ratios in the otolith primordia of progeny of adult female steelhead marked with treatment and control marking solutions, and 8) the evaluation of Sr mobilization in the plasma of adult female steelhead trout injected with the marker solution.

PAST Metric / Work Element	Value or description
Develop RM&E Methods and Designs	Developed and tested elemental marker solutions for marking the progeny of gravid female steelhead prior to spawning without changes in survival, maturation, and fertilization rates, and to access progeny embryonic development, growth and survival.
Mark/Tag Animals	Conducted experiments using adult female steelhead for control and treatment groups that led to the marking of thousands of their progeny that were randomly sub-sampled and analyzed for differences in marker concentration between and within test groups.
Collect/Generate/Validate Field and Lab Data	Extracted otoliths and measured Sr:Ca ratios from 720 progeny of marked and unmarked steelhead using wavelength dispersive microprobe. Collected plasma during a time series trial from marked adult steelhead to determine Sr mobilization rates.
Manage/Maintain Database	Created and maintained a database for the detailed information collected on the progeny and parents of treatment and control group in the various studies

Goals

The first set of goals for FY 2006 is to complete and report on the initial experiments, and to examine scales, fin rays, maxilla, opercle punch, and other boney parts to see if a non-lethal sampling strategy can be found. A second set of goals is to develop a robust experimental design and protocol that utilizes the progeny mark to evaluate the relative reproductive success of endemic hatchery reared and endemic naturally reared summer steelhead spawning in their natural habitat in the Umatilla River Basin.

CURRENT Metric / Work Element	Value or description
Develop RM&E Methods and Designs	Complete the development and analysis of the strontium trans-generational mark. Begin experimental designs for using the mark in the Umatilla Basin to evaluate the reproductive success of hatchery-reared steelhead spawning in the wild.

Collect/Generate/Validate Field and Lab Data	Continue to process otoliths, scales and other bony structures from treated and control fish with the Cameca SX-100 wavelength electron microprobe. Validate microprobe data. Evaluate Sr:Ca background ratios of O. mykiss from the Pacific Northwest.
Manage/Maintain Database	Continue to process otoliths, scales and other bony structures from treated and control fish with the Cameca SX-100 wavelength electron microprobe. Validate microprobe data. Evaluate Sr:Ca background ratios of O. mykiss from the Pacific Northwest.
Analyze/Interpret Data	Complete statistical analysis and graphical representation of test results from each of the experimental trials and associated control and treatment groups.
Disseminate Raw & Summary Data	Complete annual project reports, submit manuscripts to refereed scientific journals, and present findings at local and regional workshops and symposiums.

2002-037-00 - Freshwater Mussels In River (Expense) Confederated Tribes Of The Umatilla

Description: Conduct freshwater mussel surveys to assess their status and test for geographical genetic differences among the western pearlshell mussel, Margaritifera falcata.

Accomplishments

2003 – 1) Conducted inventory of freshwater mussels of the Umatilla, Middle Fork and North Fork John Day rivers. 2) Examined habitat variables that could influence mussel distribution in these systems. 3) Began intial assessment in the degree and pattern of population-level genetic structuring within and between the Umatilla and Middle Fork John Day rivers. 4) Obtained preliminary host fish data.

2004 – 1) Quantitatively assessed mussel densities and macro- and microhabitat variables in selective mussel beds in the Umatilla and Middle Fork John Day rivers. 2) Assessed large-scale geomorphic change over time in structuring mussels distribution. 3) Determined the historical distribution of freshwater mussels in the Umatilla, Middle and North Fork John Day rivers.

2005 – 1) Began studies to quantitatively assess the age distribution of freshwater mussels in the Umatilla and Middle Fork John Day rivers to obtain information on the history of survival, reproduction, and potential for future growth. 2) Continued study to assess the patterns of genetic diversity and divergence in freshwater mussels in mid-Columbia watersheds. 3) Undertook study to determine the periods of gravidity for M. falcata, A. oregonensis, and G. angulata from the John Day River system. 4) Began laboratory experiments to determine the host fish requirements for all three freshwater mussel species found in the Umatilla and John Day River drainages.

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Held Freshwater Mussel Technical Symposium in which over 75 teachers, students, members of the general public (including federal, state, local government workers, and academics).

Goals

1) Develop a recovery plan for freshwater mussels in the Umatilla River.
2) Expand study to assess the patterns of genetic diversity and divergence of freshwater mussels in the Columbia River Basin.
3) Conduct inventory of freshwater mussels in other rivers of interest to the Confederated Tribes of the Umatilla Indian Reservation including those in the Walla Walla watershed.

2002-057-00 - Westland Ramos Passage Habitat (Capital) Westland Irrigation

Description: Improve the upstream passsage for anadromous fisheries resources (migration, spawning and rearing), and enhace bedload transport function, by notching two diversion dams within a 1.25-mile river reach of the lower Umatilla River.

Accomplishments

Goals

1996-011-00 - Juv Screens & Traps Wallawalla (Expense) Confederated Tribes Of The Umatilla

Description: Provide safe passage for salmonid fish at several irrigation diversion dams and associated irrigation canals within the Walla Walla River Basin.

Accomplishments

From 1997 to 2001, when new construction funding was annually being added to this project, accomplishments included 2 removed irrigation diversion dams (Marie Dorian and Maiden), 3 fish ladders at diversion dams (Burligame, Little Walla Walla and Nursery Bridge), 4 large juvenile fish screens and 1 smolt trap facility. Starting in 2002, only ongoing projects were completed as the NPCC decided to not support new construction funding pending the subbasin planning process. During this period, 2 fish screen/ditch consolidation projects were completed for Garden City/Lowden and Milton. Following the completion of fish passage projects, facilities were evaluated by PNNL to ensure operational criteria was being met. Beginning in 2002, the NPCC supported funding only for operation and maintenance and monitoring and evaluation of all completed projects and cost share funding for small passage projects. In 2005, the small project cost share funding is being used to conduct final engineering designs for the Gose Street adult fish passage improvements in lower Mill Creek ($60,000). The small project cost share funding ($30,000) will also be used to assist with designs of Nursery Bridge follow-up passage adjustments which are being funded mainly by the US Army COE.

Goals

The goal of the project is to provide safe passage for migrating juvenile and adult salmonids in the Wall Walla Basin by constructing and maintaining passage facilities at irrigation diversion dams and canals. The majority of major fish ladder and screen projects have been completed but several remaining projects were identified through subbasin planning. The balance of these efforts is proposed to be completed with funding from this project and other cost share sources. Specific projects proposed for 2006 include implementation of adult and juvenile fish passage improvements at the Hofer diversion and canal in the lower Touchet River. This project initially funded preliminary designs for the Hofer project and the Walla Walla County CD through a grant provided by the Salmon Recovery Board, is continuing final design work in 2005. BPA funding will again be needed in 2006 to complete construction of this critical fish passage project in the lower Touchet River. Additional plans for 2006 include engineering designs for ditch consolidation and new screening at the Old Lowden and Bergevin-Williams diversions. The Hofer and Old Lowden/Bergevin Williams projects will require funding above that currently identified by the NPCC. The base level funding will be used to continue O&M and M&E at the various existing passage project sites. Local irrigation districts are utilized to conduct physical and mechanical maintenance such as ladder operational adjustments as directed by fisheries staff, screen cleaning, repairs, replacements, etc. Base funding will also be used to continue small passage project cost share efforts . Gose Street adult fish passage improvements in lower Mill Creek are planned for implementation in 2006 and will be cost shared by five sources including the Salmon Recovery Board (127K), the Pacific Coastal Salmon Funding (10K), BPA (approximately 100K), Walla Walla Watershed Alliance (50K), and WWCCD (in kind).

CURRENT Metric / Work Element	Value or description
Produce Design and/or Specifications	Engineering designs will be developed for screening of Old Lowden and Bergevin Williams ditches on the mainstem Walla Walla River which are planned for construction in 2007.
# of miles of habitat accessed (0.1 mi.)	Passage improvements at Hofer Dam at river mile 4.1 in the lower Touchet River will provide improved access to approximately 75 stream miles to the headwaters plus numerous tibutary access miles which virtually includes the entire sub-watershed.
Is the screen New or a Replacement? (N/R)	Hofer - Replacement

Does the screen meet NOAA/FSOC specs? (Y/N)	New Hofer screens - Yes
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	Hofer - 39.5 cfs maximum water right
Operate/Maintain Facility	Operation and maintenance of all fish passage facilities previously funded by this project.
# of miles of habitat accessed (0.1 mi.)	Passage improvement at Gose Street in lower Mill Creek at river mile 4.8 will provide improved access to approximately 30 stream miles to the headwaters plus numerous tibutary access miles which virtually includes the entire sub-watershed.

1996-046-01 - Walla Walla River Basin Fish H (Expense) Confederated Tribes Of The Umatilla

Description: Protect and restore habitat critical to the recovery of weak or reintroduced populations of salmonid fish in the Walla Walla Basin thereby promoting natural ecological function and improved water quality and quantity.

Accomplishments

PAST Metric / Work Element	Value or description
Coordination	Secure cost share funding to further habitat restoration and protection opportunities. The project has secured more than 500,000 dollars in cost share since 2002. At total of nearly 300,000 additional dollars has been secured in 2005.
# of structures installed	A total of 26 rootwads and 7 instream structures have been built as part of an overall plan to increase instream diversity, provide juvenile and adult holding areas and reduced sediment input as a result of bank failure.
Start and end lat/long of treated reach (0.1")	Project sites are located on Blue Creek, mainstem Walla Walla River, Couse Creek, and Patit Creek. All of these project areas are within areas identified as "priority for restoration" in the Walla Walla Subbasin Plan.
BPA Environmental Compliance	The project developed a Biological Assessment in 2003 for work completed on Blue Creek in 2004. NEPA Checklists, State Instream Permits, Section 106 Permits, and all other necessary BPA Environmental Group Consultation has been conducted in each FY.
Enhance Floodplain	The project in cooperation with WWCCD, the COE, the WDFW and the Tri-State Steelheaders will be removing a large gravel dike within the floodplain of the Walla Walla River in 2005.
# of miles of fence (0.01 mi.)	A total of 8 miles of livestock exclusion fence has been completed. An additional 4 miles of fence is planned for the 2005 FY.
# of acres of vegetation planted (0.1 ac.)	A total of 55 acres of upland habitat have been seeded to native perennial native grasses. An additional 50 acres of grasses is planned for the 2005-06 FY.
# of riparian miles treated (0.01 mi.; count each bank separately)	A total of 18 miles of riparian habitat and more than 30,000 native plants have been reintroduced within priority reaches of the Walla Walla Basin as a result of project efforts.
Start and end dates of easement (mm/dd/yyyy)	The property was purchased by the CTUIR with cost-share funding. BPA funding was used as "in-king" to provide CTUIR personnel time. Funds were provided by the Pacific Coastal Salmon Funds and Wildhorse Gaming.
# of acres of renewed easement (0.1 ac.)	A total of 47 acres are included within the acquired property. The property also includes a water right for approximately 0.60 cfs.
Start date of the purchase (mm/dd/yyyy)	Effort began in 2001 and the land became the property of the CTUIR in December of 2003.

# of riparian miles protected (0.01 mi.)	A total of one mile of critical salmonid habitat providing year-round refuge to listed Bull Trout, Summer Steelhead, and recently reintroduced spring chinook salmon.
Identify and Select Projects	The project conducts brief literature and on-site visits of potential project areas in each FY. This information combined with staff review provides the project with a list of projects to be implemented for each FY.
BPA Environmental Compliance	The project has is completing BPA compliance information necessary to complete the removal/modificaton of a major passage barrier to salmonid fish in Mill Creek. Design will be completed in 2005 and implementation in 2006.
# of acres treated (0.1 ac)	The project provides annual weed maintenance on approximately 100 acres. Removal methods include hand-pulling, mowing and various hercide applications.
Maintain Vegetation	Invasive weeds and summer drought require the project to provide maintenace on approximtely 75 acres of reintroduced native plants within project areas.
Coordination	The project coordinates as necessary with participating landowners and various fish and wildlife agency personnel involved with planning and restoration/protection activites.
Manage and Administer Projects	The project annually provides to the BPA: BIOP Reports, SOW/Budget, Monthly Spending Reports, Annual Spending Report, and miscellaneous other as requested. This task requires an enormous amount of time.
Produce Design and/or Specifications	The project is currently managing design for the removal of a passage barrier on Gose St.In 2006 the project will oversee permitting and construction activities for this critical project that will open more than 30 miles of habitat for salmonid fishes.
Produce Annual Report	The project has provided quarterly and annual report of progress as per contract specifications with the BPA for each of the fiscal years.

Goals

CURRENT Metric / Work Element	Value or description
Identify and Select Projects	Identify, prioritize, and select potential project sites through watershed assessment, subbasin review, public outreach, landowner contact, interagency communication, and personal observation
Produce Inventory or Assessment	Conduct brief on-site visits to project areas; identify habitat factors most limiting salmonid production.
Coordination	Develop and submit grants/proposals to the Salmon Recovery Funding Board in the State of Washington and the Pacific Coastal Salon Recovery Board through the Columbia River Inter Tribal Fish Commission. Various other State and Federal sources may also be

Manage and Administer Projects	The project will manage and oversee all construction activities related to the modification/repair of a passage barrier on Mill Creek at Gose Street.
Provide Technical Review	In 2006, the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) in coordination with the Walla Walla Conservation District and intend to modify a series of structures impeding migration of salmonid fish at Gose Street on Mill Creek.
# of miles of fence (0.01 mi.)	In coordination with the ODFW the project will be constructing approximately 3,000 feet of barbed wire fence on Cottonwood Creek.
Enhance Floodplain	The COE, WDFW, WWCCD, Tri-State Steelheaders and this project will be removing appoximately 1,300 feet of a gravel dike in the floodplain of the mainstem Walla Walla River. Project design and env. clearances are being developed at this time.
# of acres of vegetation planted (0.1 ac.)	In 2005, the project will construct 3 miles of livestock fence protecting 1.5 river miles of the Walla Walla Riv. The upland areas within this enclosure will be seeded with native grasses totalling approx. 50 acres, exact amount dependant on funding.
Maintain Vegetation	The project has approximately 60 acres of "recently planted" portions under long-term conservation easements. Maintenance of these areas may include watering and various types of weed control measures, hand pulling, herbides, weed barrier tarps, etc.
Collect/Generate/Validate Field and Lab Data	This WE will involve the field collection, generation, archiving, and analysis of monitoring data.
Produce Inventory or Assessment	With CTUIR research staff the project is collecting field data in 05 that will provide specific out-year restoration tasks on a reach of the Walla Walla River identified as "priority" in the Walla Walla Subbasin Plan.
Produce Inventory or Assessment	Data collected by the project in 05 will be used to generate an out-year restoration plan in 06 on a reach of the Walla Walla River. This reach of the river is identified as "priority" for restoration in the Walla Walla Subbasin Plan.
Manage and Administer Projects	Produce metric forms for each applicable RPA, herbicide reports, as well as project deliverable and project accomplishment narratives as required by the BPA.
Produce Status Report	The project will report project status as required under contract with the BPA in the form of quarterly reports and the new Pisces format.
Produce Status Report	The project will report project status as required under contract with the BPA in the form of quarterly reports and the new Pisces format.

Produce Annual Report	Develop annual report of progress as per contract specifications between the CTUIR and BPA that will include among other things details of accomplishments for work elements included in the SOW.	

1998-020-00 - Walla Walla R. Habitat Assess. (Expense) WDFW - Olympia

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

Accomplishments

This project has been instrumental in providing fish, and fish habitat, data or summaries necessary for many planning efforts (subbasin planning, Salmon Recovery planning, HB2514 Watershed planning, Bull Trout recovery planning,Restoration project planning and prioritization, etc.)

We measured stream flows at 56, 57, 49, and 63 sites respectively over the last 4 years. We monitored daily temperatures at 76,64,67,and 70 sites the past 4 years. We began habitat inventory on several streams and completed IFIM studies to model flow and habitat conditions at 2 sites. The IFIM studies were then expanded by others for better coverage and planning and for setting stream flows under WA law.

We conducted surveys for steelhead and bull trout spawning over 109-150 miles per year,and a limited amount for spring chinook. We documented spawning in some previously unknown areas, and estimated spawning abundance or trends in other areas.

We surveyed rearing fish distribution and abundance at 136, 110, 170 and 131 sites the last 4 years. We collected numerous genetic samples and have completed a preliminary analysis of steelhead stock characterization.

We capitalized on opportunites to monitor effects of habitat changes, some of which were prompted by finding from this study. We have been able to do pre and post flow settlement agreement monitoring to evaluate the effects on flows, temperatures and fish as water was put back into the Walla Walla River. We have done pre and post monitoring of fish use in reaches where barriers have been removed (e.g. Whiskey and Lewis creeks). We have found many previously undocumented barriers.

We have developed a better understanding of salmonid distribution, abundance and stock status. We worked with ODFW to test EMAP sampling of bull trout spawning in the Walla Walla basin.

We have completed and distributed 6 annual reports and the 7th is in draft form. We have shared our data with managers and planners within the basin

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	We are required annually to submit USFWS and NOAA ESA take reports for activities associated with this project. In addition, we are required by NOAA to annually submit an application under Section 4d for our planned research and monitoring activities.
Manage and Administer Projects	We are required to take BPA contracts training and convert our SOW to include Work elements and metrics accounting. We also are required to submit accruals and other accounting or responses to BPA or the Council. Annually, we complete a SOW and contract
Produce Annual Report	We submit quarterly and annual reports. Data and summaries in these reports are distributed to other managers in the basin for use in subbasin plans, salmon recovery, and watershed plans, etc., to guide restoration actions and monitor the effects.

Produce Status Report	We have produced a 3 yr status report in the form of an abstract and powerpoint presentation for the September 2004 CBFWA workshop in the Tricities. We produced quarterly reports.
Collect/Generate/Validate Field and Lab Data	We have collected water temperature and flow information annually as well as initiate IFIM studies of flows at two sites. We have collected fish distribution and abundance information from spawning surveys and electrofishing or snorkel surveys.
Disseminate Raw & Summary Data	We provided raw and summarized data on stream flows, temperatures, juvenile fish distribution and abundance, spawning surveys, etc. to managers in the subbasin for many planning efforts. This includes our annual reporting as well as other data sharing.
Analyze/Interpret Data	WDFW staff have analyzed steelhead genetic data to characterize the steelhead stocks within the basin and how they compare to nearby basins. This was briefly summarized and referenced in our 2003 annual report.

Goals

Goals for 2006 will continue to reflect our project goals. The project goal is to monitor and assess salmonid populations and habitat conditions in the basin before and during reintroduction of spring chinook or supplementation of steelhead, as well as monitor and assess native salmonid limiting factors and population abundance/distribution, and to provide the information to managers to guide fish habitat restoration efforts within the basin. Additionally, we will work with CTUIR and others in the basin to develop and implement a comprehensive research, monitoring and evaluation plan for fish habitat and fish populations. Activities for 2006 will consist of continued monitoring of fish abundance and distribution, temperature and stream flow monitoring, as well as habitat inventory and genetic monitoring. This also requires environmental compliance for ESA consultation and contacting hundreds of landowners for access. All activities listed in our 2005 contract would be continued in 2006.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	We are required annually to submit USFWS and NOAA ESA take reports for activities associated with this project. In addition, we are required by NOAA to annually submit an application under Section 4d for our planned research and monitoring activities.
Manage and Administer Projects	We will take required BPA contracts training and do metrics accounting. We also will submit accruals and other accounting, or responses to BPA or the Council. Annually, we complete a SOW and contract
Produce Annual Report	We will continue to submit quarterly and annual reports. Data and summaries in these reports are distributed to other managers in the basin for use in subbasin plans, salmon recovery, and watershed plans, as well as to guide restoration actions.
Produce Status Report	We will produce quarterly reports as required for BPA and other reports or summaries for use within the basin.

Collect/Generate/Validate Field and Lab Data	We will continue to collect stream flow and temperature data for use by managers within the basin. We intend to continue to collect fish distribution and abundance data for trend and status monitoring and planning efforts.
Disseminate Raw & Summary Data	We will continue to provide data and data summaries to managers within or outside the basin through our annual reports and to fill data requests from others for restoration planning or actions.

2000-026-00 - Rainwater Wildlife Area Operat (Expense) Confederated Tribes Of The Umatilla

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.

Accomplishments

During the reporting period, management actions on the wildlife area have been focused on general operations and maintenance such as public use management and access and travel management, completing landline boundary surveys and monumentation, boundary fence construction to prevent trespass livestock from adjacent private lands, weed control, obliteration/reclamation of roads, tree planting, and planning, design, and interagency/private landowner coordination for a restoration project associated with 7 miles of the South Fork Touchet River corridor within the Wildlfie Area.

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	Completed NEPA checklist and supplemental environmental analyses for Rainwater Wildlife Area Management Plan, Operations & Maintenance.
Produce Environmental Compliance Documentation	Prepared NEPA checklist, organized cultural resource investigation, prepared draft biological assessment for South Touchet Project, and environmental documentation for BPA NEPA analysis file for operations/maintenance activities.
Maintain Terrestrial Structure	Maintained 4 miles of boundary fence and cattle guard to minimize trespass livestock onto wildlife area.
Produce Inventory or Assessment	Completed Rainwater Wildlife Area Watershed Management Plan and Habitat Evaluation Procedures (HEP) document.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Scarified/ripped 0.70 miles of road and returned to grass, shrub, tree production.
# of road miles decommissioned (0.01 mi.)	0.70 miles existing road scarified and ripped, seeded, and planted.
# of road miles improved, upgraded, or restored	Conducted maintenance on road network to improve drainage and minimize sediment delivery to fish bearing streams. During reporting period, 4.5 miles of existing road has been treated, including installation of dips, drainage basins, and spot rocking.
# of miles of fence (0.01 mi.)	During reporting period, 2.42 miles of boundary fences was installed along north and eastern property boundaries adjacent to private land to minimize livestock trespass onto the wildlife area.
# of acres of vegetation planted (0.1 ac.)	Approximately 40 acres of upland forest and 3 acres of riparian habitat planted during reporting period. Planting included installation of 7,000 conifers and 500 hydrphytic shrubs.
# of riparian miles treated (0.01 mi.; count each bank separately)	0.25 miles of treatment along South Fork Touchet River (750 conifers and 500 shrubs).
Prepare HEP Report	Completed Rainwater Wildlife HEP report in 2003. Report currently under review by BPA.

Maintain Vegetation	Annually treated approximately 100 acres of upland and 20 acres of riparian habitat for noxious weeds. Treatment included broadleaf-specific herbicide and establishment of 12 biological control agent release sites to control yellow starthistle.
Remove Debris	Disposed of an estimated 2 tons of garbage/refuse/and abandoned logging equipment collected from wildlife area.
Produce Status Report	Completed quarterly reports and submitted to BPA COTR to maintain communication on status of statement of work and accomplishments.
Produce Annual Report	Drafted annual reports. Reports for 2004 currently in draft form and under development for submittal to BPA COTR for approval.
Collect/Generate/Validate Field and Lab Data	Conducted ongoing monitoring and evaluation for project area including vegetation plot data, instream habitat and channel morphology, water quality, fish populations, and photopoints. Participated/coordinated with WDFW in data collection of big game pops
Conduct Pre-Acquisition Activities	Conducted landline boundary survey and monumentation through subcontract with private land survey company. Approximately 13 of survey and monumentation completed. Survey planned for completion in 2005.

Goals

The Rainwater Wildlife Area was acquired in September 1998 by the CTUIR through an agreement with Bonneville Power Administration (BPA) to partially offset habitat losses associated with construction of the John Day and McNary hydroelectric facilities on the mainstem Columbia River. Management and administration of the Wildlife Area provides protection of watershed and fish and wildlife resources on 8,768 acres. The project provides 5,185 habitat units of protection credit and over 1,850 enhancement habitat units to BPA for seven targeted wildlife species.

Annual operations and maintenance address key strategies for habitat protection and enhancement. The following management activities have been accomplished annually during the reporting period: Fence construction and maintenance to minimize trespess livestock and provide habitat protection, road obliteration and drainage repair to reduce sediment delivery to fish bearing streams, implementation of access and travel management policy that provides for wildlife security (year-round road closures, and 3.5 miles of motorized public access), weed control (herbicide treatments and release of biological control agents), landline boundary survey and monumentation to identify property boundaries in preparation of prioritized fence construction, planning/design on 7 mile restoration effort along South Fork Touchet River (floodplain road relocation and drainage repair, large wood/whole tree additions, natural channel design), and monitoring/evaluation (vegetation plots, photo points, instream habitat/morphological surveys, fish population studies, big game population surveys).

CURRENT Metric / Work Element	Value or description
BPA Environmental Compliance	Complete NEPA checklists and other environmental compliance needs (consultations on ESA listed fish and Wildlife, permits, cultural resource evaluations).
Produce Environmental Compliance Documentation	Prepare biological assessment, coordinate cultural resource investigations, prepare permit applications.
# of stream miles treated (0.01 mi.)	7 miles South Fork Touchet River.

# of structures installed	Estimated 300 whole trees with rootwad and misc large woody debris. Placement includes individual and log jam configurations to enhance instream habitat complexity, direct channel thalweg, and/or develop gravel bars.
Start and end lat/long of treated reach (0.1")	046 06' 21.60" N/117 59' 6.72"W to 046 11' 58.73"N/117 57' 17.06" W.
# of road miles improved, upgraded, or restored	As part of South Touchet Restoration Project, realign, spot rock, reconstruction approximatley 3 miles of drawbottom road that provides legal access to private landowners. Current road in extremely poor condition with channel capture of road prism.
# of acres of vegetation planted (0.1 ac.)	Plant 2-4,000 trees and shrubs in upland forest and riparian habitat to restore plant communities/cover. Estimated 20 acres.
# of riparian miles treated (0.01 mi.; count each bank separately)	3 miles riparian habitat along lower South Fork Touchet River.
Enhance Floodplain	South Fork Touchet Habitat Restoration Project includes relocation of approximatley 3 miles of floodplain road to reduce resource damage and reconnect stream to floodplain.
Maintain Terrestrial Structure	Maintain approximately 6 miles of property boundary fence to minimize trespass livestock onto wildlife area.
Maintain Vegetation	Conduct annual weed management activities including spot herbicide application and release of biological control agents (beetle colonies).
Coordination	Contnue coordination with interior private landowners on access and travel management policies. Coordinate with WDFW and WADNR on fish and wildife issues, surveys, project designs, and permit needs.
Manage and Administer Projects	Administer subcontracts for weed control, landline surveys, and restoreation work. Fulfull contractural responsibilities with BPA regarding project contract (statements of work and budgets, reporting, etc).
Produce Annual Report	Prepare and submit annual report.
Produce Status Report	Prepare and submit quarterly reports via Pisces milestone and metric reporting program.
Collect/Generate/Validate Field and Lab Data	Take photo points, deploy and retrieve theremographs, conduct vegetation plot surveys, conduct fish population surveys, tabulate and summarize data, prepare summaries for annual reports.

2000-033-00 - Walla Walla River Fish Passage (Expense) Confederated Tribes Of The Umatilla

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.

Accomplishments

Assisted in the restoration of salmon and steelhead in the Umatilla River by increasing the survival of migrating juvenile and adult salmon and steelhead.

PAST Metric / Work Element	Value or description
Operate/Maintain Facility	Coordinated and monitored passage facilities, including screen sites, juvenile bypasses, traps, and adult ladders annually to increase survival of juvenile and adult migrants.
Collect/Generate/Validate Field and Lab Data	Collected and provided data on adult returns to Nursery Bridge Fishway on an annual basis.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Hauled surplus hatchery adult salmon to the Walla Walla basin to supplement natural spawning on an annual basis.
# of fish transported	Since 2002, the project has transported 239 to 386 spring chinook adults to the Walla Walla River for outplanting.
Provide Technical Review	The project provided technical expertise related to the development of physical passage facilities, traps, and related flow enhancement plans.
Manage and Administer Projects	The project developed an annual fish passage operations plan to coordinate fish passage operations at the various diversions including Garden City/Lowden 2 Canal, Burlingame Canal, Nursery Bridge Dam, Little Walla Walla River, and Eastside Ditch.
Produce Annual Report	The project produced monthly and annual reports identifying passage issues and concerns in the Walla Walla basin.

Goals

Assist in the restoration of salmon and steelhead in the Umatilla River by increasing the survival of migrating juvenile and adult salmon and steelhead.

CURRENT Metric / Work Element	Value or description
Coordination	Coordinate the operation and maintenance of passage facilities on a weekly basis with Passage Facility O&M staffs in order to ensure adequate passage conditions exist.
Operate/Maintain Facility	Monitor channel morphology, hydrologic conditions, and passage facility operations to ensure adequate passage conditions exist.
# of fish	Operate Little Walla Walla River juvenile trapping facility as needed to provide safe passage conditions for downstream migrants. Transport downstream migrants past inadequate passage condition areas.

Collect/Generate/Validate Field and Lab Data	Collect adult migration data for anadromous fish and bull trout passing Nursery Bridge Dam.
Install Fish Trap/Monitoring Weir	Operat adult traps at both the new and old ladders at Nursery Bridge.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Provide safe adult and juvenile transportation assistance for other basin project efforts.
# of fish transported	The number of fish transported around passage barriers is dependent upon the number of fish salvaged.
Provide Technical Review	Review designs and plans for passage improvements to assist in the reduction of passage issues.
Manage and Administer Projects	Submit annual budget package for 2006, invoices, accruals, and metric information to BPA.
Produce Status Report	Produce quarterly and monthly status reports for BPA.
Produce Annual Report	Produce annual report for 2004-2005
Produce Environmental Compliance Documentation	Maintain necessary permits to conduct project tasks.

2000-038-00 - NEOR WW Hatchery Design and Construct (Capital) Confederated Tribes Of The Umatilla

Description: Add incubation/juvenile rearing capabilities to the existing S. Fk. Walla Walla brood facility to produce spring chinook salmon for release in the Walla Walla River Basin.

Accomplishments

The final draft of the Walla Walla Hatchery Master Plan was submitted to BPA in December 2004. In addition, a Final Tech Memo was completed by Montgomery Watson Harza as part of the Step 1 process.

PAST Metric / Work Element	Value or description
Council 3-step Process: Step 1	Final draft of the Walla Walla Hatchery Master Plan submitted in December 2004

Goals

CTUIR will coordinate with BPA and NPCC through the various requirements of the Step 2 process including the development of the preliminary design for the facility with the selected engineering firm.

CURRENT Metric / Work Element	Value or description
Council 3-step Process: Step 2	Complete Step 2 of the Master Planning process

2000-039-00 - Walla Walla River Basin Monito (Expense) Confederated Tribes Of The Umatilla

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.

Accomplishments

WWNPMEP has collected and analyzed extensive data sets describing juvenile fish community structure, resident fish population structure, spawner distributions and densities, passage and adult movements, habitat conditions, and age and growth. Project staff have studied the presence and potential impacts of hatchery residuals on naturally producing anadromous and resident salmonids, and have advised on the release location and timing of hatchery projects. Staff have assisted in the development and implementation of a variety of critical uncertainty research projects including the delineation of ESA-listed summer Steelhead population structure, and the assessment of ESA-listed bull trout age and growth, movement, spawning, and survival. Collectively these data have been utilized in a number of plans and management actions including limiting factors analysis, habitat plans, passage restoration, flow augmentation, harvest planning, and hatchery master planning. Most recently project staff worked with other regional scientists using CTUIR data to develop, run, and evaluate the Walla Walla Subbasin Ecosystem Diagnosis and Treatment model used in the Walla Walla Subbasin Plan and addendum. That model, and the resulting Management Plan, clearly demonstrated the efficacy of this project and the importance of its work. The project used EDT to quantify the potential of the Walla Walla Subbasin to produce on average thousands of additional spawners via the restoration of specific habitat attributes in priority reaches. We have drafted a comprehensive RM&E plan, and produced several progress reports. During this same period WWNPMEP has documented the status and trends in natural production of anadromous and resident fish. This information has been effectively communicated to managers, and a great deal of the information has been archived and made public via the internet.

PAST Metric / Work Element	Value or description
Develop RM&E Methods and Designs	Developed draft Comprehensive Salmonid RM&E plan, and RM&E section of Walla Walla Subbasin Plan. Worked with PNAMP, CSMEP, and BPA to develop regional standards and processes for RM&E.
Collect/Generate/Validate Field and Lab Data	Collected data describing spawners, carcasses, adult movement and passage, juvenile and resident salmonid populations, fish habitat, age and growth, outmigration, and survival.
Mark/Tag Animals	PIT-tagged more than 12K juvenile outmigrants, radio tagged and tracked more than 100 adult bull trout, 300 adult summer steelhead, and 60 spring Chinook in the Walla Walla Subbasin.
Submit/Acquire Data	Sumbitted outmigrant data to PTAGIS system.
Manage/Maintain Database	Managed databases for spawners, carcasses, adult movement and passage, juvenile and resident salmonid populations, fish habitat, age and growth, outmigration, and survival data.
Disseminate Raw & Summary Data	Presented data describing spawners, carcasses, adult movement and passage, juvenile and resident salmonid populations, fish habitat, age and growth, outmigration, and survival at local and regional technical and planning meetings.
Analyze/Interpret Data	Analyzed and interpreted data describing spawners, carcasses, adult movement and passage, juvenile and resident salmonid populations, fish habitat, age and growth, outmigration, and survival.

Goals

Our primary goal is to provide information to tribal, state and federal fisheries managers by monitoring the status and trends in the abundance, distribution, movement and survival of bull trout, mountain whitefish, rainbow trout, summer steelhead and spring Chinook salmon during adult migration, spawning, rearing and juvenile migration in the Walla Walla River Drainage, and to evaluate these trends in relation to environmental, ecological, and anthropogenic factors. Other project goals include coordination and cooperation with other restoration and monitoring projects, assisting in fish salvage efforts, and a variety of other activities such as technical review, results dissemination, and proposal development. In the coming year WWNPMEP will continue to assess and monitor spring Chinook and summer steelhead migration, passage, and spawning; resident and anadromous salmonid age and growth; outmigration; juvenile and resident fish communities; and habitat conditions. We will continue to participate in the various planning, modeling, and management processes associated with the recovery of endangered stocks, and the restoration of salmonids throughout the Walla Walla Subbasin. We will increase efforts to quantify outmigrant abundance for all species leaving the Walla Walla Subbasin, including the newly implemented US vs. Oregon mandated released of 250K spring Chinook. We will continue to focus radio-telemetry resources on passage facilities and stream reaches where critical management uncertainties remain, such as the Walla Walla mainstem where minimum instream flows have yet to be established. We will finalize the Walla Walla RM&E plan, and conduct targeted habitat assessments in priority EDT reaches where habitat actions are planned or imminent. We will continue to work with CSMEP, PNAMP, and BPA to establish regional standards and processes for RM&E, and we will begin to build relational databases to manage and make public project data sets.

CURRENT Metric / Work Element	Value or description
# of fish	Conduct salvage operations at diversions, dams, and dewatered reaches using seines, nets, and electrofishers. We expect to collect and transport at least 3000 juvenile fish per year.
Develop RM&E Methods and Designs	Finalize Comprehensive Salmonid RM&E Plan. Continue to work with regional and local planning entities to standardize and coordinate RM&E efforts.
Collect/Generate/Validate Field and Lab Data	Continue to collect data describing spawners, carcasses, adult movement and passage, juvenile and resident salmonid populations, fish habitat, age and growth, outmigration, and survival.
Mark/Tag Animals	During 2006, PIT-tag approximately 12K outmigrants, and radio tag an additional 45 summer steelhead and 45 spring Chinook.
Submit/Acquire Data	Submit data to PTAGIS system using established protocols.
Manage/Maintain Database	Continue to maintain databases all data sets. Develop integrated relational databases, interactive maps, and web servers for all data sets used in the project.
Disseminate Raw & Summary Data	Present data on spawners, carcasses, adult movement and passage, juvenile and resident salmonid populations, fish habitat, age and growth, outmigration, and survival at technical and planning meetings including AFS and Walla Walla technical conferences.
Analyze/Interpret Data	Analyze and interpret data describing spawners, carcasses, adult movement and passage, juvenile and resident salmonid populations, fish habitat, age and growth, outmigration, and survival, and present in peer-reviewed publications and annual reports.

2002-020-00 - Huntsville Mill Screen O&M (Expense) WDFW - Olympia

Description: WDFW, YSS proposes to fabricate and install a new fish screen facility (12 cfs) at the existing Huntsville Mill location within the Touchet River Basin. The new screen facility will comply with current state and federal criteria for fish protection.

Accomplishments

Goals

2002-036-00 - Restore Walla Walla River Flow (Expense) Walla Walla Basin Watershed Counci

Description: This proposal will add 5 to 7 cfs of conserved irrigation water to the Walla Walla River at the critical flow-impaired reach between the town of Milton-Freewater and the Oregon-Washington state line.

Accomplishments

Goals

1985-062-00 - Yakima Screen Evaluation (Expense) Pacific Northwest National Laborator

Description: Evaluate the biological and hydrologic effectiveness of juvenile fish passage facilities constructed at irrigation diversion dams, canals and ditches to allow the passage of migrating fishes. Evaluate sites with respect to NMFS passage criteria.

Accomplishments

Since 2003 we have implemented a more formal procedure for notifying responsible agencies of any problems found during the evaluation and following up on any repairs/fixes.

PAST Metric / Work Element	Value or description
Produce Annual Report	2001 – Evaluated 23 Phase II fish screen sites, 69 site visits. Carter et al. 2002 (on BPA web page)
Produce Annual Report	2002 – Evaluated 23 Phase II fish screen sites, 69 site visits. Carter et al. 2003 (on BPA web page)
Produce Annual Report	2003 – Evaluated 23 Phase II fish screen sites, 69 site visits. Vucelick et al. 2004 (on BPA web page)
Produce Annual Report	2004 – Evaluated 25 Phase II fish screen sites, 75 site visits. Vucelick et al. 2005 (soon to be on BPA web page)

Goals

The goals of this project are to ensure up to 26 Phase II fish screen facilities are performing their function of protecting fish past an irrigation diversion. We will to continue to provide technical assistance to support the cooperating agencies in evaluating screen designs as they are developed and to address site-specific concerns at Phase I or Phase II sites as they are identified.
Task 1 – Continue to evaluate at least Phase II fish screen sites up to 3 times each during FY2006 using passive monitoring techniques (velocimeter to measure sweep and approach velocities, underwater video of seals and screens, visual inspection of maintenance of sites) to determine if the sites are operating as designed and meet NMFS criteria and seals to provide safe, efficient passage of juvenile fish back to the stream and not through the screens

Task 2 - Based on ISRP and other's comments, we also propose conducting a series of biological evaluations at up to 3 selected sites to address questions about the efficacy of passive monitoring to evaluate screen facility performance. Using the latest PIT-tag technology, we propose to release tagged fish at the headworks of a screening site and monitor their successful passage with a detector installed in the fish bypass at the terminus of each structure. Using only PIT tags and a detector, we would be able to monitor the percentage of fish passed and total transit time through each screening facility. Flow conditions would not be altered and fish would not be handled after PIT-tagging. Other PIT-tag detection sites (Chandler Juvenile Facility and McNary Dam) can be used to help track outmigration and account for successfully bypassed fish.

CURRENT Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Passive monitoring evaluation of at least 26 Phase II fish screen sites, (78 site visits).
Collect/Generate/Validate Field and Lab Data	Biological evaluation of fish movement at up to 3 fish screen sites.
Produce Annual Report	Annual reporting of FY 2006 Phase II fish screens evaluations, as well as the biological evaluation of up to 3 screen sites if this task is funded.

1988-115-25 - Ykfp - Design & Construction (Capital) Confederated Tribes And Bands Of T

Description: Design/Construction: 1. Klickitat: O & M facility and Lyle Trap

Accomplishments

Loss of wetland performance on CESRF property has been determined to be associated with groundwater consumption during normal operations at the CESRF. As such, this budget item is directly connected to construction of the hatchery and installation of the ground water supply system.

Goals

Tillman Creek wetland mitigation is designed to compensate for lost performance in a wetland located within the hatchery's well field area. This is continuation funding for monitoring and maintenance of wetlands at Tillman Creek. The goal is to establish and maintain plant growth such that it becomes successful as a long-term functioning wetland.

1988-115-25 - Ykfp - Design & Construction (Capital) Confederated Tribes And Bands Of T

Description: Design/Construction: 1. Klickitat: O & M facility and Lyle Trap

Accomplishments

Wellfield monitoring and data reporting is a non-discretionary requirement contained in the Cle Elum Hatchery's Temporary Permit associated with Water Rights Application No. G4-32504. Past accomplishments include establishment of a wellfield monitoring program, collection of data, and reporting in fulfillment of Ecology's Temporary Permit requirements to date.

Goals

The goal for FY06 is full compliance with Ecology's Temporary Permit requirements for groundwater monitoring data and reporting.

1988-115-25 - Ykfp - Design & Construction (Expense) Confederated Tribes And Bands Of T

Description: Design/Construction: 1. Klickitat: O & M facility and Lyle Trap

Accomplishments

A feasibility study was completed prior to FY01. This study concluded that development of a new office/research facility at the Nelson Springs site would not only satisfy the functional office needs of the Fisheries Program but would retain the direct connection to their research subject matter. Based on the NPCC's recommendation in FY 2001, BPA funded design of a conventional office and laboratory facility to replace the currently inadequate facilities at Nelson Springs. In 2004, the NPCC declined to recommend funding for the construction of the designed facility and recommended development of lower cost alternatives. The YN worked with vendors to develop a modular building design and projected costs in FY05. The Council and BPA received all documentation related to this proposal and the YN has these documents on file if further information is desired.

Goals

(FY05 and FY06 goal): Proceed to modular Nelson Springs laboratory and office facility installation and construction of accessory facilities at the site.

1988-120-25 - Ykfp Management, Data, Habitat (Expense) Confederated Tribes And Bands Of T

Description: This proposal supports the Yakama Nation's (YN) policy, management and administrative activities related to YKFP operations in the Yakima and Klickitat River Subbasins, including all M & E, O & M and Design and Construction activities..

Accomplishments

Management, Data and Habitat, project #1988-120-25 is linked to YKFP M&E #1995-063-25 and also YKFP Upper and Lower O&M, project #1997-013-25 and provides the management and administrative infrastructure for those projects. A primary result of the MD&H project has been the successful implementation of the M&E and O&M projects, as described in the respective project annual reports. Additional accomplishments in terms of habitat, data and financial resources management are described in the MD&H project annual reports The MD&H reports can be found at
1) http://www.efw.bpa.gov/Publications/P00014038-1.pdf (for 2003-2004)
2) http://www.efw.bpa.gov/Publications/P00004822-2.pdf (for 2002-2003).
The Metrics and descriptions included in these comments were cut and pasted from the current statement of work for the Yakama Nation/Bonneville contract implementing the MD&H project. The Metrics are listed to supplement the general future project goals discussed in the Goals field below. The 255 character limit on metric description text caused some truncation. However all of these project metrics were met and documented in Project Annual Reports from 2002 to present.

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	The Project Annual Review (PAR) consists of a series of reports documenting the production, monitoring and evaluation objectives and results of the previous years' research projects in the YKFP presented at a conference held annually. PAR records will be
Identify and Select Projects	Identify and seek funding for habitat, passage and instream flow restoration and protection projects within the Yakima subbasin. Such projects will be coordinated with other pertinent Yakama Nation programs. Projects will be developed pursuant to the NPC
Coordination	Coordination of YKFP management and policy development with other government agencies and decision-making bodies; including implementation of lead agency responsibilities and cooperative planning and policy development with WDFW, Bonneville, NPCC, NOAA Fi
Manage and Administer Projects	Coordinate and oversee implementation of all YKFP activities, including development of statements of work, development of YKFP-sponsored project and contract budgets, compliance with all applicable laws and environmental review requirements, subcontracto
Provide Technical Review	Provide technical input with respect to anadromous fish, fish screen development, stream flows and related matters for the purpose of coordinating the implementation of Title X1, P.L. 103-434, and the

Produce Plan	Maintain an up-to-date Information System Management Plan (ISMP) by identifying the YKFP's near and long term data and information management needs, developing methods to standardize, consolidate, centralize all data and information that is generated by t
Produce Annual Report	Produce an annual report detailing the accomplishments for each work element of the Management, Data & Habitat Contract
Produce Status Report	Produce a status report detailing the accomplishments for each work element of the Management, Data & Habitat Contract
Produce/Submit Scientific Findings Report	The Project Annual Review (PAR) consists of a series of reports documenting the production, monitoring and evaluation objectives and results of the previous years' research projects in the YKFP presented at a conference held annually. Appropriate scientis
Submit/Acquire Data	Acquire data from YKFP data collection activities while ensuring quality control, standardization, and proper storage procedures for all data and information.
Manage/Maintain Database	Implement the ISMP by monitoring the data collection systems of the YKFP, supervising the reformatting and inputting of all data into a standardized system, assuring that appropriate hardware and software are used, and providing data and information acces
Disseminate Raw & Summary Data	Make accessible all data and information that is generated by the YKFP, including web page development and management

Goals

The Yakama Nation will continue performance of YKFP management responsibilities, which generally include:
1. Project planning and budgeting activities;
2. Operation and maintenance activities at all YKFP facilities;
3. Project research management in accordance with adaptive management principles;
4. Design and development of a centralized database for Project use and dissemination to others;
5. Identification of habitat restoration and acquisition projects; and
6. Dissemination of accumulated project information through the Project Annual Review (PAR) conference, the project web site (ykfp.org), numerous technical reports and publications, and other means.
See also the metrics set forth in the Past Accomplishments field. All of these metrics will be used again in FY 2006

1991-057-00 - Yakima Basin Screen Fabrication Phase II (Capital) WDFW - Olympia

Description: YSS fabricates and installs fish screens and all miscellaneous metalwork for Yakima Basin Phase II screen projects. New fish screens prevent loss of juvenile anadromous and resident fish in gravity irrigation diversions.

Accomplishments

1992 Fabricate and install screens, gantry, and metalwork at Kiona (26 cfs) and Naches Cowiche (40 cfs) irrigation diversion sites.
1993 Fabricate and install screens, gantry, and metalwork at Snipes Allen (29 cfs), WIP Lower (6.8 cfs), New Cascade (147 cfs), and Holmes (2.2 cfs) irrigation diversion sites.
1994 Fabricate and install screens, gantry, and metalwork at Taylor (11.4 cfs), Congdon (43 cfs), and Kelly Lowry (29 cfs) irrigation diversion sites.
1995 Fabricate and install screens, gantry, and metalwork at Toppenish Pump (100 cfs), WIP Upper (58 cfs), and Naches Selah (135 cfs) irrigation diversion sites.
1996 Fabricate and install screens, gantry, and metalwork at Fruitvale (39 cfs), Union Gap (58 cfs), Stevens (2.35 cfs), and Emerick (2.2 cfs) irrigation diversion sites.
1997 Fabricate and install screens, gantry, and metalwork at Bull (30 cfs), Ellensburg Mill (40 cfs), and Anderson (2.75 cfs) irrigation diversion sites.
1998 Fabricate and install screens, gantry, and metalwork at Clark (6.45 cfs), Lindsey (10.6 cfs), and Younger (15 cfs) irrigation diversion sites.
1999 Fabricate and install screens, gantry, and metalwork at Johncox (17 cfs) irrigation diversion site.
1999 Fabricate and install screens, gantry, and metalwork at Johncox (17 cfs) irrigation diversion site.
2002 Selah Moxee fish screens, cleaner system, bypass control gate, miscellenious metal work.
2004 Packwood, screens, cleaning system, bypass control gate, miscellenious metal work.

PAST Metric / Work Element	Value or description
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	30 cfs
Is the screen New or a Replacement? (N/R)	Replacement
Does the screen meet NOAA/FSOC specs? (Y/N)	yes
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	30 cfs

Goals

Replacement of fish screen facility the did not current state and federal fish protection criteria during spring of 2006.

CURRENT Metric / Work Element	Value or description
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	30

Is the screen New or a Replacement? (N/R)	Replacement
Does the screen meet NOAA/FSOC specs? (Y/N)	Yes
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	30

1991-075-00 - Yakima Fish Screens Cons Bor (Capital) US Bureau of Reclamation

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.

Accomplishments

Selah-Moxee Fish Screen -- Construction at this site was started in October 2001 and was completed in March 2002. Civil works were constructed under contract and the screens and other metalwork were fabricated and installed by WDFW. Contractor claims were settled and the construction contract was closed out in 2002. The O&M Agreement with the irrigation district was also completed in 2002.

Packwood Fish Screen -- Designs and specifications for the civil works were completed for this screen in 2002. The screen, screen cleaner, and other metal work were fabricated by the Washington Department of Fish and Wildlife (WDFW) Screen Shop in 2002. Award of a construction contract was scheduled for September 2002. However, the Bonneville Power Administration (BPA) lands staff experienced significant delays in obtaining a required easement from the state of Washington. As a result, award of the construction contract was delayed until the fall of 2003. Construction of the civil works was completed in early March 2004. WDFW installed the screen and other metalwork and the Packwood screen was complete and functional for the start of the 2004 irrigation season. The O&M Agreement with the irrigation district was finalized in March 2005.

Work continued in 2002, 2003, and 2004 to complete O&M Agreements, Designer's Operating Criteria, and contract claim settlements on several earlier sites. Some of this type of work remains to be completed in 2005 and 2006.

PAST Metric / Work Element	Value or description
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	Selah-Moxee -- 31,240 acre-feet/year (based on average 75 cfs diversion)
Is the screen New or a Replacement? (N/R)	R
Does the screen meet NOAA/FSOC specs? (Y/N)	Y
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	Selah-Moxee -- 86.6 cfs (max)
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	Packwood -- 12,500 acre-feet/year (based on 30 cfs diversion)
Is the screen New or a Replacement? (N/R)	R
Does the screen meet NOAA/FSOC specs? (Y/N)	Y

Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	Packwood -- 30.0 cfs
Produce Plan	The site for construction of the Fogarty Ditch Fish Screen has been relocated about one mile downstream from the original site to provide a more comprehensive approach to fish passage and fish production in the Fogarty Ditch/Sorenson Creek system.
Produce Design and/or Specifications	Field surveys and data gathering for the Fogarty Ditch Fish Screen were started in the fall of 2004. Designs and specifications will be completed in June 2005, and a solicitation for bids will be issued in July 2005. BPA is obtaining required easements.

Goals

The Fogarty Ditch Fish Screen and other Fogarty Ditch improvements will be completed in FY 2006. The main fish screen will be built under contract by the Bureau of Reclamation.

The Kittitas County Conservation District is working with individual water users to install individual pump screens, pipe small ditches, replace culverts, remove barriers, and complete other habitat improvements under the YTAHP program.

The Washington Department of Fish and Wildlife is working with the water users to develop appropriate permits to allow necessary channel maintenance that will be compatible with the fish protection goals of the plan.

All Phase II O&M Agreements, Designer's Operating Criteria, and summary reports will be completed in FY 2006.

CURRENT Metric / Work Element	Value or description
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	12,900 acre-feet/year (based on 31 cfs diversion)
Is the screen New or a Replacement? (N/R)	R
Does the screen meet NOAA/FSOC specs? (Y/N)	Y
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	31.0 cfs
If installing a ladder, does the ladder meet NOAA specifications for attraction flow, pool dimensions, jump height, etc? (Y/N)	Y
Does the structure remove or replace a fish passage barrier? (Y/N)	Y

# of miles of habitat accessed (0.1 mi.)	3.5 mi
Was barrier Full or Partial? (F/P)	P

1992-062-00 - Lower Yakima Valley Riparian/W (Expense) Confederated Tribes And Bands Of T

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).

Accomplishments

This project is truly a landscape scale habitat protection and restoration effort. It is designed to protect and restore at least 27,000 acres of floodplain habitats along the lower elevations of the anadromous fish bearing waterways of the Yakama Nation Reservation (Satus and Toppenish Creeks, Yakima River). The protection, operation and maintenence, and monitoring components of the project are funded with BPA dollars. Each year, large restoration components of the project are funded through other (non-BPA) grant sources, using BPA funds as cost share. Though these restoration activities occur on the project properties, affecting thousands of acres or floodplain habitats, they are not reported here because they are funded by non-BPA sources. Literally millions of dollars of non-BPA funds have been secured by this project over the last 12 years. These sources include N. Am. Wetlands Conservation Act, BOR, USFWS, BIA, Pheasants Forever, USDA (WRP, CREP, WHIP, etc.). Since 1992, approximately 20,000 acres (toward the 27,000 acre goal)have been protected and are under restoration. Passage barriers have been removed, side channels, wetlands and associated upland areas have been reconnected and restored. Water rights are also acquired in association with the land protections. This project has acquired all of the irrigation water rights on Satus Creek, one of the most important tributaries of the Yakima Basin for steelhead production.

PAST Metric / Work Element	Value or description
# of riparian miles protected (0.01 mi.)	2003 - 2005: 11.35 miles -protected
# of acres of new lease. (0.1 ac.)	2003 - 2005: 2317 acres protected
# of acres of renewed lease (0.1 ac.)	Approximately 20,000 acres are currently protected by this project. Leases that are up for renewal are renewed annually. All properties are expected to be renewed in perpetuity.
Start and end dates of lease (mm/dd/yyyy)	Leases continue for a minimum of 25 years, with first right of renewal.
Conduct Pre-Acquisition Activities	Work is performed each year to develop the lease and easement priorities and documents.
Prepare HEP Report	Baseline HEP surveys are conducted annually on all newly-protected properties. HEP updates are conducted on a 5-10 year rotation.
Develop RM&E Methods and Designs	Habitat and wildlife species response to protection and restoration activities are monitored annually. Fish monitoring activities within the project area are conducted under the Satus and Toppenish/Simcoe BPA-funded projects.
BPA Environmental Compliance	All environmental compliance activities are conducted on each property according to the permitting and NEPA needs. Archaeological and cultural surveys are conducted on each newly-protected property.
Collect/Generate/Validate Field and Lab Data	Vegetation, wildlife and hydrologic data is generated annually to assist in the restoration and management needs of the protected properties.

Produce Plan	Management plans are developed for each protected property. These plans guide future restoration, operation and evaluation activities.
Coordination	Coordination is conducted with adjacent BPA-funded projects and with landowners adjacent to or within the project area. Coordination also involves securing funds for restoration of protected lands.
Manage and Administer Projects	This involves coordinating restoration activities on properties and the maintenence of equipment to perform the management and restoration.
Operate/Maintain Facility	This involves maintaining equipment storage facilities, roads, public access structures and other related facilities.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Project area tours, presentations and work shops have reached over 100 teachers, 300 students, and 1,000 members of the general public in the last 3 years.
Produce Annual Report	Annual reports are completed for all project activities each year.
Produce Status Report	Quarterly reports are completed each quarter.
Maintain Terrestrial Structure	This includes maintaining fences and other upland-related structures. Currently the project maintains over 100 miles of property fence.
Replace/Maintain Instream Structure	This includes maintenence of water level control structures, spillways, grade control structures, etc.
Maintain Vegetation	This includes mowing, water level control, weed control, and all other activities required to maintain the native vegetation components of protected and restored properties.
Identify and Select Projects	This includes priortization of lands for protection and priortization of management and restoration activities.
Remove Debris	This activity involves mostly garbage removal on protected properties.
Conduct Controlled Burn	Fire is an important component of vegetatioin management. Grassland and wetland communities restored on project lands require periodic fires to maintain their values.
# of acres of vegetation planted (0.1 ac.)	approximately 300 acres of floodplain grasslands have been planted in 2003-2005.
# of riparian miles treated (0.01 mi.; count each bank separately)	The project's hydrologic restoration techniques allow for riparian vegetation restoration to occur without the need for planting.

Goals

The goals for this project were developed in plans and environmental documents from 1991 through 1994. Implementation of the overall project has been occurring every year since then. All metrics reported in the "Past Accomplishments" portion of this report will be implemented again in 2006. Only the metrics associated with acreage or milage figures are repeated here. On average, an additional 1-3,000 acres are added to the project each year. Large restoration projects anticipated in FY06 include a side channel reconnection along the Yakima River,

reconnection of channels, wetlands and hydrology on a site along Toppenish Creek, and at a site along Satus Creek. The long-term operation and maintenence activities will continue, as will all monitoring activities.

CURRENT Metric / Work Element	Value or description
# of riparian miles protected (0.01 mi.)	FY06, we hope to protect 3-5 miles of riparian habitats
# of acres of new lease. (0.1 ac.)	FY06 - we hope to protect 1,000-2,000 acres of floodplain habitats
# of acres of renewed lease (0.1 ac.)	FY06 - we will be renewing and maintaining the approximately 20,000 acres of leases and easements in perpectuity
Start and end dates of lease (mm/dd/yyyy)	in perpetuity
Conduct Controlled Burn	Fire will be used to treat approximately 100 wetland acres, 100 grassland acres. Russian olive tree piles which result from removal activities will also be burned.
# of acres of vegetation planted (0.1 ac.)	We anticipate that 300-500 acres of native floodplain grass communities will be planted in FY06.
# of riparian miles treated (0.01 mi.; count each bank separately)	Because our restoration methods produce riparian vegetation responses that do not require planting, little or no riparian vegetation is planted each year.

1994-059-00 - Yakima Basin Environmental Edu (Expense) Eco-Northwest

Description: Provides training for teachers and students which allows them the opportunity to participate in the maintainance and restoration of their local watershed through integrated, hands-on curriculum that meets the essential learnings mandated by the state.

Accomplishments

During the 2002-03, 03-04, and 04-05 school years, the Yakima Basin Environmental Education Program (Program) (1)offered relevant, hands-on curriculum to teachers and their students; (2) provided teachers and students with necessary equipment and materials to participate in local environmental education activties; (3) supported teachers and students who have participated in the Program; (4) fostered community partnerships to improve both education and the environment; (5) stimulated student interest in science and the environment as possible career choices; and (6) restored and enhanced local habitat. During the 03-04 and 04-05 school years, the Program initiated salmon carcass dissection in the classroom, which has been very popular with both teachers and students. Over 2,000 students participated in salmon dissection during the current school. In addition, the number of fish tanks and chillers in Yakima Basin schools has more than doubled over this three year timeframe. These tanks are used as part of the Salmon in the Classroom program. Over 2,000 students observed incubating salmon eggs and raised and released salmon fry into local streams. During the current school year, the Progarm formed a partnership with Heritage University and was able to offer bi-lingual (English/Spanish) capability to teachers and students in the Yakima Basin. This is a pressing need in light of the fact that approximately 25% of the students in the Yakima Basin are enrolled in ESL classes and not fully functional in English.

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	04-05 school year: Students-8,000; teachers-200; general public-1,000 03-04 school year: students-6,000; teachers-160; general public-1,000 02-03 school year: students-4,000; teachers-130; general public-1,000

Goals

The Program goals for the 05-06 school year include: 1. Teacher training is organized in a two-year cycle and includes eight field trip training sessions for participating teachers, including such topics as water needs and uses, stream hydrology, salmon life-cycle and spawning requirements, etc. Teachers are provided relevant training materials and equipment to take to their classrooms to replicate their hands on natural science activities with their students. Individual mentoring and classroom presentations & field trips are also included.
2.Coordinate with various community agencies and with students and teachers for greater involvement in the classroom and field trips, and for cooperative projects and in-kind donations.
3. Participate in public events to educate the public about the local environment and about possible involvement in the program.
4.Develop and maintain teacher communication tools, equipment inventories, activitiy & resource databases, and accounting records.

The Progam will continue its core efforts of offering field-based, hands-on, interdisciplanary, relevant science and environmetnal education opportunities to teachers and students in the Yakima Basin. In addition, the Program will continue to build partnerships with federal, Tribal, state, local, and private entities to maximize environmental education opportunities in the Yakima Basin.

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	05-06 school year: students-8,000; teachers-200; general public-1,000

1995-033-00 - O&M Yakima Basin Fish Screens (Expense) US Bureau of Reclamation

Description: Provide for operation & maintenance of BPA owned anadromous fish protective and trapping facilities within the Yakima River Basin. Facilities include several irrigation diversion fish screens and one major adult fish trapping complex.

Accomplishments

Continued operation and maintenance of fish screen sites has resulted in protecting juvenile salmonids and other fish species from being entrained into irrigation canals. Since 2002, Packwood screens have been added to the list of sites to operate and maintain.

PAST Metric / Work Element	Value or description
Operate/Maintain Facility	Continued operation and maintenance of fish screen sites has resulted in protecting juvenile salmonids and other fish species from being entrained into irrigation canals. Since 2002, Packwood screens have been added to the list of sites to operate and ma

Goals

Continued operation and maintenance of fish screen sites will protect juvenile salmonids and other fish species from being entrained into irrigation canals.

CURRENT Metric / Work Element	Value or description
Operate/Maintain Facility	Continued operation and maintenance of fish screen sites has resulted in protecting juvenile salmonids and other fish species from being entrained into irrigation canals.

1995-063-25 - Ykfp - Monitoring And Evaluation (Expense) Confederated Tribes And Bands Of T

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.

Accomplishments

The Yakama Nation has continued to effectively implement the experimental design for the the Cle Elum Supplementation and Research Facility based on adaptive management principles in the preceding fiscal years. Monitoring and Evaluation activities have examined numerous parameters of natural production, harvest, genetics and ecological interactions related to supplementation subsequent to the last provincial review process. Past accomplishments for the Spring Chinook, Fall Chinook, and Coho components of the M&E project are summarized in paragraphs on pp 37-38 of the Yakima Subbasin Supplement, Nov. 26, 2004. Detailed reports of the results of the M&E activites are included in the YKFP Monitoring and Evaluation Project Annual Reports for 2002 to present. The Project Annual Reports can be found at
1) http://www.efw.bpa.gov/Publications/P00005881-2.pdf (2002)
2) http://www.efw.bpa.gov/Publications/P00013769-1.pdf (2003-2004)
Abstracts of presentations addressing 2003 and 2004 M&E work can be found at http://www.ykfp.org/par.html.

PAST Metric / Work Element	Value or description
Produce Annual Report	Produce YKFP M&E annual report
Produce Status Report	Produce interim project status reports for YKFP M&E contract.
Produce/Submit Scientific Findings Report	Produce technical publications as data become ripe.
Install Fish Trap/Monitoring Weir	Install Cowiche Dam adult field trap, deploy screw traps in the Naches River.
Develop RM&E Methods and Designs	Assist in development of fall chinook master plan.
Collect/Generate/Validate Field and Lab Data	Operation of Chandler, Prosser Denil, and Roza juvenile and adult monitoring facilities, spawning grounds surveys, radio telemetry work, scale collection and analysis, DNA collection and analysis, field sampling, etc.
Mark/Tag Animals	PIT tag 40,000 spring chinook, 30,000 coho, and 15,000 fall chinook. Radio tag 100 adult coho and 25 fall chinook. Mass mark with adipose clip, elastomer eye tag, and/or CWT tags up to 810,000 spring chinook, up to 1 million coho, and 350,000 fall chin.
Submit/Acquire Data	Submit PIT tags and CWT tags for both tagged fish and adult detections to regional PTAGIS and RMIS databases. Submit Yakima Basin M&E parameter metrics to CSMEP database.
Manage/Maintain Database	Manage and maintain databases for all spring chinook, fall chinook, and coho life history data captured by the project.
Disseminate Raw & Summary Data	Supply spring chinook, fall chinook, and coho data to other entities as requested either by email or via data that is posted regularly to the ykfp.org web site.
Analyze/Interpret Data	Analyze data for annual reports and publications (as data become ripe).

Goals

The Yakama Nation's principal goal is to continue monitoring and evaluation activities consistent with the CESRF experimental design and to support adaptive management of supplementation and research in the Yakima Subbasin. The Vision for the Yakima Subbasin is identified on page 3 of the Subbasin Management Plan Supplement. M&E will be continued toward realizing the Vision and achievement of the Biological Objectives, identified in section 3.1 on p. 15 of the supplement. Performance metrics identified in the past accomplishments comments above will also be applied in FY 2006.

1995-063-25 - Ykfp - Monitoring And Evaluation (Expense) Confederated Tribes And Bands Of T

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.

Accomplishments

In the initial years of CESRF operation, recruitment of hatchery origin fish has exceeded that of fish spawning in the natural environment, but early indications are that hatchery origin fish are not as successful at spawning in the natural environment as natural origin fish. Most demographic variables are similar between natural and hatchery origin fish, however hatchery origin fish were smaller-at-age than natural origin fish. Long-term fitness of the target population is being evaluated by a large-scale test of domestication. Behavioral changes caused by domestication may be occurring but more data are needed before this can be concluded. Distribution of spawners has increased as a result of acclimation site location and salmon homing fidelity. Semi-natural rearing and predator avoidance training have not resulted in significant increases in survival of hatchery fish. However, growth manipulations in the hatchery appear to reduce the number of precocious males produced by the YKFP and consequently increasing the number of migrants. Genetic impacts to non-target populations appear to be low because of the low stray rates of YKFP fish. Ecological impacts to valued non-target taxa were within containment objectives or impacts that were outside of containment objectives were not caused by supplementation activities. Some fish and bird piscivores have been estimated to consume large numbers of salmonids in the Yakima Basin. Natural production of Chinook salmon in the upper Yakima Basin appears to be density dependent under current conditions and may constrain the benefits of supplementation. However, such constraints could be countered by YKFP habitat actions such as restoration of floodplain and side channel habitats. Harvest opportunities for tribal and non-tribal fishers have also been enhanced, but are variable among years. Nonetheless, the YKFP has produced significant findings, and produced methodologies that can be used to evaluate and improve supplementation.

Goals

We intend to continue to ascertain whether new artificial production techniques, coupled with strategic habitat actions, can be used to increase harvest and natural production of spring Chinook and coho salmon while maintaining the long-term genetic fitness of the fish population being supplemented and keeping adverse genetic and ecological interactions with non-target species or stocks within acceptable limits. The policy and technical oversight of this work is provided by projects 1995-064-25 as well as Yakama Nation YKFP projects. One goal, in conjunction with Project 1995-064-25, is to submit 1 overview report, 7 topical reports, and 5 peer review publications during FY06.

1995-063-25 - Ykfp - Monitoring And Evaluation (Expense) Confederated Tribes And Bands Of T

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.

Accomplishments

Successfully right ventral and left ventral fin clipped 300,000 brood yesr 2004 upriver bright fall chinook at Yakama Prosser Hatchery, left ventral clipped 500,000 brood year 2004 coho at Yakama Prosser Hatchery and adipose clipped 600,000 brood year 2004 coho at Eagle Cheek National Fish Hatchery for tribal restoration programs with the FY2005 budget provided. The Service supplied all staffing, marking equipment and contractual services to accomplish the tribal marking program.

Goals

2006 goals are to continue the partnership arrangement with the Yakama Nation to provide tagging support services for tribal restoration projects and complete marking and tagging projects within agreed upon budgets.

1995-064-25 - Ykfp Policy/Plan/Technical (Expense) WDFW - Olympia

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 dilineated in the agreed-upon project management structure.

Accomplishments

In the initial years of CESRF operation, recruitment of hatchery origin fish has exceeded that of fish spawning in the natural environment, but early indications are that hatchery origin fish are not as successful at spawning in the natural environment as natural origin fish. Most demographic variables are similar between natural and hatchery origin fish, however hatchery origin fish were smaller-at-age than natural origin fish. Long-term fitness of the target population is being evaluated by a large-scale test of domestication. Behavioral changes caused by domestication may be occurring but more data are needed before this can be concluded. Distribution of spawners has increased as a result of acclimation site location and salmon homing fidelity. Semi-natural rearing and predator avoidance training have not resulted in significant increases in survival of hatchery fish. However, growth manipulations in the hatchery appear to reduce the number of precocious males produced by the YKFP and consequently increasing the number of migrants. Genetic impacts to non-target populations appear to be low because of the low stray rates of YKFP fish. Ecological impacts to valued non-target taxa were within containment objectives or impacts that were outside of containment objectives were not caused by supplementation activities. Some fish and bird piscivores have been estimated to consume large numbers of salmonids in the Yakima Basin. Natural production of Chinook salmon in the upper Yakima Basin appears to be density dependent under current conditions and may constrain the benefits of supplementation. However, such constraints could be countered by YKFP habitat actions such as restoration of floodplain and side channel habitats. Harvest opportunities for tribal and non-tribal fishers have also been enhanced, but are variable among years. Nonetheless, the YKFP has produced significant findings, and produced methodologies that can be used to evaluate and improve supplementation.

Goals

We intend to continue to ascertain whether new artificial production techniques, coupled with strategic habitat actions, can be used to increase harvest and natural production of spring Chinook, fall chinook, coho salmon and steelhead trout while maintaining the long-term genetic fitness of the fish population being supplemented and keeping adverse genetic and ecological interactions with non-target species or stocks within acceptable limits. To this end this contract will continue to provide the WDFW portion of the policy and technical oversight of the YKFP. The co-managers of the resource (WDFW and YN) will meet regularly and make collaborative decisions using adaptive management. Much of the technical aspects of the YKFP are addressed in Monitoring and Evaluation Project 1995-063-25. Our goal, in conjunction with Project 1995-063-25, is to submit 1 overview report, 7 topical reports, and 5 peer review publications during FY06.

1996-035-01 - Satus Creek Watershed Restorat (Expense) Confederated Tribes And Bands Of T

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

Accomplishments

2002
Conducted comprehensive spawning ground surveys.
Collected stream temperature data using automated thermographs
Ran a 5 ft. screw trap from November of 2001 to early June of 2002
Characterized and quantified streamflow by maintaining 9 permanent stream gaging stations, along with wading discharge measurements at each station
Monitored precipitation at automated stations
Monitored a network of photo points
Improving grazing management: leased Range Units 7, 8A, 9 and 16, which encompass 140,000 acres
Built 24.25 miles of fence to keep livestock out of sensitive areas and in their designated range units
Maintained and repaired 70-80 miles of range fence.
Rehabilitating incised channels: built 100 structures from biodegradable straw bales to arrest headcuts
Enhanced beaver habitat by planting 100 willow cuttings and 300 cottonwoods

2003
Continued the 2002 monitoring activities listed above
Revegetation: reseeded dozer lines from previous summer's wildfires
Reintegrating fire as a landscape process: began working with BIA Fuels Management Program to introduce controlled burning.
Reestablishing access to floodplains: began planning new projects
Improving road drainage: rebuilt a ford and approaches at the upper Seattle Creek road crossing
Continued participating in interdisciplinary land management processes

2004
Continued the 2002 and 2003 monitoring activities listed above
Reestablishing access to floodplains: contracted and worked with engineer on design and permitting for floodplain downstream from Satus High Bridge
Rehabilitating incised channels: built 40 structures from biodegradable straw bales to arrest headcuts in Rentschler Meadow
Repaired 1.7 miles of fence excluding cattle from Rentschler Meadow

2005
Continuing monitoring activities listed above
Reestablishing access to floodplains: conceptual design is complete and permitting nearly complete; construction should begin August 2005

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	Project staff work with BPA on all environemental compliance issues.
Produce Environmental Compliance Documentation	Project staff are constantly working with BPA, Tribal and State governments to assure that all projects are in environemental compliance.
Identify and Select Projects	Project staff continue working on identifying potential projects.

Coordination	Project staff continue working with other governmental entities and private landowners.
Manage and Administer Projects	Project staff perform this time-consumning task on a daily basis.
Provide Technical Review	Project staff provide technical review on a variety of activities and projects that could affect the Satus Creek watershed.
Produce Plan	Project staff are the primary source for tribal policy to maintain instream flow. Project staff works closely in developing plans for pre-timber harvest. Project staff also assist with other plans within our scope of work.
Produce Annual Report	Project staff produce annual reports as per our contract agreement with BPA.
Produce Status Report	Project staff do status reports according to our CORT request.
# of stream miles treated (0.01 mi.)	7 miles
# of structures installed	100 structures.
# of stream miles treated before realignment (0.1 mi.)	.5 miles of stream
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	.75 miles of stream
# of road miles improved, upgraded, or restored	1 mile of road improved.
# of miles of fence (0.01 mi.)	24.25 miles of fence were built to exclude cattle from going into the riparian area.
Enhance Nutrients Instream	150 pathogen free salmon carcasses were added to the Satus Creek Watershed.
# of acres of vegetation planted (0.1 ac.)	100 acres were planted with natural vegetation in areas where wildfire had taken place. Also, 500+ willows were released in stream to mimic beaver activity that propagates willows.
# of riparian miles treated (0.01 mi.; count each bank separately)	2 miles
# of acres treated (0.1 ac)	100 bale structures were used to arrest headcuts. Also, 20 rock structures were constructed where greater stabilty was needed.
Enhance Floodplain	Project is being planned to restore a channel back to its floodplain. Conceptual design was just turned in and construction for this project will begin in August of 2005.
Create, Restore, and/or Enhance Wetland	Many bale structures were installed in headwater meadows to prevent erosion.
Investigate Trespass	Project's range rider reports all livestock tresspassing.
# of riparian miles protected (0.01 mi.)	20 miles of riparian area protected.

# of acres of new lease. (0.1 ac.)	140,000 acres leased
# of acres of renewed lease (0.1 ac.)	140,000 acres continue to be leased
Start and end dates of lease (mm/dd/yyyy)	March of 2005 to September of 2005.
Remove or Relocate Non-predaceous Animals	Project range rider moves livestock out of riparian areas. Feral horses are also being removed.
Submit/Acquire Data	Project staff work with Excel, Access, and GIS almost on a daily basis.
Manage/Maintain Database	Project staff data is stored on a server daily and also backed up on CD.
Disseminate Raw & Summary Data	Project staff have an internet web page.

Goals

Will continue the monitoring efforts described above. This monitoring is providing crucial abundance, productivity and spatial structure data to subbasin planning and steelhead recovery planning.
A major side channel reconnection project is scheduled for completion in 2006. A dike is currently blocking Satus Creek from accessing its floodplain. Once the dike is removed, the side channel can function again, dissipating the stream energy of the watershed and increasing the quality and quantity of fish habitat. Planning has begun on removal of another dike in lower Satus Creek.

CURRENT Metric / Work Element	Value or description
BPA Environmental Compliance	Project staff will continue to work with BPA to stay in compliance.
Produce Environmental Compliance Documentation	Project stall will continue to work with all private, federal, state, and tribal entities to comply with all environmental laws that apply to our project.
Identify and Select Projects	Project staff will continue selecting projects to develop and protect riparian habitat. This will always be an ongoing element.
Coordination	Project staff will continue to work with all applicable governmental entities and landowners.
Manage and Administer Projects	Project staff will continue to to do this work element.
Provide Technical Review	Project staff will continue to review all technical details.
# of stream miles treated (0.01 mi.)	3
# of structures installed	100
# of stream miles treated before realignment (0.1 mi.)	1
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	1

Conduct Controlled Burn	Project staff will work with BIA Fuels Management program to assist them in improving controlled burns.
# of road miles improved, upgraded, or restored	10 miles.
# of miles of fence (0.01 mi.)	10
Enhance Nutrients Instream	If carcasses are available project staff will continue to place them in the Satus Watershed.
# of acres of vegetation planted (0.1 ac.)	500
# of riparian miles treated (0.01 mi.; count each bank separately)	2
# of acres treated (0.1 ac)	3
Enhance Floodplain	Project staff has a project to remove a dike from the lower portion of the creek and hope to have a conceptual design on the project by the fall of 2005
Create, Restore, and/or Enhance Wetland	Project staff will continue to protect meadows and wetlands within our project boundaries.
Replace/Maintain Instream Structure	Project staff monitors all restoration activities and will adjust structures as needed.
Maintain Vegetation	Project staff have developed an improved method of planting and establishing riparian vegetation, and will water and fertilize as needed to assure its vitality.
Investigate Trespass	Project staff will continue to watch for tresspass of livestock.
# of riparian miles protected (0.01 mi.)	20
# of acres of new lease. (0.1 ac.)	140,000
# of acres of renewed lease (0.1 ac.)	140,000
Start and end dates of lease (mm/dd/yyyy)	March of 2006-2007
Remove or Relocate Non-predaceous Animals	Project staff will continue to have the range rider remove cattle from riparian areas.

1997-013-25 - Yakima/Klickitat Fisheries Pro (Expense) Confederated Tribes And Bands Of T

Description: To implement and test supplementation-based measures in order to increase natural production and harvest opportunities. Supplementation measures will be evaluated using a systematic, experimental program. Test feasibility of coho reintroduction.

Accomplishments

We mistakenly entered past releases under metrics for the Goals. Please refer to these metrics for past accomplishments. The Yakama Nation has continued to effectively operate and maintain the Cle Elum Supplementation and Research, Prosser, Marion Drain, and acclimation site facilities based on adaptive management principles in the preceding fiscal years. The past accomplishments for the Spring Chinook, Fall Chinook, and Coho components of the O&M project are summarized in paragraphs on pp 37-38 of Yakima Subbasin Supplement, Nov. 26, 2004. Detailed reports of the results of the O&M activites are included in the YKFP Operation and Maintanence Project Annual Reports for 2002 to present. The Project Annual Reports can be found at
1) http://www.efw.bpa.gov/Publications/
2) http://www.efw.bpa.gov/Publications/
Abstracts of presentations addressing 2003 and 2004 O&M work can be found at http://www.ykfp.org/par.html.

PAST Metric / Work Element	Value or description
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	All fish produced or imported and released under this contract are multi-purpose for supplementation, harvest, and research.
Maintain Fish Health	Subcontracted to USFWS for fish health maintenance, such as fish health monitoring, pathology sampling, laboratory processing of samples, and consultation with fish health professionals.
Maintain Hatchery	Performed all activities described under this work element for all facilities under this contract for all contract years. For more detail please see project annual reports.

Goals

Production goals for 2006 are similar to those listed under metrics : Spring chinook 810,000; Fall chinook ~2.8 million (1.7 million Mitchell Act produced and 1.1 million YKFP produced); up to ~1.0 million coho. The Vision for Yakima Subbasin is identified on page 3 of the Subbasin Supplement. Biological Objectives are identified in section 3.1 on p. 15. We will continue to perform all maintenance activities described under maintain hatchery work element and to contract with USFWS for fish health maintenance.

CURRENT Metric / Work Element	Value or description
Produce Annual Report	Produce O&M annual reports for Prosser, Marion Drain, and Cle Elum facilities.
Produce Status Report	Produce monthly status reports for O&M work at Cle Elum, Prosser and Marion Drain facilities.
Production: # fish released from program, by life stage and species	Cle Elum 2002 836k, 03 370k, 04 836k 05 824k spring chk smolts;Prosser 2002 143k, 03- 365 k, 04- 561k fall chk smolts; Marion Drain 2002 4k, 03-18k, 04-52k fall chnk smolts; Prosser 2002 183k, 03- 370k, 04- 88k coho smolts

Incubation: # fertilized eggs into incubation program, by species	Cle Elum 2002 1.1m, 03 1m, 04 996k spring chk eggs; Prosser 2002 239k, 03- 476k, 04 772k fall chk eggs; Marion Drain 2002 6k, 03 22k, 04 64k fall chnk eggs; Prosser 2002 754k, 03 277k, 04 420k coho eggs
Incubation: # fry (button-up) produced, by species	Cle Elum 2002 884k, 03 849k, 04 862k spring chk fry; Prosser 2002 227k, 03 452k, 04 734k fall chk fry; Marion Drain 2002- 5k, 03 22k, 04 61k fall chnk fry; Prosser 2002 721k, 03 180k 04 280k coho fry
Rearing: # fish into program (fish ponded), by life stage and species	Cle Elum 2002 865k, 03 826k, 04 849k spring chk parr; Prosser 2002 159k, 03 429k, 04 660k fall chk parr; Marion Drain 2002 4k, 03 21k, 04 54k fall chnk parr; Prosser 2002 528k, 03 126k, 04 196k coho parr
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	All fish produced or imported and released under this contract are multi-purpose for supplementation, harvest, and research.
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Cle Elum 2002 830, 03 584, 04 718 spring chk adults; Prosser 2002 -113, 03- 230, 04- 370 fall chk adults; Marion Drain 2002-4, 03-12, 04-30 fall chnk adults; Prosser 2002- 450, 03-452, 04-142 coho adults
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Cle Elum 2002 M125 F261, 03 M115 F200, 04 M125 F245 spr chk; Prosser 2002- 55M 58F, 03- 115M 115F, 04-185M 185F fall chk; Marion Dr 2002- 2M 2F, 03- 6M 6F, 04-15M 15F fall chnk; Prosser 2002- 230M 220F, 03- 230M 222F, 04- 70M 72F coho

1997-051-00 - Yakima Basin Side Channels (Capital) Confederated Tribes And Bands Of T

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.

Accomplishments

Goals

1997-051-00 - Yakima Basin Side Channels (Expense) Confederated Tribes And Bands Of T

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.

Accomplishments

The YSC project has been on-going since 1997 and during this time, has protected 920 acres of high value floodplain containing healthy and functional side channel, wetland, and riparian forest habitats.

PAST Metric / Work Element	Value or description
# of acres of new purchase/easement (0.1 ac.)	920
Start date of the purchase (mm/dd/yyyy)	3/1/1997
Conduct Pre-Acquisition Activities	Perform appraisals, title searches, land boundary surveys, provide legal descriptions, perform hazardous waste assessment, cultural resources surveys, NEPA disclosure statements, public outreach.

Goals

Phase 1 of this project is expected to continue through 2006. During the period 1997 through 2006, the goal of this project is to protect and restore 2,000 acres of the most productive mainstem and side channels habitat within the four priority reaches for anadromous salmonids. Therefore, YSC aims to protect an additional 1,080 acres to complete Phase 1. Project success in reaching this goal is largely based the status of willing sellers and ready access to funding. Phase 2 will be developed and proposed by the co-sponsors to extend protection to high value anadromous fish habitat within the basin after the completion of Phase 1.

CURRENT Metric / Work Element	Value or description
# of acres of new purchase/easement (0.1 ac.)	Purchase of 1080 acres to complete Phase 1.
Start date of the purchase (mm/dd/yyyy)	3/1/1997-on-going

1998-033-00 - Upper Toppenish Creek Watershed (Expense) Confederated Tribes And Bands Of T

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 watershed assessment.

Accomplishments

2002-
Implemented minimum instream flow requirements throughout the Toppenish Watershed. Performed weekly wading streamflow measurements to understand stream hydrology and to monitor instream minimum flow.
Operated rotary screw trap to monitor juvenile salmonid outmigration.
Conducted steelhead spawning surveys.
Deployed temp sensors to monitor water quality.
Collected watershed data including all salmonid redds found, with GPS for entry into the Toppenish Project's GIS

2003-
Maintained beaver dams for fish passage and floodplain connection
Monitored stream as in 2002, but added TFW habitat surveys, cataloged size and disposition of LWD using GPS.
Collected watershed data including all salmonid redds found, with GPS for entry into the Toppenish Project's GIS

2004-
Maintained 3 miles of fence surrounding headwater meadows.
Completed the scoping and engineering phase of the Agency Creek Headcut and Willy Dick Culvert Stabilization, began the permitting for Agency Creek, completed permitting for Willy Dick.
Completed Willy Dick Culvert Stabilization Project.
Maintained 28 stock water wells
Planted 1500 stems of riparian species at 3 sites to restore riparian and wet meadow areas.
Monitored stream as in 2003.
Collected watershed data including all salmonid redds found, with GPS for entry into the Toppenish Project's GIS
Installed 7 stream gages, 2 with cellular telemetry.

2005-
Planted 1000 riparian plants at 1 site.
Installed .7 miles of riparian fence.
Monitored stream as in 2004.
Completed Agency Creek Headcut Project.
Collected watershed data including all salmonid redds found, with GPS for entry into the Toppenish Project's GIS.

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	Project staff complete all environmental compliance documentation prior to beginning any project.
Produce Environmental Compliance Documentation	Project staff complete all required environmental compliance documentation prior to starting any project, as per out contract.
Identify and Select Projects	Project staff continuously work to identify and select projects throughout the watershed.
Produce Inventory or Assessment	Project staff requlary inventory stream flow, and use that data to make instream flow minimum decisions.
Coordination	Project staff coordinate with BIA Range and YN Wildlife

Manage and Administer Projects	Project managers are involved in all aspects of managing contractors, projects, metric reporting, budgeting, and SOW development.
Provide Technical Review	Project staff review all proposals for instream work in Toppeninsh Creek. Staff are involved in the Tribal Interdisciplinary Team, and review all proposals.
Produce Design and/or Specifications	Project staff produce designs and specifications for a wide variety of restoration related activities.
Produce Annual Report	Staff provide quarterly and annual reports to BPA, as per our contract.
Produce Status Report	Project staff produce milestone status reports for BPA as per our contract.
# of stream miles treated (0.01 mi.)	.3 miles
# of structures installed	9
# of stream miles treated before realignment (0.1 mi.)	.3 miles.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	.4 miles
Develop Alternative Water Source	Drilled 1 stock well on the north side of Toppenish Ridge. Also installed 3 miles of pipeline to distribute the water along the ridge.
# of road miles improved, upgraded, or restored	.3 miles, created a hardened ford.
# of miles of fence (0.01 mi.)	Built approximately 5 miles of riparian and range fence.
Enhance Nutrients Instream	Added 300 fall chinook carcassas throughout the Toppenish Watershed. Cracasses are sterilized prior to distribution.
Maintain Terrestrial Structure	Project personel maintaing approximately 15 miles of riparian and range fence.
Maintain Vegetation	Project staff maintain approximately 100 acers of vegetation at several different sites.
Operate/Maintain Facility	Monitor and maintain adequate amount of water for fish passage in Toppenish Creek. This includes maintaing stream gages and closely monitoring the operation of irrigation headgates.
Investigate Trespass	Project Range Rider monitors and reports on all cattle found out of their designated areas.
Is the screen New or a Replacement? (N/R)	New
Does the screen meet NOAA/FSOC specs? (Y/N)	Yes

Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	10cfs
Does the structure remove or replace a fish passage barrier? (Y/N)	Yes
# of miles of habitat accessed (0.1 mi.)	4.9 miles
Was barrier Full or Partial? (F/P)	Partial
Install Fish Trap/Monitoring Weir	Project operates a 5ft rotary screw trap from November to early June.
Mark/Tag Animals	Project staff PIT tag all O.mykiss over 90mm captured in the our screw trap.
Manage/Maintain Database	Project staff requlary maintain and add to the Project's GIS, streamflow, habitat, large woody debris, well level measurements,redd and juvenile outmigration, and water quality.
Disseminate Raw & Summary Data	Staff provide data summaries to federal, state and local agencies in the form of emails, maps and brief write ups.
Analyze/Interpret Data	Staff conduct intinsive statistical analysis of smolt outmigraton and redd data. Also use GIS for analysis of spatial data.
Is the measuring device portable or fixed (P/F)?	Project has installed 7 stream gages, 2 of which have cellular telemetry.
Estimated # of miles of total stream reach improvement	5 miles
Amount of unprotected water flow returned to the stream by conservation (cfs)	N/A
Amount of unprotected water flow returned to the stream by conservation (acre-feet)	N/A
Estimated # of miles of primary stream reach improvement	1 mile

Goals

Goals are to continue the monitoring efforts as in previous years. This monitoring effort is the main source of information on abundance, productivity and spatial distribution of an entire population of threatened steelhead, and is critical in the subbasin planning and recovery planning process.
There are 3 restoration projects in the planning phase for 2006. 1. Removing a dike on Willy Dick Creek that is confining the stream against a hillslope. 2. Remove 2 non-functional culverts in the upper watershed of Willy Dick Creek. 3. Arrest a headcut that has been in NF Simcoe creek. These three project are in steelhead spawning and rearing habitat. Completion of these projects would improve steelhead survival. Project will continue to fence and revegetate riparian areas.

CURRENT Metric / Work Element	Value or description
BPA Environmental Compliance	Project staff will continue to complete all environemental compliance documentation needed.
Produce Environmental Compliance Documentation	Project staff will continue to complete all required environmental compliance documentation needed.
Identify and Select Projects	Project staff will continue to work to identify and select projects throughout the watershed.
Produce Inventory or Assessment	Project staff will continue to regularly inventory stream flow and use that data to make instream flow recommendations.
Coordination	Project staff will continue to coordinate with BIA and YN Wildlife.
Manage and Administer Projects	Project mangers will continue to be involved in all aspects of managing contractors, projects, and internal administration.
Provide Technical Review	Project staff will continue to review all proposals for instream work in Toppenish watershed.
Produce Plan	Project staff will continue to work on any plans relevent to our scope of work.
Produce Design and/or Specifications	Project staff will continue to produce designs and specifications for a wide variety of restoration efforts.
Produce Annual Report	Project staff will continue to provide quarterly and annual reports to BPA, as per our contract.
Produce Status Report	Project staff will continue to produce milestone status reports to BPA as per our contract.
# of stream miles treated (0.01 mi.)	Plan on treating 4 miles of stream improvments.
# of structures installed	100 structures to be installed.
# of stream miles treated before realignment (0.1 mi.)	1
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	1
Conduct Controlled Burn	Plan on working with BIA fuels management to do controlled burns in riparian areas.
Develop Alternative Water Source	Project staff will continue to assist landowners in developing alternate water sources to maintain instream flow.
# of road miles improved, upgraded, or restored	Project stall will continue to assist BIA forestry to develop road improvements. Will also identify any other problem road within the watershed.
# of miles of fence (0.01 mi.)	Project staff will continue to identify problem fence and maintain fences.
Enhance Nutrients Instream	As carcasses come available we will continue to do this.

# of acres of vegetation planted (0.1 ac.)	1
# of riparian miles treated (0.01 mi.; count each bank separately)	1
# of acres treated (0.1 ac)	50 acres will be treated.
Enhance Floodplain	Plan to remove a .25 dike in Willy Dick.
Create, Restore, and/or Enhance Wetland	Plan on using control stuctures in wetland meadows.
Maintain Terrestrial Structure	Project staff will continue to maintain all fences that were built.
Replace/Maintain Instream Structure	Plans or to maintain any structures that have been previously installed.
Maintain Vegetation	Project staff will continue to maintain any planting efforts that was done by our project to secure the success.
Investigate Trespass	Project Range rider will continue to watch livestock and make sure they are in there designated range unit and not tresspassing.
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	2 acre feet of water will be protected by screening the Hubbard diversion and the Smartlowit.
Is the screen New or a Replacement? (N/R)	New.
Does the screen meet NOAA/FSOC specs? (Y/N)	Yes
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	5 CFS
If installing a ladder, does the ladder meet NOAA specifications for attraction flow, pool dimensions, jump height, etc? (Y/N)	N/A
Does the structure remove or replace a fish passage barrier? (Y/N)	Yes
# of miles of habitat accessed (0.1 mi.)	1 mile
Was barrier Full or Partial? (F/P)	Partial
# of riparian miles protected (0.01 mi.)	3 miles of Riparian protected.
# of acres of new lease. (0.1 ac.)	20 acres.

# of acres of renewed lease (0.1 ac.)	n/a
Start and end dates of lease (mm/dd/yyyy)	1/2006-12-2006
Install Fish Trap/Monitoring Weir	Project staff will continue to operate a 5ft. screw trap.
Mark/Tag Animals	Project staff will continue to PIT tag all O.mykiss over 100mm that is caught in 5ft. screw trap.
Manage/Maintain Database	Project staff will continue to maintain and add to the projects GIS, stream flow, temperature, redd survy and screw trap data.
Disseminate Raw & Summary Data	Staff will continue to provide data summaries to federal, state and local agencies that apply to the Yakama Nation.
Analyze/Interpret Data	Project staff will continue to conduct intinsive statistical analysis of smolt outmigration and redd data.
Estimated # of miles of primary stream reach improvement	3 miles of stream protected.
Estimated # of miles of total stream reach improvement	3 miles of stream improvment.
Amount of unprotected water flow returned to the stream by conservation (cfs)	1 cfs.
Amount of unprotected water flow returned to the stream by conservation (acre-feet)	2 acre feet.
Is the measuring device portable or fixed (P/F)?	If money is available some more stream guages may be needed for cellular telemetry.
Estimated # of miles of total stream reach improvement	2 miles
Amount of unprotected water flow returned to the stream by conservation (cfs)	1 cfs
Amount of unprotected water flow returned to the stream by conservation (acre-feet)	2 acre feet.
Estimated # of miles of primary stream reach improvement	5 miles of stream improvement.
Develop and Negotiate Water Right Transaction	Project staff work on a minimum flow criteria that is ratified by Yakama Nation Tribal council into policy.

1999-013-00 - Ahtanum Creek Watershed Assess (Expense) Confederated Tribes And Bands Of T

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.

Accomplishments

2002-
Implemented minimum instream flow requirement of 10 cfs throughout Ahtanum Creek.
Performed weekly wading streamflow measurements to understand stream hydrology and monitor minimum flow compliance.
Operated rotary screw trap to monitor juvenile salmonid outmigration.
Conducted steelhead, coho and bull trout spawning surveys.
Deployed thermographs to monitor water quality.
Made initial contact with several riparian landowners in the watershed.
Collected watershed data including all salmonid redds found, with GPS for entry into the Ahtanum Project GIS

2003-
Built 6 miles of riparian fence.
Maintained beaver dams for fish passage and floodplain connection
Worked with 2 landowners to install straw bale structures for floodplain roughness and energy dissipation.
Monitored stream as in 2002, but added TFW habitat surveys, spring chinook spawning surveys, cataloged size and disposition of LWD using GPS.
Collected watershed data including all salmonid redds found, with GPS for entry into the Ahtanum Project GIS

2004-
Built 2 miles of riparian fence.
Completed scoping and engineering phase of the Herke Side Channel Reconnection Project, began on the permitting.
Completed scoping for Ahtanum Stock Pump No.1 (solar powered stock pump.)
Installed 1 stream gage with cellular telemetry.
Planted 1500 stems of riparian species for restoration at 4 sites.
Monitored stream as in 2003.
Collected watershed data including all salmonid redds found, with GPS for entry into the Ahtanum Project GIS.
Participated in and provided data to multi-agency Ahtanum Watershed EIS.

2005-
Planted 1000 riparian plants at 2 sites.
Monitored stream as in 2004.
Install 1 stream gage with cellular telemetry.
Complete Herke Side Channel Reconnection Project.
Complete Ahtanum Stock Pump No. 1 Project.
Collected watershed data including all salmonid redds found, with GPS for entry into the Ahtanum Project GIS.
Complete scoping and engineering for Allotment 960 Side Channel Reconnection Project.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Project completes all environmental complinace documentation prior to implementing restoration projects.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Staff have taught several hour long classes at a local high school, conducted numerous field trips to educate students on methods used to capture, identify and mark fish.
Produce Annual Report	Project staff will report annualy as per our contract with BPA.

Produce Status Report	Project staff will report quarterly as per our contract with BPA.
Develop Alternative Water Source	Created approximately 8 water gaps in our riparian fence.
Enhance Nutrients Instream	Distributed approximately 100 fall chinook carcasses throughout the Ahtanum Watershed.
# of acres of vegetation planted (0.1 ac.)	20 acres treated.
# of riparian miles treated (0.01 mi.; count each bank separately)	1.4 miles
# of acres treated (0.1 ac)	30 acres treated.
Enhance Floodplain	Constructed 3 straw bale structures that provide floodplain roughness. Also installed straw bale structures to guide flood flows over appropriate areas of the floodplain. These strucures forced flood water to re-enter teh stream at appropriate sites.
Maintain Terrestrial Structure	Project maintains 8 miles of riparian fence.
Operate/Maintain Facility	Project maintains 9 stream gages throught the Ahtanum; these are used to measure and manage instream minimum flows.
# of miles of habitat accessed (0.1 mi.)	Project has both notched and piped beaver dams to allow passage and relieve unwanted overbank flow. Staff monitor two irrigation dams for fish passage and modify flow over these with sandbags as necessary.
If installing a ladder, does the ladder meet NOAA specifications for attraction flow, pool dimensions, jump height, etc? (Y/N)	N/A
Does the structure remove or replace a fish passage barrier? (Y/N)	N
# of miles of habitat accessed (0.1 mi.)	Approximately 16
Was barrier Full or Partial? (F/P)	The beaver dam was a full barrier to upmigrating coho adults, due to low fall flows.
Install Fish Trap/Monitoring Weir	Project operates a 5ft screw trap from November to early June.
Collect/Generate/Validate Field and Lab Data	Project staff engage in data collection and creation on a daily basis.
Submit/Acquire Data	Project staff continualy transfer data from field sheets and data collectors into established databases.
Manage/Maintain Database	Project staff maintain and improve Project databases on a regular basis.

Disseminate Raw & Summary Data	Project data is often distributed to federal, state and local agencies in the form of GIS derived maps, and informal reports and summary emails.
Analyze/Interpret Data	Project staff often refer to spatial and envoronmental databases to make natural resource management decisions.
Is the measuring device portable or fixed (P/F)?	Project staff have installed staff gages and automated stream gages with telemetry throughout the watershed.

Goals

2005-
Scope, engineer and permit water pipeline for use in conjunction with Ahtanum Stock Pump No.1.

2006-
Complete environmental compliance and construction of Allotment 960 Side Channel Reconnection.
Complete environmental compliance and construction of Ahtanum Stock Pump No.1 Water Pipeline Project (2 miles of pipeline.)
Work with landowners to build at least 1 mile of riparian fence.
Scope, and begin engineering of Allotment 914 Side Channel Reconnection Project.
Monitor Herke Side Channel Reconnection Project, making inlet adjustments as needed.
Continue to monitor stream and collect watershed data with GPS for entry into the Ahtanum Project's GIS.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Produce all Environmental Compliance documentation necessary to proceed with restoration projects.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Project staff will continue to conduct classes and field seminars for high school and elementry school children.
Produce Annual Report	Will produce annual report as per out contract with BPA
Produce Status Report	Will produce quarterly reports as per our contract with BPA
# of stream miles treated (0.01 mi.)	.7
# of structures installed	Approximately 7, project is not engineered at this time.
Start and end lat/long of treated reach (0.1")	Start:46.5239°N, 120.8492°W End:46.5258°N, 120.8386°W
# of stream miles treated before realignment (0.1 mi.)	0
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	.7
Start and end lat/long of treated reach (0.1")	46.5273°N, 120.8135°W 46.5279°N, 120.7989°W
Develop Alternative Water Source	Project Staff will augmetn Ahtanum Sotck Pump No.1 with pipelines and additional storage as needed.
# of miles of fence (0.01 mi.)	Project staff plan to build at least 1 mile of riparina fence.

Enhance Nutrients Instream	Project staff will plant approximately 100 fall chinook carcasses throughout Ahtanum Creek.
# of acres of vegetation planted (0.1 ac.)	Projects staff plan to revegetate at least 25 acers of riparian area.
# of riparian miles treated (0.01 mi.; count each bank separately)	Staff plan to revegatat at least 1 mile of riparian area.
Enhance Floodplain	Staff plan to install straw bale structures for floodplain roughness at 2 locations, and maintain 2 structures already installed.
Create, Restore, and/or Enhance Wetland	The reomoval of a dike at LaSalle High School may create a small amount of wetland. If this does happen, staff will work to enhance that wetland.
Maintain Terrestrial Structure	Project staff will maintain approximately 8 miles of riparian fence.
Operate/Maintain Facility	Projecct staff will operate and maintain 9 staff gages and 1 automated stream gage.
# of miles of habitat accessed (0.1 mi.)	Project staff will modify beaver dams as needed to allow upstream passage to adult coho. Coho are often hampered by low fall flows.
Install Fish Trap/Monitoring Weir	Project staff will operate our 5ft screw trap.
Collect/Generate/Validate Field and Lab Data	Project staff will continue to collect all manner of stream related data.
Submit/Acquire Data	Data will be transfered from field sheets and data loggers to the Projects various databases.
Manage/Maintain Database	Project staff will continue to maintain the various Project databases.
Disseminate Raw & Summary Data	Project staff will continue to disseminate data in the form of GIS derived maps, informal reports and email summaries. This data is usually provided to federal, state and local agencies.
Analyze/Interpret Data	Project staff will continue to analyze data in order to make various resource management decisions such as instream flow amount.
Is the measuring device portable or fixed (P/F)?	Project staff plan on installing 1 automated stream gage with cellular telemetry.

2002-014-00 - Sunnyside Wildlife Mitigation (Expense) WDFW - Olympia

Description: Restore, protect and enhance native floodplain wetland and riparian habitats and shrubsteppe uplands in the lowerYakima River Valley.

Accomplishments

In the past 2 years, we have performed the following work. Some tasks are repetitive each year while others are cumulative over the 2 year period.
-Restored 230 acres of dryland crop land and noxious weed infestations to native grass cover.
-Restored 1120 acres of severely degraded shrub steppe habitat after 2 wildfire events.
-Annually treat over 300 acres by mechanical, chemical and/or cultural means.
-Maintained 3 lift pumps, 1000 feet of underground mainline, 15 water control structures and 145 acres of created wetlands.
-Maintained nearly 700 acres of natural wetlands.
-Planted over 65,000 shrubs and cuttings.
-Removed over 60 acres of Russian olives and performed follow up control of resprouts
-Maintained, through an agricultural lease, about 200 acres of small grain production for wintering waterfowl, upland wildlife & sandhill cranes (not funded by BPA).
-Maintained 36 miles of fence; numerous gates
-Maintained 11 public access sites
-Graded and/or maintained 13.5 miles of access roads
-Spring development/enhancement
-Established photo points to document habitat enhancement. Used photo points to conduct neotropical bird baseline survey
-Monitored shrub-steppe management units for sage grouse activity.
-Ran vegetation transects to document success of post fire shrub-steppe restoration.
-Monitored public recreation activities
-Assisted Wildlife Program with duck and dove banding projects
-Maintained full line of equipment that is used on habitat enhancement projects.
-Maintained signs and readerboards
-Community outreach with local schools, volunteer groups
-Worked with WDFW and County Enforcement on violations occurring on the management units.
-Reports, contract administration, etc.

Goals

Each enhancement project is additive to previous projects which all require continued follow up work. New habitat enhancement projects will be added each year at a level that current staff can manage. We will continue all of the basic O&M work described under the accomplishments section, plus the following additional work:

-Restore 40-50 acres of native grass in upland areas within the Yakima River floodway.
-Remove and provide follow up work on approx. 10 acres of mature Russian olive trees.
-Seed native grasses within areas where olives were previously removed.
-Replace guzzlers on the Rattlesnake Slope Unit that were burned in the 2000 fire. Local volunteers will be used to minimize staff time.
-Continue spring development/enhancement on the Thornton Unit to achieve a perennial source of free water.
-Continue working with the Port of Sunnyside and City of Grandview for cooperative projects that use their treated water for wetland enhancement.
-Continue working with the Yakama Nation and the USFWS on a large scale NAWCA grant for wetland enhancement in the lower Yakima River valley.
-Continue search for funding to control lily pads and dredge at least part of Giffen Lake.

2002-018-00 - Restore Tapteal Bend Riparian (Expense) Sunday & Associates Inc

Description: Stabilize streambank along about 500 feet of riparian area at RM 8 of the Lower Yakima River and acquire adjacent island habitat to provide contiguous habitat protection along both sides of the channel.

Accomplishments

Goals

2002-025-01 - Yakima Tributary Access & Habi (Capital) South Central Washington RC&D

Description: Implement fish enhancements (fish passage, screens and riparian habitat) on Yakima tributaries based on prioritized schedule developed through a collaborative approach of local, state, federal and tribal interests. Conduct early actions in 2002.

Accomplishments

YTAHP's scope of work is based on a proven process of research, communication, cooperation, and follow through. Since 2003 YTAHP has conducted inventories and assessments of priority streams in the Yakima basin above Union Gap. Based on those inventories; passage, screening and habitat problems have been identified. Landowners have been contacted and through a cooperative voluntary approach agreements have been reached to enable correction of the problem.
Accomplishments:
·Inventory and assessments of approximately 250 miles of priority streams.
·Eight major barriers removed and three more are scheduled for this late summer. Removal of barriers have generally included construction of instream passage structures and fish screens.
·Two siphons have been installed separating canal flow from streams.
·Fifteen pump screens have been installed and at least 5 more are scheduled for this summer.
·In addition to engineering for the completed projects, engineering for six FY-06 projects is underway at this time.
·Instream flow enhancement of approximately 4 cfs has been documented.
·Approximately five acres of riparian buffer has been formally identified.
Metrics for each project are not readily available. In anticipation of BPA's Pisces tracking system an ongoing method for compiling and filing project metrics is being developed.

Goals

Continue stream Inventory and Assessments and complete written reports on streams inventoried in FY-05.
Complete engineering, permitting and construction for seven barrier removal projects. Three of these include construction of instream passage structures, installation of fish screens, and/or consolidation of diversions,.
Three instream habitat improvement projects, including one reconnection of off-channel rearing habitat.
Continue outreach and communication with private land owners regarding; passage, screening, and habitat improvements.
Continue communication with and coordination of YTAHP associated agencies; BPA, WDFW, Yakima Nation, WS-DOE, WS-DOT, BOR, NOAA, USFWS, Kittitas County Water Purveyors, North Yakima Conservation District, Kittitas County Conservation District, South Central Washington Resource Conservation and Development Council, Ahtanum Irrigation District, and others.

2002-031-00 - Spring Chinook Growth Modulati (Expense) NOAA Fisheries

Description: Develop hatchery rearing protocols to reduce excessive production of early maturing male chinook salmon, improve smolt-to-adult survival and reduce negative ecological impacts of hatchery fish on wild fish.

Accomplishments

Research conducted under project #200203100, "Growth rate modulation in salmon supplementation" has shown that approximately 40-50% (depending on brood year) of the male spring Chinook salmon produced in the Yakima River Cle Elum Supplementation and Research Facility (CESRF) precociously mature at 2 years of age as "minijacks" (Larsen et al. 2004). This is 5-10 times our estimate of early male maturation in wild spring Chinook salmon in the Yakima River (Larsen et al. 2005). Further, Pearsons et al. (2004), in a BPA report on their work on the Yakima River suggest, “Our results indicate that the natural abundance, distribution, age/size, and behavior of precocially mature spring Chinook salmon on the spawning grounds are being altered by the release of precocially mature hatchery fish.” To date, our project has accurately quantified levels of precocious maturation in wild and hatchery spring Chinook salmon in a major river system for the first time, designed growth rate modulation protocols that have altered the rate of precocious male maturation by 33% in experimental studies (Larsen et al. submitted), and these protocols are being implemented at a hatchery production scale over a five year period at the CESRF. We initiated monitoring the results of the change in hatchery protocols with the 2004 release and plan to continue to monitor minijack production at CESRF through 2008 to judge the efficacy of these protocols. However, our growth modulation protocols require further refinement to produce supplementation fish displaying life history patterns indistinguishable from that of their wild cohorts.

This project has established a highly knowledgeable, efficient, and productive research team that has gathered and published in peer reviewed journals a significant body of data pertaining to the serious issues of precocious male maturation and smolt quality in both wild and hatchery salmonids. Furthermore, our most recent study (Beckman and Larsen, accepted, Trans. Am. Fish. Soc.), using the Columbia River PIT-tag database, suggest that this issue of precocious male maturation pertains to many other ESU's in the Columbia River and requires further study.

Beckman, B.R. and Larsen, D.A. (accepted). Up-stream migration of PIT-tagged Age 2 (minijack) Chinook salmon in the Columbia River: behavior, abundance, distribution, and origin. Transactions of the American Fisheries Society.

Larsen, D.A., Beckman, B.R., Strom, C., Parkins, P., Cooper, K.A., Johnston, M., Fast, D., and Dickhoff, W.W. (2005). Growth rate modulation in spring Chinook salmon supplementation. U.S. Department of Energy, Bonneville Power Administration (BPA Report DOE/BP-00017450-1) 49pp.

Larsen, D.A., Beckman, B.R., Cooper, K.A., Barrett, D., Johnston, M., Swanson, P., and Dickhoff, W.W. (2004). Assessment of high rates of precocious male maturation in a spring Chinook salmon supplementation hatchery program. Transactions of the American Fisheries Society. 133, 98-120.

Larsen, D.A., Beckman, B.R., Strom, C., Parkins, P., Cooper, K.A., Fast, D.E., and Dickhoff, W.W. (submitted). Growth modulation alters the incidence of early male maturation in hatchery reared spring Chinook salmon. Transactions of the American Fisheries Society.

Pearsons, T.N., C.L. Johnson, B.B. James, and G. M. Temple. 2004. Spring Chinook salmon interactions indices and residual/precocial monitoring in the Upper Yakima Basin. Annual Report to the Bonneville Power Administration. Project No. 1995-063-25, Report DOE/BPA-00013756-5.

PAST Metric / Work Element	Value or description

BPA Environmental Compliance	Renewed WDFW and ESA permits for sample collection as required for 2002-2005 collection periods. The Yakima Subbasin contains Steelhead that are listed as threatened under the Endangered Species Act. Each year a catch report for potential take of liste
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Oral Presentations reaching 47 Teachers / 38 Students / 658 scientists (general public): To Yakima Project Review, USFWS, AFS, NW Fish Culture Conference.
Manage and Administer Projects	Conducted planning and coordination efforts in support of project goals including writing annual statements of work (SOW), coordination of sampling efforts for fish collections and quarterly progress reports to COTR. Provide administrative support
Produce Annual Report	Produced Annual Reports DOE/BP-00009556-1 and DOE/BP-00017450-1.
Produce Status Report	Completed quarterly reports to the funding agency with results of the work element milestones on a quarterly basis.
Produce/Submit Scientific Findings Report	Produced FINAL report for BPA contract #199202200. (BPA Report DOE/BP-00005943-1) and three manuscripts listed in narrative section.
Collect/Generate/Validate Field and Lab Data	Conduct major scientific objectives described in project proposal involving data collection, analysis and interpretation.

Goals

In FY 2006 this project will continue to fulfill the four major objectives approved for funding in the original proposal. These objectives include 1) Monitor and compare the precocious male maturation rate of wild and hatchery produced brood year 2005 spring Chinook salmon in the Yakima River at smolt traps during winter and spring migration periods. Objective 2) monitor precocious male maturation rates and developmental physiology of Yakima Hatchery fish during pre-release pathology screening. Objective 3) Completion and publication of results from laboratory scale growth modulation experiment exploring the effects of emergence time and nutritional energy composition on smolt development and precocious male maturation. Objective 4) Assist in design, implementation, and physiological monitoring of year 4 of a 5 year hatchery production scale growth modulation experiment currently being conducted at the Cle Elum Supplementation facility aimed at reducing precocious male maturation rates to a level indistinguishable from wild fish.

During this period the following manuscripts will be published or prepared for publication in an effort to reach a broad distribution of fisheries and resource management professionals at the regional, national and international level.

Publish manuscript:
Larsen, D.A., Beckman, B.R., Strom, C., Parkins, P., Cooper, K.A., Fast, D.E., and Dickhoff, W.W. (submitted). Growth modulation alters the incidence of early male maturation in hatchery reared spring Chinook salmon. Transactions of the American Fisheries Society.

Prepare draft manuscript for peer reviewed publication examining physiological comparison of immature smolts and precociously mature male spring Chinook salmon from studies conducted over three years in the Yakima River basin.

Prepare draft manuscript for peer reviewed publication examining the effect of alteration in emergence time and

dietary lipid content on precocious male maturation rate in spring Chinook salmon.

Prepare draft manuscript for peer reviewed publication examining differing sex ratios among migrating hatchery and wild smolts indicate differing life history strategies among Yakima River spring Chinook salmon.

CURRENT Metric / Work Element	Value or description
BPA Environmental Compliance	Renew WDFW and ESA permits for sample collection as required for 2006-2007 collection periods. Obtain NEPA compliance documentation from BPA for FY 07 SOW
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Present an oral presentations reaching 50 teachers / 50 students / 200 scientists (general public) at the Yakima Program Review and AFS mtg.
Manage and Administer Projects	Conduct planning and coordination efforts in support of project goals including writing annual statements of work (SOW), coordination of sampling efforts for fish collections and quarterly progress reports to COTR. Provide administrative support for all
Produce Annual Report	Produce Annual Report for BPA contract # 200203100 Growth rate modulation in spring Chinook salmon supplementation. U.S. Department of Energy, Bonneville Power Administration
Produce Status Report	Complete quarterly reports to the funding agency with results of the work element milestones on a quarterly basis.
Collect/Generate/Validate Field and Lab Data	Conduct major scientific objectives described in project proposal involving data collection, analysis and interpretation.

2003-001-00 - Manastash Cr Fish Passage/Scre (Capital) WDFW - Olympia

Description: The project will provide fish passage and screening for 5 irrigation diversions and will enhance stream flow which is currently a limiting factor dowstream of these diversions. This project could restore access to approximately 30 miles of good habitat.

Accomplishments

Conceptual designs have been completed for the dams/diversions identified in the project.

Engineering and construction drawings have been completed for one site and nearly so for two others with the expectation of completing construction of all three in fall of 2005.

Engineering is in process on remaining dams/diversions, but progressing slowly due to issues and implications for water rights associated with moving points of diversion, consolidation of diversions and water use efficiency.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Initial environmental compliance work for passage/screening project

Goals

Complete construction of passage and screening facilities at five irrigation diversions

Consolidate selected diversions and facilities where efficiencies can be achieved

CURRENT Metric / Work Element	Value or description
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	Total of 22,678 acre feet (5 diversions)
Is the screen New or a Replacement? (N/R)	New screens (<5 due to consolidation)
Does the screen meet NOAA/FSOC specs? (Y/N)	Yes
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	total of 75.1 cfs
# of miles of habitat accessed (0.1 mi.)	approximately 30 miles
If installing a ladder, does the ladder meet NOAA specifications for attraction flow, pool dimensions, jump height, etc? (Y/N)	yes
Does the structure remove or replace a fish passage barrier? (Y/N)	yes

# of miles of habitat accessed (0.1 mi.)	approximately 30
Was barrier Full or Partial? (F/P)	Partial

2006-004-00 - Wenas Wildlife Area (Expense) WDFW

Accomplishments

In addition to the metrics identified, 28 miles of interior stock fence has been removed from the wildlife area.

PAST Metric / Work Element	Value or description
# of acres of vegetation planted (0.1 ac.)	223 acres of old agricultural fields/degraded shrub-steppe habitat planted with native seed.
# of riparian miles treated (0.01 mi.; count each bank separately)	5 miles of stream-adjacent road decommissioned and seeded with native grass.
# of acres treated (0.1 ac)	3,480 acres of upland habitat and 232 acres of riparian habitat treated with herbicides to control noxious weeds.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Blocked, Scarified/Ripped
# of road miles decommissioned (0.01 mi.)	7 miles; Hanson Pond - 2 mi; OK Corral - 3.5 mi; Black Cyn - 1.5 mi.
Maintain Terrestrial Structure	Maintain 26 miles of existing boundary fence. Maintain 6 miles of interior fence.
# of miles of fence (0.01 mi.)	Installed 6 miles of stock fence to protect shrub steppe restoration projects.
Maintain Vegetation	Maintained 90 acres of shrub steppe seedings through mowing of weeds; Fertilized 235 acres of restored shrub steppe; Sprayed 100 acres of restored shrub steppe with a pre-emergent herbicide.

Goals

CURRENT Metric / Work Element	Value or description
# of acres of vegetation planted (0.1 ac.)	Inter-seed 60 acres of 'native-like' shrub-steppe restoration seedings with Sandberg bluegrass and Wahluk bluebunch wheatgrass to increase habitat diversity.
# of riparian miles treated (0.01 mi.; count each bank separately)	Plant hydrophytic shrubs/cuttings along 0.5 miles of stream.
Maintain Vegetation	Maintain extant enhancements through control of competitive vegetation. Fertilize 150 acres of native seedings. Mow 90 acres of native seeding to control cereal rye.
# of acres treated (0.1 ac)	Control weed and undesirable vegetation on approximately 500 acres within riparian and shrubsteppe habitats using integrated pest management methods.
Maintain Vegetation	Control weed and undesirable vegetation on approximately 600 acres within riparian and shrubsteppe habitats using integrated pest management methods.
Maintain Terrestrial Structure	Maintain 26 miles of boundary fence and 6 miles of interior stock fence.

# of miles of fence (0.01 mi.)	Install 1 miles of stock fence to protect shrub-steppe habitat from off-road use.
Collect/Generate/Validate Field and Lab Data	Monitor for sage grouse presence in areas of suitable habitat.
Operate/Maintain Facility	Maintain office buildings, residence, shop/equipment storage structures, and well(s); includes utility payments.
# of road miles improved, upgraded, or restored	Grade and gravel roads, maintain parking areas, treat weedy areas where necessary.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Blocked and Scarified/Ripped
# of road miles decommissioned (0.01 mi.)	3.5 miles of the Roza Creek road
Manage and Administer Projects	Includes addressing personnel issues, learning new management techniques, answering information requests from BPA, WDFW, and the public, tracking expenditures, maintaining pesticide applicator lecenses/training requirements, etc.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	General public - Conduct a minimum of one Citizen Advisory Group meeting. Presentations/tours with stakeholder groups, schools, and contacts with news media as requested.
Produce Annual Report	Produce annual report.
Produce Status Report	Produce quarterly reports.
Replace/Maintain Instream Structure	Conduct planning and coordination for the replacement of a ford with a bridge in Umtanum Creek (threatened steelhead stream) as well as the removal of gabions 1/4 mile downstream that pose a fish passage problem.
Maintain Terrestrial Structure	Maintain 8 miles of fire breaks along the interface with populated areas to reduce risk of uncontrolled fire.

1998-014-00 - Ocean Survival Of Salmonids (Expense) NOAA Fisheries

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.

Accomplishments

Determined the yearly variation in abundance and distribution of salmon stocks, by ESU, and associated pelagic nekton community in the northern California Current, including the plume for the spring and late summer periods.

Determined the yearly variation in zooplankton food resources in relation to change in physical characteristics of plume and northern California Current marine waters that affects growth and survival of juvenile salmon.

Juvenile salmon distribution is determined by the size and direction of the Columbia River plume. The interaction with pelagic biologic fields (prey and predators) dictates survival success. Juvenile salmon are found to occupy only the shelf break, the extent of habitat moves toward shore as the summer season progresses

Developed and validated a hydrologic model of the Columbia River plume. The model is being used to develop physical metrics of salmon habitat opportunity. This will be coupled to a hydrologic model of the Columbia River estuary which will provide a comprehensive view of the availability of salmon habitat under various natural and anthropogenic modifications in the region from Bonneville Dam through the coastal ocean.

Assessed variation and benefit of enhanced growth in the plume in relation to variation in physical and biological features of the coastal and Columbia River plume environment. The CR plume offers refuge and food resources for smaller juvenile salmon to grow larger before moving to more oceanic habitats out of the plume.

Determined that all ESU's utilize the plume and distribute themselves along the coast differentially. All salmon ESU's appear to go to different places along the coast.

Juvenile salmon growth patterns reflect the extent and quality of good salmon habitat in the plume and along the coast. When ocean conditions are not as good, the extent of quality of habitat is less than when ocean conditions are good. Metrics of ocean conditions are now being developed.

Goals

Through long-term and fine scale observations, describe interannual variations in the distribution, abundance, and performance (health and growth) of juvenile salmon in relation to temporal and spatial characteristics of physical and biological features associated with the Columbia River plume and the surrounding ocean.

Describe, through observations, historical reconstruction, and numerical physical modeling, the temporal and spatial physical features of the Columbia River plume in relation to ocean conditions with the intent of defining and describing physical attributes of salmon habitat.

Examine the relationship between ocean and plume conditions, river flow, and juvenile salmon production using biological models to identify critical relationships between food resources, predator-prey interactions, salmon growth and survival.

Develop and analyze scenarios that describe changes in salmon survival as a function of Columbia River plume characteristics that may result from altered river flows due to climate and human-induced modifications, and/or from changing oceanic conditions. We will use physical and biophysical models of the plume to relate future FCRPS operations and ocean/climate conditions to salmon survival.

2002-076-00 - Protect Lower Columbia Estuary (Expense) US DOE

Accomplishments

Goals

2003-006-00 - Effect Monitor Chinook R Est R (Expense) Sea Resources Inc

Description: This is a project to monitor and evaluate changes in habitat attributes and juvenile salmonid use before and after the Chinook River estuary restoration project.

Accomplishments

The goal of this project is to monitor and evaluate changes in selected habitat attributes, salmonid populations, and estuary habitat use by juvenile salmonids before and after implementation of the Chinook River estuary restoration project. The two years of sampling described in the document - and the third planned for 2005-06 will represent pre-treatment baseline.

PAST Metric / Work Element	Value or description
Mark/Tag Animals	For each year (2) of the project all hatchery reared fall Chinook salmon and coho salmon received adipose fin clips in order to distinguish between natural origin and hatchery origin fish in field sampling work.
Collect/Generate/Validate Field and Lab Data	Project staff operated and maintained two rotary screw traps to monitor migration timing and magnitude. Morphometric data was collected from all salmonids and those > 60mm were PIT tagged.
Collect/Generate/Validate Field and Lab Data	Beach seining sites within the restoration project area were established and sampled at a predetermined annual schedule. Morphometric data was collected and fish > 60mm were PIT tagged.
Submit/Acquire Data	All PIT tag data was uploaded to PTAGIS. Project staff also assisted USFWS staff in the installation and maintenancd of PIT tag antenna sites in the Chinook River.
Collect/Generate/Validate Field and Lab Data	Two water quality datasondes (YSI) were deployed to complement two installed by OHSU. Data collected included salinity, temperature, pressure, and dissolved oxygen - at 15 minute intervals.

Goals

The goal of this project is to monitor and evaluate changes in selected habitat attributes, salmonid populations, and estuary habitat use by juvenile salmonids before and after implementation of the Chinook River estuary restoration project. Specific objectives include: 1) Determine relative abundance and length of residence of both hatchery reared and naturally produced juvenile salmonids in the Chinook River estuary prior to restoration actions; 2) Determine prey utilization by juvenile salmon in the lower Chinook River and estuary prior to restoration actions; 3) Determine prey resource availability in the lower Chinook River and estuary prior to restoration actions; 4) Characterize water quality conditions and tiday dynamics in the lower Chinook River and estuary prior to restoration actions.

CURRENT Metric / Work Element	Value or description
Mark/Tag Animals	All hatchery reared fall Chinook salmon and coho salmon will receive an adipose fin clip. All fall Chinook salmon not receiving a PIT tag will be codedwire tagged.
Collect/Generate/Validate Field and Lab Data	Two rotary screw migrant traps will be operated and maintained to determine juvenile migration timing and magnitude. All juvenile salmon with fork length > 60mm will receive a PIT tag.

Collect/Generate/Validate Field and Lab Data	Juvenile salmon will be captured in a primary tidal channel near the mouth of the Chinook River using a double-winged fyke net. The trap will be deployed twice monthly Apr-Sep and Jan-Mar.
Collect/Generate/Validate Field and Lab Data	A representative subsample of juvenile salmon stomach contents will be sampled (using gastric lavage) from all trapping methods. Frequency will be once per month for 10 months.
Collect/Generate/Validate Field and Lab Data	One waterquality datasonde (YSI) will be deployed in the lower Chinook River to compliment two maintained by OHSU. Parameters measured will include salinity, temperature, pressure, and dissolved oxygen.
Collect/Generate/Validate Field and Lab Data	Species composition and abundance of terrestrial insects will be determined using invertebrate fallout traps in surrounding wetland habitats. Benthic invertebrates will be measured by collecting core samples.
Manage/Maintain Database	Trapping data will be stored and maintained using systems in place from previous study years. All PIT tag data will be uploaded to PTAGIS. Water quality data will be managed using YSI software and MS Access.
Produce Status Report	Quarterly status reports will be submitted to Pisces.
Produce/Submit Scientific Findings Report	A final scientific findings report will be produced that contains information to meet the project goals and objectives.

2003-007-00 - Lwr Col River/Est Eco Monitor (Expense) Lower Columbia River Estuary Partne

Description: Develop protocols, procedures, and indicators for measuring habitat condition, assesss exposure levels to toxic contaminants, develop ecosystem restoration information center for housing and accessing data specific to lower Columbia River and estuary.

Accomplishments

Ecosystem monitoring is a key element of the Estuary Partnership's Comprehensive Conservation and Management Plan and calls for the Partnership and partners to implement long term monitoring to understand conditions in the river and evaluate trends of actions over time. The two main components of the Ecosystem Monitoring Project are: 1) habitat monitoring; and 2) water quality monitoring.

The goal of the Partnership's habitat monitoring program is to provide long-term data to assess the status and trends of aquatic habitats, and to apply these data, to action effectiveness research on estuary habitat restoration. The following are the most significant accomplishment of the past two years.

Habitat Monitoring
2004
1. Completed a draft habitat monitoring plan for the LCRE, approved by ISRP
2. Compiled 40 digital bathymetric datasets to create seemless bathymetric dataset for the lower Columbia River.
3. Partitioned the lower river into 8 hydrogeomorphically unique reaches.

2005
1. Refined the Habitat Monitoring plan for sampling salmonid habitat.
2. Developed a habitat sampling plan for two reaches.
3. Partitioned each reach into complexes.
4. Analyzed each complex for landscape metrics utilizing fragstats.
5. Conducting field sampling on Reaches D and F.

Water Quality
2004
1. Began monthly and seasonal (high flow/low flow) water quality monitoring at 7 different locations along the lower 146 miles LCRE.
2. Began modeling the source, transport and fate of toxins in the LCRE.

2005
1. Continued monthly and seasonal water quality sampling at the 7 different locations.
2. Conducting salmon sampling at the same 7 locations where water quality monitoring took place.

The water quality component has funded fixed monitoring sites where toxic and conventional pollutants have been sampled throughout the year to quantify the amount of contaminants present under different water conditions. Semi-Permeable Membrane Devices, which mimic the bioconcentration of contaminants in the fatty tissues of fish, will be deployed for 30 days. Sites are monitored for conventional parameters; a national suite of currently used pesticides, additional pesticides and pesticide break down products, dissolved trace elements, trace elements transported (sorbed) to suspended sediment, gross alpha and beta emitting radio-chemicals.

Goals

The goal of the Estuary Partnership's habitat status monitoring program is to provide long-term data to assess the status and trends of aquatic habitats and to apply these data, as appropriate, to action effectiveness research on estuary habitat restoration. The Estuary Partnership and its partners are developing and testing monitoring protocols

to assess these habitats. Partners are compiling and collecting information that is helping describe the aquatic habitats and geomorphology of the lower Columbia River. The result will be a habitat and geomorphic classification system and GIS layers that help identify habitat information gaps and formulate habitat based sampling plans.

Other 2006 goals for the habitat monitoring component include:

1. Final Landscape metric analysis will be run on all 8 hydrogeomprphic reaches
2. Post-processing bathymetric data collected
3. Channel metrics will be developed
4. Inclusion of recently flown Lidar into the bathymetric dataset
5. Landscape classification system will be refined and fully automated
6. 2000 Landsat will undergo a revision.

Under the water quality component of this project, 2006 will see:

1. The development of conceptual models to identify contaminant sources, and describe likely modes and routes of transport, potential exposure and uptake of toxicant by listed salmon stocks, and possible effects on survival and productivity, based on existing toxicological information. The conceptual model will; 1) help consolidate existing knowledge of contaminant fate and transport in the LCRE and allow better identification of sources and biotic and abiotic cycling processes that could influence contaminant concentrations; 2) develop hypotheses about exposure patterns and risks in specific ESUs, that can be verified with field monitoring; and 3) allow us to identify critical data gaps that can be addressed by sampling efforts in subsequent years.

2. Coordinated juvenile salmon will sampled near the fixed station monitoring sites. Fish will be sampled for bioaccumulative contaminants (e.g., DDTs, PCBs, OC pesticides) and non-bioaccumulative contaminants (PAHs, estrogenic compounds). This monitoring will help assess the extent to which contaminants may affect juvenile salmon survival and productivity and inform model development.

2003-008-00 - Pres/Restore Col R/Est Willapa (Expense) USFWS

Description: Purchase 626 acres on Crims and Walker Islands and restore tidal emergent marsh and riparian forest habitat by enhancing tidal channels to provide juvenile salmonid rearing/ foraging habitat and to achieve the recovery of the Columbian white-tailed deer.

Accomplishments

2003
-Acquired 473 acres on Crims Island
-USGS completed pre-restoration fish survey

2004
-Environmental Assessment for restoration of 94 acres of tidal marsh and 115 acres of riparian forest was completed.
-Pre-restoration vegetation survey was completed.
-Restoration construction began.
-Acquired 50 year conservation lease of Walker Island.
-Phase 2 of Columbian white-tailed deer (CWTD) reintroduction was completed.
-CWTD and water bird use of habitats at Crims and Walker Islands was monitored.
-Purple loosestrife biocontrol insects were released at 10 sites and plants were hand pulled along 10 miles of route.

2005
-Release biocontrol insects and hand pull invasive plants on 500-700 acres of tidal marsh.
-Complete construction phase of 94 acres of tidal marsh and 115 acres of riparian forest.
-Monitor Columbian white-tailed deer and waterbird use of habitats at Crims an Walker Islands.

PAST Metric / Work Element	Value or description
# of acres treated (0.1 ac)	500-700 acres.
Create, Restore, and/or Enhance Wetland	94 acres of tidal marsh

Goals

Monitoring of Columbian white-tailed deer and waterbird use of restored habitats and a reference site will continue.

Invasive plants will be controlled on 500-700 acres of the estuary on and near Crims and Walker Islands.

Vegetation response to habitat restoration will be monitored.

Salmonid use of the restored tidal marsh will be monitored.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Produce biological assessments for the use of herbicides in weed control to USFWS and NOAA Fisheries and obtain biological opinions.Deliverable: Biological opinions from USFWS and NOAA
Produce Annual Report	Annual report for Bonneville.
Produce Status Report	Produce 3 quarterly report for Bonneville.
# of acres treated (0.1 ac)	500-700

Collect/Generate/Validate Field and Lab Data	Monitor Columbian White-tailed Deer subpopulation status, movements, reproductive success, and habitat use including use of tidal wetlands at Crims and Walker Islands and vicinity. Monitor Waterbird Use of the Restored Tidal Wetland and a reference site
Disseminate Raw & Summary Data	Provide information on weed control activities to the State and the public.

2003-010-00 - Historic Hab Food Web Link Sal (Expense) NOAA Fisheries

Description: Evaluate the role of river flow on habitat opportunities and food web structure for juvenile salmon by comparing historic and current conditions using model simulations and empirically derived food-web linkages.

Accomplishments

Year 3 of this 3-year study begins June 1.

PAST Metric / Work Element	Value or description
Produce Annual Report	Completed annual report for 2003-04.
Develop RM&E Methods and Designs	Techniques developed for reconstructing historic and contemporary estuarine life histories of juvenile salmon from the microchemistry of scales and otoliths
Collect/Generate/Validate Field and Lab Data	digitized and georeferenced 1/3 of historic (1850-1910) hydrographic survey data sheets for the estuary
Manage/Maintain Database	Simulation database developed for 2002 to calibrate 3-D circulation model for evaluating historic change in habitat opportunity for salmon
Analyze/Interpret Data	To assess food-web changes, analyzed C and N isotopic signatures for 50 salmon and 69 organic matter sources from 2003. Processed 2002-03 intestinal parasite samples for salmon habitat-associations & trophic pathways. Analyzed historic tidal records

Goals

Expanded description:

Reconstruct the historic extent of estuarine and tidal floodplain habitats (Columbia River mouth to Bonneville Dam) and historic changes in climate, river flow, and sediment transport. Work in 2006 will complete the historic bathymetric/topographic model for the estuary and extend tidal and habitat change analyses in the upper estuary.

Through simulation modeling evaluate effects of cumulative change in bathymetry and flow on habitat opportunity for juvenile salmon. In 2006 we will link simulated changes in habitat opportunity to historic food web and life history changes (described below).

Evaluate effects of habitat change and flow regulation on historic and contemporary estuarine food webs that support juvenile salmon. In 2006 we will finalize stable isotope analyses of historic and contemporary prey resources and for tissue samples of juvenile salmon of known life history.

Evaluate the implications of historic habitat change for flow management and habitat restoration in the estuary. In 2006 we will use simulation modeling to examine salmonid responses to selected flow management and habitat restoration scenarios.

CURRENT Metric / Work Element	Value or description
Produce Annual Report	Produce annual report
Produce/Submit Scientific Findings Report	Produce/submit scientific reports on effects of estuarine habitat change on salmon and management implications

Collect/Generate/Validate Field and Lab Data	Complete historic bathymetric/topographic model and extend tidal and habitat change analyses in the upper estuary
Analyze/Interpret Data	Finalize stable isotope analyses of prey resources and juvenile salmon. Link changes in habitat opportunity to change in historic food webs and salmon life histories. Use modeling to evaluate salmonid responses to flow and habitat restoration scenarios.

2003-011-00 - Columbia R/Estuary Habitat (Expense) Lower Columbia River Estuary Partne

Description: Establish program to identify and prioritize on-the-ground habitat restoration projects and plan their monitoring and evaluation. Take action on six restoration projects already processed and approved through regional and local workgroups.

Accomplishments

This contract supports the Habitat Restoration Program within the Estuary Partnership and is designed to develop restoration projects, coordinate the many entities from Washington and Oregon involved in habitat restoration, and leverage funds for projects that employ multiple entities and jurisdictions. The success of this program represents an evolution of targeted, on-the-ground restoration strategies, as well as progress towards a coordinated and regionally defined effort to improve the health of the Columbia River system. Directly, the Estuary Partnership allocated BPA funds to support projects that will result in the restoration of 1,921 acres of historic floodplain and the enhancement of 12.8 miles of stream channels. Funds from FY04 and FY05 have leveraged additional funding that has restored a total of 3,100 acres and 14.4 miles of stream channels.

BPA funds from FY04-05 have supported planning and assessments that will improve the selection process and implementation of future projects. In FY 04, BPA funds supported the development of the Scappoose Bay Bottomland Conservation and Restoration Plan, a 9,000 acre assessment of restoration opportunities in Scappoose Bay. The resulting plan identified critical habitats, appraised potential property acquisition opportunities, and prioritized culvert removal sites throughout the watershed. In FY 05, funding has enabled the Estuary Partnership to develop the Strategic Prioritization for Habitat Restoration, a regional planning tool that will determine the most efficient restoration treatments for the areas that will most benefit from them. This tool will provide an ecosystem approach that ensures advancements in project effectiveness and efficiency. In all, the habitat restoration program will use this tool, incorporated with an extensive monitoring campaign and adaptive management, to inform each funding cycle and selection process.

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	2500 General Public
# of stream miles treated (0.01 mi.)	.1
# of structures installed	10
# of acres of vegetation planted (0.1 ac.)	70.5 acres
# of riparian miles treated (0.01 mi.; count each bank separately)	2.2 miles
# of acres treated (0.1 ac)	80 acres
Create, Restore, and/or Enhance Wetland	386 acres of tidal reconnection through dike breaching.
Does the structure remove or replace a fish passage barrier? (Y/N)	Yes
# of miles of habitat accessed (0.1 mi.)	16 miles

Was barrier Full or Partial? (F/P)	Full and partial
# of riparian miles protected (0.01 mi.)	3.5 miles
# of acres of new lease. (0.1 ac.)	405 acres
Start and end dates of lease (mm/dd/yyyy)	Start date 08/31/2004. Owned in perpetuity.

Goals

Isolated or impaired critical habitats continue to need to be restored when significant benefits to fish and wildlife species are attainable. Efforts need to continue to restore tidal swamps, marshes, floodplains, and riparian areas so as to provide additional resting, feeding, breeding, and rearing habitat for focal species (page 2-35 of the Subbasin Plan).
This contract is assessing the estuary and lower mainstem by discrete geographic reaches to aid in the development of restoration and protection priorities. The goal is to protect functioning habitats while also restoring impaired habitats to properly functioning conditions, using a combination of active and passive habitat restoration measures to provide both near- and long-term benefits. This project is designed to maximize the efficiency of habitat restoration activities by concentrating on currently productive areas with significant scope for improvement, adjacent areas of marginal habitat where realistic levels of improvement can restore conditions suitable for fish, and areas where multiple species benefit.

For FY 06, the habitat restoration program will incorporate this strategic approach in developing restoration activities in the Estuary. Since FY06 projects will not be selected until June of 2005, detailed metrics would be without justification. However, based on the continuing emphasis on tidal reconnection and fish passage enhancement within the historic floodplain, our goals for FY06 are to restore 600 acres of historic tidal floodplain and enhance 7 miles of stream habitat by improving fish passage.

At this time, proposals for FY 06 funding indicate ample opportunity to achieve these goals. Estuary Partnership staff anticipate a very competitive project selection process, and expect proposals for FY06 funds to exceed the amount available for restoration funding. Our program will provide resources to project sponsors to align project deliverables with regional restoration goals.

2003-015-00 - Blind Slough Restoration (Expense) CREST

Description: Restoration of tidal exchange between the Columbia River Estuary and Blind Slough in the community of Brownsmead, Oregon. BPA funds will be used to match U.S. Army Corps Section 1135 funding for 25% of the total project costs.

Accomplishments

2004-Breeched dike to install 3 fish friendly tidegates to enhance tidal connectivity to Blind Slough system

2004-Installed 5 culverts in railroad bed to enhance tidal connectivity in Blind Slough system.

Both these activities totaled 5 miles increased connectivity of historical tidal slough channels.

2003-2004-Established a baseline set of data for water quality and fish use totalling 9 sites that will be compared to post-project conditions to track ecological effectiveness of project.

PAST Metric / Work Element	Value or description
# of stream miles treated before realignment (0.1 mi.)	0 miles
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	5 miles

Goals

Goals for 2006 are to continue implementation of activites that enhance reconnection of 7 miles of tidal slough habitat and continue ongoing monitoring to track project effectiveness for improving water quality and fish use. These activities include purchase, mobilization, and installation of 3 culverts in 2 roadbeds making an additional 2 miles of tidal slough habitat available.

Funds will support monitoring activities for the collection, validation, and analysis of water quality and fish use data in 9 sites throughout the system including 2006 construction locations.

CURRENT Metric / Work Element	Value or description
# of stream miles treated before realignment (0.1 mi.)	5 miles
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	2 miles

2006-002-00 - Implementation of the Caspian Tern Management EIS (Exp TBD

Accomplishments

The final EIS was released in January 2005. COE and USFWS will sign the Records of Decision in summer 2005, at which point BPA will adopt the EIS.

Goals

In FY06 we will begin the implementation of the preferred alternative. BPA, COE, and USFWS are currently developing an implementation plan that will determine the division of responsibilities and the implementation timeline. This implementation plan will be completed in the summer/fall of 2005.

2003-013-00 - Grays River Watershed Assess (Expense) Pacific Northwest National Laborator

Description: Conduct a watershed and biological assessment of the Grays River watershed to protect and restore chum spawning habitat

Accomplishments

CY 2003-2005 data collection: chum salmon redd locations; stage and discharge; surface and subsurface substrate samples; landslide locations and channel configuration; channel bathymetry; aerial photography various years.
CY 2003-2005 data analysis: GIS map of chum salmon spawning sites; estimate of chum spawning escapement (2004); completion of geomorphic assessment including sediment yield, landslide maps, and channel change evaluation; hydraulic model set-up (grid network); hydrologic model set-up; selection of habitat assessment sites.
CY 2003-2005 reporting: draft final geomorphic assessment report; progress report (presentation) to CBFWA fall, 2004.

Goals

The overall project goal is to enhance and restore ecological integrity and ecosystem function in Grays River watershed. The specific goal for FY 2006 is to produce a set of recommendations to restore chum salmon spawning habitat. These recommendations will incorporate the results from the watershed, geomorphic, hydrologic, hydraulic, and biologic assessments. The recommended restoration and enhancement efforts developed in this project shall also incorporate local community stakeholder interests and needs.
The goals of the project will be accomplished by completing a set of objectives including (1) locate and map chum and Chinook salmon spawning sites in the Grays River subbasin, (2) use a hydrologic model to estimate discharge through the study sites over a range of landuse alternatives, (3) use hydraulic model to predict depth and velocity at study sites over a range of hydrologic inputs, (4) integrate results from geomorphic, biologic, watershed, hydraulic, and hydrologic assessments into a comprehensive watershed assessment, and (5) complete a final project report that contains the results from the watershed analysis and provides a specific list of recommended restoration options to enhance chum salmon.

1992-009-00 - Yakima Phase Il Screens O&M (Expense) WDFW - Olympia

Description: YSS performs preventative maintenance and operational adjustments 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.

Accomplishments

1993 The WDFW, YSS first became involved with Phase II O&M attending to 5 sites (Gleed, Naches Cowiche, New Cascade, Holmes, Snipes & Allen). Spring startup, routine and emergency maintenance, and record keeping was performed on all sites.
1994 Four sites were added (Kelly-Lowry, Taylor, Congdon) for a total of 8. Spring startup, routine and emergency maintenance, and record keeping was performed on all sites.
1995 Two sites were added (Emerick, Fruitvale) for a total of 10 sites. Spring startup, routine and emergency maintenance, and recordkeeping was performed on all sites.
1996 Five sites were added (Anderson, Brewer, Naches Selah, Stevens, Union Gap) for a total of 15. Spring startup, routine and emergency maintenance, and recordkeeping was performed on all sites.
1997 Four sites were added (Bull, Ellensburg Mill, Lindsey, Clark) for a total of 19. Spring startup, routine and emergency maintenance, and recordkeeping was performed on all sites.
1998 Two sites were added (Old Union, Younger) for a total of 21. Spring startup, routine and emergency maintenance, and record keeping was performed on all sites.
1999 New sites were assigned to the BOR. Spring startup, routine and emergency maintenance, and recordkeeping was performed on all sites.
2000 No new sites were added due to right of way issues. Spring startup, routine and emergency maintenance, and recordkeeping was performed on all sites.
2001 Four new sites will be added (Chapman Nelson, Lewis, Powell LaFortune, Wilson) for a total of 25. Spring startup, routine and emergency maintenance, and recordkeeping was performed on all sites.
2001 Four new sites will be added (Chapman Nelson, Lewis, Powell LaFortune, Wilson) for a total of 25. Spring startup, routine and emergency maintenance, and recordkeeping was performed on all sites.
2002- Added Selah Moxee site
2003- Added Packwood site

PAST Metric / Work Element	Value or description
Operate/Maintain Facility	Operation and Maintenace activities on BPA Phase II Fish Screen facilities provides assurance that these site will continue to proved the protecting to our fisheries resourse that they were design for.

Goals

WDFW,performs preventative and emergency maintenance and operational adjustment on completed Phase II fish screen facilities to assure optimal fish protection performance and to extend facility life, thereby protecting BPA's capital investment.
Target Species Anadromous salmonids (spring and fall chinook, coho, steelhead), as well as resident fish species (bull trout, rainbow trout, whitefish).

1990-044-00 - Coeur D'Alene Reservation Habit (Expense) Coeur D'Alene Tribe

Description: Habitat restoration, purchase critical watershed areas to protect quality habitat, develop an educational outreach program, develop interim tribal harvest opportunities, construct and operate a hatchery, and 5 year monitoring and evaluation program.

Accomplishments

2002: Completed Habitat Protection Plan to identify and prioritize the overall spatial array of habitats needed to protect westslope cutthroat trout populations
2002: Completed Research, Monitoring and Evaluation Plan to document an experimental design to test major hypotheses concerning habitat condition and trout production
2002: Completed geomorphic assessment and restoration prescriptions for 3.2 mile segment of Benewah Creek
2002: Completed comprehensive technical report (1999-2001) and a summary of all implementation and evaluation efforts (1995-2001)
2002: Completed vegetative treatments for 30 acres and 0.78 miles of riparian habitat
2002-2005: Collected data on adfluvial migrants in Benewah and Lake creeks. Sampled fish at 105 index sites in four watersheds to estimate population and distribution of westslope cutthroat trout and non-native brook trout.
2003: Completed power analysis of population estimates for trout from four target watersheds to evaluate and refine monitoring strategies
2003: Completed 2002 annual report
2003: Completed vegetative treatments for 56.8 acres and 2.89 miles of riparian habitat
2003: Constructed 0.47 miles of side channel habitats
2003: Enhanced 22.98 acres of floodplain through addition of large woody debris
2003-2004: Measure physical habitat variables at 20-paired treatment and control sites
2004: Completed 2003 annual report
2004: Removed 671 brook trout from 4.3 miles of Benewah Creek
2004: Completed vegetative treatments for 16.5 acres and 0.78 miles of riparian habitat
2004: Constructed 0.17 miles of side channel habitats
2004: Enhanced 2.3 acres of floodplain through addition of large woody debris
2004: Replaced a partial fish passage barrier to open 2.7 miles of spawning and rearing habitat
2004: Improved 0.1 miles of stream habitat in Benewah Creek by restoring the channel bed to historical elevations
2005: PIT tagged 670 juvenile cutthroat in Lake Creek as of May 19
2005: Prepared draft 2004 annual report
2005: Completed vegetative treatments for 22.5 acres and 1.72 miles of riparian habitat

PAST Metric / Work Element	Value or description
PIT Tags	PIT tagged 670 adfluvial juvenile cutthroat trout in Lake Creek as of May 19, 2005.
Remove or Relocate Predaceous Animals	Removed 671 brook trout from 4.3 miles of Benewah Creek.
Produce Design and/or Specifications	Completed geomorphic assessment and restoration prescriptions for 3.2 mile segment of Benewah Creek.
Produce Annual Report	Completed comprehensive technical report (1999-2001) and a summary of all implementation and evaluation efforts (1995-2001).
Produce Annual Report	Completed 2002 technical report.
Produce Annual Report	Completed 2003 technical report.
Produce Annual Report	Prepared draft 2004 technical report.

Produce Plan	Completed Habitat Protection Plan to identify and prioritize the overall spatial array of habitats needed to protect westslope cutthroat trout populations.
Produce Plan	Completed Research, Monitoring and Evaluation Plan to document an experimental design to test major hypotheses concerning habitat condition and trout production.
Produce/Submit Scientific Findings Report	Completed power analysis of population estimates for trout from four target watersheds to evaluate and refine monitoring strategies.
# of acres of vegetation planted (0.1 ac.)	Treated 125.8 acres of floodplain habitats between 2002-2005.
# of riparian miles treated (0.01 mi.; count each bank separately)	Treated 6.17 miles of riparian habitat between 2002-2005.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	Constructed 0.64 miles of off-channel habitat between 2003-2004.
Enhance Floodplain	Enhanced 25.3 acres of floodplain through addition of large woody debris to increase roughness, dissipate energy and reduce local scour to retard headward migration at active avulsion channels.
Does the structure remove or replace a fish passage barrier? (Y/N)	Y
# of miles of habitat accessed (0.1 mi.)	Replaced a partial fish passage barrier to open 2.7 miles of spawning and rearing habitat.
Was barrier Full or Partial? (F/P)	P
# of stream miles treated before realignment (0.1 mi.)	0.1
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	Improved 0.1 miles of stream habitat in Benewah Creek by restoring the channel bed to historical elevations.
Start and end lat/long of treated reach (0.1")	Start: 116°46'55.57"W 47°14'6.63"NEnd: 116°47'0.89"W 47°14'3.67"N
Collect/Generate/Validate Field and Lab Data	Collected annual migration data on adfluvial trout in Benewah and Lake creeks.
Install Fish Trap/Monitoring Weir	Installed and maintained migration traps in Lake and Benewah creeks from 2002 through 2005.
Collect/Generate/Validate Field and Lab Data	Completed annual electroshocking surveys at 105 index sites in four watersheds to estimate population and distribution of westslope cutthroat trout and non-native brook trout (2002-2004).
Collect/Generate/Validate Field and Lab Data	Measured physical habitat variables at 20-paired treatment and control sites (2003 and 2004).

# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Published quarterly newsletter; provided educational programs to local schools; sponsored summer interships; and provided consultation to university extension programs. Between 2002-2005 reached a total of 80 teachers/1,800 students/35,200 general public
Coordination	Between 2002-2005: conducted quarterly meetings with an Inter-Agency working group; coordinated annual meetings with watershed working groups in Lake and Benewah creeks; participated in Tribal IDT processes.
Analyze/Interpret Data	Analyzed data from 2004 brook trout removal in Benewah Creek. Estimated potential future production removed from system using age structure, gender ratio, age-at-maturity, % mature fish, gonad maturation, # of eggs, and gonadosomatic index.
Analyze/Interpret Data	Calculated annual population estimates at 105 sites. Estimated density of cutthroat/brook trout at each sites and generated population estimates at the watershed scale with 95% CI. Completed power analysis to estimate change in populations.
Analyze/Interpret Data	Analyzed annual migration data from Lake and Benewah creeks. Developed descriptive statistics of length and weight at age. Began developing recruits per spawner relationships based on age compostition from scale analysis.
Manage/Maintain Database	Managed, maintained and QA/QCed MS Excel and GIS databases for migrating fish, population estimates, physical habitat measures, temperature and discharge.
BPA Environmental Compliance	Completed and submited all documents to BPA to ensure NEPA/ESA compliance for all projects

Goals

Planned FY 2006 efforts will focus on Benewah Creek. The Tribe will begin the second year of construction on an extensive channel restoration project that will ultimately treat 3.2 miles of entrenched mainstem habitats. The design approach restores the channel bed to historical elevations by filling the channel at specific locations and restoring channel length by reactivating historical alignments. The project will reconnect the channel with its former floodplain to increase the frequency and duration of overbank flooding and increase dynamic and long-term surface and ground water storage. A total of 0.41 miles of stream channel will be treated during FY 2006. Vegetation treatments will be implemented on 15 acres of riparian habitats and 0.82 miles of streambank associated with the channel construction.

Monitoring of biological, physical and chemical variables will be undertaken as in past years to increase the statistical power of datasets. Resistance board weir traps will be used to monitor adfluvial migrants in Lake and Benewah creeks. Up to 2,000 juvenile cutthroat trout will be PIT tagged from these sites as to determine juvenile-to-adult survival and to refine spawner:recruit ratios. Population estimates will be generated at 105 index sites in 4 target watersheds to measure population responses to restoration activities at the watershed scale. Physical habitat variables will be measured at 20 stratified sites to determine the inter-annual variability of measured parameters and to statistically test for differences between treatment and control sites. Water temperature, air temperature and discharge will be measured at sites along the longitudinal gradient of target streams to produce high resolution data that can be used to compare treatment and control sites, map thermal refugia, and detect changes over time.

Brook trout will be removed for the third consecutive year from tributaries in Benewah Creek. Potential production

removed from the system will be estimated using age structure, gender ratio, age-at-maturity, and gonadosomatic indices.

CURRENT Metric / Work Element	Value or description
# of stream miles treated before realignment (0.1 mi.)	0.29 mi. pre-treatment
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	0.41 mi. post-treatment. Project will restore incised channel to historical elevations by filling the channel at specific locations, and restoring channel length by reactivating historical alignments.
Start and end lat/long of treated reach (0.1")	Start: 116°45'35.56"W 47°15'6.04"N End: 116°45'46.72"W 47°14'57.84"N
BPA Environmental Compliance	Project proponent will submit required documents to BPA to ensure NEPA/ESA compliance for all project sites.
Coordination	Proponent will coordinate and participate in a variety of forums with local stakeholders and managers to disseminate information about restoration efforts.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	# reached: Teachers 30/Students 600/General public 10,000. Proponent will publish quarterly newsletter; Update program web page; provide educational programs to schools; Sponsor summer interships; and provide consultation to university extension programs
Identify and Select Projects	Proponent will engage in advanced scoping of restoration projects with landowners in four target watersheds. Deliverables will include descriptions of proposed projects, characterization of site conditions, and recommendations for restoration/enhancement.
# of acres of vegetation planted (0.1 ac.)	15 acres treated. Proponent will plant 6,000 conifers to restore native riparian forest plant communities within the 100-year floodplain of target tributaries for purposes of erosion control, roughness recruitment, and shading.
# of riparian miles treated (0.01 mi.; count each bank separately)	0.82 miles treated. Proponent will plant 36,000 native herbaceous and deciduous plants to treat all disturbed areas associated with channel construction.
Remove or Relocate Predaceous Animals	Proponent will remove non-native brook trout from Benewah Creek and tributaries. Deliverables will include # brook trout removed and the potential production removed based on age structure, gender ratio, % mature population, # eggs, gonadosomatic index.
Install Fish Trap/Monitoring Weir	Proponent will install resistance board weir traps in Lake and Benewah creeks to capture westslope cutthroat trout spawners and juvenile outmigrants.
PIT Tags	Purchase 2,000 SGL PIT tags for adfluvial westslope cutthroat trout survival study.
Collect/Generate/Validate Field and Lab Data	PIT tag 2,000 juvenile, downstream migrating adfluvial westslope cutthroat trout in Lake and Benewah creeks.

Collect/Generate/Validate Field and Lab Data	Use backpack electroshocking techniques at 105 sites in four watersheds to estimate population and distribution of westslope cutthroat trout and non-native brook trout. Deliverables include number, length frequency and age-at-length for all trout.
Manage/Maintain Database	Proponent will maintain salmonid abundance database for target stream population estimates, migrant trapping and PIT tag data. Biological data will be entered, validated, and stored in either MS Excel or MS Access databases.
Analyze/Interpret Data	Proponent will analyze data generated from salmonid trapping and PIT tagging studies in Lake and Benewah creeks. Deliverables will include estimated # of juveniles/adult by age class and life history and # and age structure of PIT tagged fish.
Analyze/Interpret Data	Proponent will analyze data to estimate salmonid population and production at the watershed scale for target streams, longitudinal distribution of salmonids, and update power analysis to detect changes in populations at the watershed scale.
Collect/Generate/Validate Field and Lab Data	Proponent will measure physical habitat at a total of 20 paired treatment and control sites.
Collect/Generate/Validate Field and Lab Data	Proponent will measure water and air temperature and discharge at sites along the longitudinal gradient of target streams. Deliverables will be high resolution temporal and spatial data for temperature and discharge.
Collect/Generate/Validate Field and Lab Data	Proponent will measure fine-scale thermal differences in restored and control reaches in Benewah Creek using the integration of surveying methods and a rapid-response temperature sensor.
Manage/Maintain Database	Maintain physical habitat, temperature and discharge databases. Deliverables are entered, QA/QCed, and stored data in either MS Excel or MS Access format.
Analyze/Interpret Data	Analyze data from physical habitat sampling at treatment/control sites, discharge and temperature monitoring at mainstem and tributary sites, and thermal heterogeneity sampling in Benewah Creek. Deliverables are statistical analysis of measured variables.
Manage and Administer Projects	Provide oversight of the project as needed. Respond to BPA as requested, providing financial, contractual, and administrative documents.
Produce Status Report	Submit quarterly status reports indicating the status by milestone.
Produce Annual Report	Produce annaul report summarizing work accomplishments and data summary and analysis.

1990-044-00 - Coeur D'Alene Reservation Habit (Expense) Coeur D'Alene Tribe

Description: Habitat restoration, purchase critical watershed areas to protect quality habitat, develop an educational outreach program, develop interim tribal harvest opportunities, construct and operate a hatchery, and 5 year monitoring and evaluation program.

Accomplishments

Goals

1990-044-01 - Lake Creek Land Acquisition (Expense) Coeur D'Alene Tribe

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.

Accomplishments

The Lake Creek Land Acquisition and Enhancement Project was initial instigated to purchase a single specific property in the Lake Creek Watershed on the Coeur d'Alene Indian Reservation. Efforts to complete that acquision failed due to unrealistic expectations of landowner.

A Scope of Work was contracted on August 14th, 2001. The failed attempts to subsume this Project into the Coeur d'Alene Wetlands Project according to the Coeur d'Alene Tribe's intent, the Northwest Power and Conservation Council recommendations, and BPA agreement resulted in a series of contract extensions since beginning in August of 2002. No cost contract extensions for the Project were approved on 10/3/02, 2/26/03, 8/7/03, 9/19/03, and 12/23/03. Scopes of Work that combined the Lake Creek and Coeur d'Alene Wetlands budgets were submitted on 11/10/04, and 11/17/04, but no contract to finalize that combination was returned to the Coeur d'Alene Tribe. In 2002, a portion of the funds originally allocated to purchase the originally intended property were used to purchase the 147.6 acre Windy Bay Property, which is downstream and adjoining the original property, at the mouth of Lake Creek and at the head of Windy Bay on the east shore of Coeur d'Alene Lake.

In FY2004, a habitat evaluation and HEP were conducted on the Windy Bay Property. The habitat evaluation and HEP were released for review in November of 2004. A management plan is being completed in the current (2005) Fiscal Year.

PAST Metric / Work Element	Value or description
Maintain Vegetation	Herbicides are being applied to the trails and roads within the Windy Bay Property to control noxious weeds.
Conduct Pre-Acquisition Activities	All preacquisition activities were completed for the Windy Bay Property during FY.
Remove Debris	Debris left by prior owners was removed from the Windy Bay Property during FY2004.
Prepare HEP Report	HEP report crediting BPA with 66.91 HUs for acquistion and management of the Windy Bay Porperty was released for review in November of 2004.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Public comment was, and is being, saught for the management plan for the Windy Bay Property through newspaper publications and public meetins. (General Public - 40,000)
Manage and Administer Projects	Scopes of work have been prepared during previous years and Project accounting has been closely monitored and reported.
Produce Plan	The Management Plan for the Windy Bay Property is currently under development and will be completed by the close of FY2005.
Produce Annual Report	An Annual Report was completed for FY2004.
Produce Status Report	Quarterly reports were completed for FY2004, and the first 2 quarters of 2005.

Goals

FY2006 goals will include Operation and Maintenance activities on the 146.7 acre Windy Bay Property in

accordance with the approved management plan that will be completed in FY2005. O&M activities will include supression of noxious weeds, maintenance of gaits and signs, and surveys for trespass. Steps will also be taken to plan for actions that will minimize the spread of wildfire on the property.

Acquisitions that could complete the mitigation for which the Lake Creek project was intended could be completed in FY2006. All pre-acquisition activities as well as property purchase are anticipated.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	A completed NEPA Checklist will be provided the Bonneville Power Administration for target properties.
Maintain Terrestrial Structure	Fences and gaits on acquired property will be maintained.
Maintain Vegetation	Noxious weeds will be controled on mitigation property.
Investigate Trespass	Surveys of mitigation property will be conducted to ensure property is not damaged by trespass.
Prepare HEP Report	Minimum HUs for targeted land acquisition will be assigned.
Conduct Pre-Acquisition Activities	All pre-acquisition activities for targeted properties will be completed.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Notify public of management actions through publications in Tribal Natural Resource Newsletter (General Public - 1,200)Involve local public education classes in ecology and land management issues associated with mitigation properties (Students - 30)
Manage and Administer Projects	Conduct daily Project operations of finance management, subcontractor oversite and produce a scope of work for succeeding year(s).
Produce Annual Report	Produce an annual report for FY2005.
Produce Status Report	Produce quarterly reports of activities and finacial accounting for FY2006.

1990-044-01 - Lake Creek Land Acquisition (Expense) Coeur D'Alene Tribe

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.

Accomplishments

Goals

1991-046-00 - Spokane Tribal (Galbr Sprgs) H (Expense) Spokane Tribe Of Indians

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

Accomplishments

2003 - released 261,321 kokanee yearlings, 300,400 kokanee fry, 595,721 rainbow trout yearlings: inter-progam transferred for subsequent release 229,269 kokanee yearlings and 564,947 rainbow trout fingerlings. Incubated 1,684,738 kokanee and 843,477 rainbow trout eggs; 1,625,760 kokanee and 806,436 rainbow trout fry produced. Marked 100% kokanee before release; 0% rainbow. Constructed new well and water conveyance system.
2004 - released 366,915 kokanee yearlings and 1,147,350 kokanee fingerlings; inter-program transferred for subsequent release 14,400 kokanee fingerlings, 217,845 kokanee yearlings and 537,783 rainbow trout fingerlings. Incubated 1,993,760 kokanee and 639,144 rainbow trout eggs; 1,888,896 kokanee and 522,526 rainbow trout fry produced. 100% kokanee marked before release, 0% rainbow trout marked before release. Installed predator netting, shade barries, baffles and painted buildings.

2005 - incubated 4.3 million kokanee and 640,272 rainbow trout eggs; 3,962,799 kokanee fry and 552,075 rainbow trout fry produced. Releases and production ongoing.

Goals

Obtain and incubate up to 4.5 million kokanee eggs and 645,000 rainbow trout eggs. Produce 3 million kokanee fry and 500,000 kokanee yearlings 100% marked for release, 500,000 rainbow trout fingerlings for subsequent release in 2007 100% marked (contingent upon funding), aquire new fish transport truck (contingent upon funding) and construct additional on-site residence (contingent upon funding).

1994-043-00 - Lake Roosevelt Data Collection (Expense) Spokane Tribe Of Indians

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

Accomplishments

1. Worked cooperatively with co-managers and/or project partners (Washington Department of Fish & Wildlife, Colville Confederated Tribes and Eastern Washington University) to assess artificial production program and to provide recommendations to the Lake Roosevelt Hatchery Coordination Team.
2. We are currently developing a Lake Roosevelt Fisheries Guiding Document to detail management strategies over the next five years. This will be a living document that will be updated and changed as new data and information becomes available.
3. Continued sampling Lake Roosevelt to monitor population dynamics and changes to native and hatchery-reared fish communities and lower trophic levels. Assessment tools include annual electroshocking/gill netting through three seasons, year round, reservoir-wide creel, annual kokanee spawning assessment, hydroacoustic monitoring, predator indexing protocols and water quality, productivity and benthic sampling.
4. Floy tagged 20,000-60,000 rainbow and redband trout to assess diploid non-native stock, triploid non-native stock and diploid native stock (redband trout) performance in Lake Roosevelt.
5. Compiled data in in-house data bases that are maintained for project use, eventual inclusion into the JSAP database and calibration of the Lake Roosevelt Ecology Model.
6. The Lake Roosevelt Ecology Model is currently under development by Dr. Scott Wells of Portland State University. The bioenergetics portion is also being developed by Dr. David Beauchamp for inclusion into the Lake Roosevelt Ecology Model by Dr. Wells and Dr. Beauchamp. Expected completion date is summer of 2006.
7. Completed 1999-2002 Annual Reports (reviewed by WDFW, STOI, CCT and EWU). The 2003 Report is in progress and will be submitted to BPA following a review period. The final 2004 annual report will be reviewed and submitted to BPA prior to our 2006 fiscal year.

Goals

1. Continue to work cooperatively with co-managers/project partners (Washington Department of Fish and Wildlife, Colville Confederated Tribes and Eastern Washington University) to assess artificial production program and to provide recommendations to the Lake Roosevelt Hatchery Coordination Team.
2. The Lake Roosevelt Management Team will continue to meet quarterly to assess progress and potential changes to the Lake Roosevelt Fisheries Guiding Document based on the most current monitoring results/information.
3. We plan to continue sampling Lake Roosevelt to monitor population dynamics and changes to native and hatchery-reared fish communities and lower trophic levels. Assessment tools will likely be similar to current methodologies in order to maintain data consistency (annual electroshocking/gill netting through three seasons, year round, reservoir-wide creel, annual kokanee spawning assessment, hydroacoustic monitoring, predator indexing protocols and water quality, productivity and benthic sampling).
4. We plan to Floy tag 60,000 rainbow and redband trout to compare a diploid non-native stock, triploid non-native stock and a diploid native stock (redband trout) to assess stock performance in Lake Roosevelt.
5. Continue to compile data in in-house data bases that are maintained for project use, eventual inclusion into the JSAP database and calibration of the Lake Roosevelt Ecology Model.
6. The Lake Roosevelt Ecology Model should be completed in the summer of 2006. We plan to use the model to examine hydro-operation effects and to assess the outcome of management decisions on the lower trophic levels and fishery of Lake Roosevelt.
7. We plan to finalize the 2005 Annual Report and submit it to BPA following final report review and revision.

1995-009-00 - Lake Roosevelt Rainbow Trout N (Expense) Lake Roosevelt Development Associa

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

Accomplishments

2002—constructed 8 new net pens of mylar plastic
2002—constructed 4 new net pens of PVC
2002—attached donated winch to new dock
2003—poured 4 cement anchors of 1100 pounds each
2003—constructed 8 net pens of mtlar plastic
2003—attached donated 4 ton winches to docks
2004—constructed net pens frame for strobe light experiment at Grand Coulee Dam
2004—decked 250’ of dock
2004—re-anchored Hall Creek pens
The annual work schedule includes rearing and releasing 500,000 rainbow—50% diploid, 50% triploid. These fish are transferred to the net pens from the Spokane Tribal Hatchery and the WDFW Hatchery at Sherman Creek in September, October, and November. They are released in late May. Volunteers assist in work project activity and feeding the fish.

Goals

Fall/spring—rear and release 500,000 net pen rainbow
Fall 2005—build 3 new net pen docks at Kettle Falls
Fall 2005—re-anchor net pen dock at Seven Bays
Fall 2005—transfer 500,000 fingerling rainbow to 45 net pens at 7 sites
Fall 2005—replace damaged net pen at Keller Ferry
Winter 2006—feed fish, maintain pens, re-locate docks
Spring 2006—release fish
Spring 2006—improve methods of pulling nets, washing nets
Spring/Summer 2006—recruit volunteers, repair and maintain pens and docks
2006—improve methods of operation to deal with draw down issues as they relate to anchoring and/or re-locating pens to more secure locations

1995-027-00 - Lake Roosevelt Sturgeon (Expense) Spokane Tribe Of Indians

Description: Three year base-line assessment of white sturgeon in Lake Roosevelt from Grand Coulee Dam to the Canadian border, and the Spokane River arm. Special emphasis will be placed on defining recruitment potential and factors currently limiting recruitment.

Accomplishments

1. Worked cooperatively with a transboundary white sturgeon recovery team to develop the Upper Columbia White Sturgeon Recovery Plan.
2. Raised and released approximately 6000 juvenile white sturgeon into the U.S. portion of the upper Columbia River and Lake Roosevelt (100% PIT tagged). Fish/eggs were transferred from the Kootenay Sturgeon Hatchery, British Columbia. Beginning in 2005, we will begin to collect US broodstock to raise an additional 2 families of sturgeon through the US interim white sturgeon conservation aquaculture program. We plan to release up to 8000 white sturgeon through the 2005 fiscal year.
3. Began sampling white sturgeon populations to address critical uncertainties identified by the recovery plan, including adult population status, juvenile population status, spawning duration, frequency and success, predation effects on white sturgeon eggs, larvae and juveniles and telemetry to assess sturgeon movement and whether one or more populations exist in the upper Columbia River/Lake Roosevelt area.
4. Developed the Upper Columbia River White Sturgeon webpage (a joint US-Canadian project) to facilitate public outreach and education. In 2005 we plan to continue public outreach and education with activities directed towards children and to complete development of a US based white sturgeon pamphlet to distribute throughout the Lake Roosevelt area.
5. Completed 2003 Annual Report (reviewed by WDFW, STOI and both US and Canadian members of the Upper Columbia White Sturgeon Recovery Initiative). The 2004 Annual Report is in progress and will be reviewed with the same level of scrutiny.

Goals

1. We plan to continue to work cooperatively with the Upper Columbia White Sturgeon Recovery Initiative, a transboundary white sturgeon recovery team, to monitor progress toward white sturgeon recovery in the upper Columbia and to address changes needed to the Upper Columbia White Sturgeon Recovery Plan through time.
2. We plan to raise up to 8000 juvenile white sturgeon, which will be 100% PIT tagged and released into the U.S. portion of the upper Columbia River and Lake Roosevelt. Fish/eggs will be collected from the US portion of the transboundary reach (or transferred from the Kootenay Sturgeon Hatchery, British Columbia as necessary depending on spawner population size).
3. We will continue to sample white sturgeon populations to address critical uncertainties identified by the recovery plan. Parameters to be assessed include adult population status, juvenile population status, spawning duration, frequency and success, predation effects on white sturgeon, telemetry to assess sturgeon movement and whether one or more populations exist in the upper Columbia River/Lake Roosevelt area. We hope to move towards examining these parameters throughout Lake Roosevelt as well as identifying hydrology and habitat needs and limitations for the entire Upper Columbia/Lake Roosevelt population. Current funding limitations make this unlikely.
4. Maintain the Upper Columbia River White Sturgeon webpage (a joint US-Canadian project) and continue to facilitate public outreach and education.
5. 2004 Annual Report (reviewed by WDFW, STOI and both US and Canadian members of the Upper Columbia White Sturgeon Recovery Initiative) will be complete and the 2005 Annual Report should be in progress and will undergo the same review process.

2001-033-00 - Hangman Watershed Coeur D'Alen (Capital) Coeur d'Alene Tribe

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.

Accomplishments

During FY2005, the Coeur d'Alene Tribe and the Bonneville Power Administration are completing purchase of 1,383 acres in the Hangman Watershed as mitigation for Albeni Falls construction and inundation losses.

A complete discussion of Project accomplishments including meterics are submitted in the Response for project 2001-033-00: Coeur d'Alene – Hangman Watershed O&M (Expense FY2006 form)

Goals

No goals for FY2006 will be accomplished that will require Capitol funding.

2001-033-00 - Coeur d' Alene - Hangman Watershed O&M (Expense) Coeur D'Alene Tribe

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.

Accomplishments

FY2002 was devoted to initial investigations into Hangman Watershed conditions. Those investigations culminated in a Habitat Prioritization Plan that provided a focus for where restoration activities in the Upper Hangman Watershed would provide the greatest benefit for fish and wildlife. The area ascribed as being of the greatest potential benifit to fish and wildlife became the priority area for acquistion and restoration activities.

In FY2003 a Second Iteration of the Habitat Prioritization Plan was completed that included areas of the Upper Hangman Watershed where data was previously unavailable. Three properties totaling approximately 1,383.7 acres were selected from the proirity areas for acquisition. Preacquisiton activities including appraisals, title reports, hazardous materials surveyes and cultural resource surveys were completed on those targeted properties. Unfortunitly a moritorium on land purchases for mitigation prevented completion of these acquisitions.

In mid-FY2004, the moritorium on acquistions was lifted and negotiations for acquisition of the target properties were reinitated. Unfortunitly, complications on each of the target property acquisitions prevented closing the purchases in FY2004.

Also in 2004, the Coeur d'Alene Tribe submitted a proposal to EPA and was awarded a Wetland Program Grant that will be devoted to accomplishing research into the hydrology of the Upper Hangman Watershed.

Acquitions for the targeted properties are being completed in the current fiscal year (FY2005). Two of the three properties have been acquired and the third is scheduled to be acquired in June. Initial evaluations and HEPs of the acquired properties are also being completed.

PAST Metric / Work Element	Value or description
Land Audit	In FY2003, completed a hazardous materials/Phase 1 assessment for each of three properties to be acquired for Wildlife Mitigation by the Bonneville Power Administration.
Start and end dates of easement (mm/dd/yyyy)	Easement start date on 908 of the 1,383.7 acres was 12/15/2004, and it will continue in perpetuity.
# of acres of new purchase/easement (0.1 ac.)	1,383.7 acres of new purchase/easement by the end of FY2005
Start date of the purchase (mm/dd/yyyy)	12/15/2005
# of riparian miles protected (0.01 mi.)	2.78 miles
Produce Environmental Compliance Documentation	In FY2004, completed NEPA Checklists for the three properties in the Upper Hangman Watershed that will be included in the BPA Wildlife Mitigation Program. Checklist included maps, Section 7 Consultations, public involvement, archaeological surveys.

# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Since Project initiation, 14 articles published in Coeur d'Alene Tribe Natural Resources publication for general public. Publications reach approximately 1,200 people. Also, taught 240 public school students per year during annual watershed workshop.
Identify and Select Projects	In FY2002, produced a Habitat Prioritization Plan, which was an assessment and prioritization of properties in the Upper Hangman Watershed according to their potential as fish and wildlife habitat. In FY2003 a Second Iteration was produced.
Coordination	Continualy closely coordinated with Coeur d'Alene Fisheries Hangman Project (BPA Project # 2001-032-00). Coordinated watershed assessments and identification of natural resource issues in the Hangman Watershed with the Spokane Co. Conservation Dist..
Produce Annual Report	Annual reports submitted for Hangman Restoration Project (BPA Project # 2001-033-00) for 2002, 2003, and 2004.
Produce Status Report	Produced all quarterly reports for the Hangman Restoration Project (BPA Project #2001-033-00) during FY2002, FY2003, and FY2004. Produced reports for the first two quarters of FY2005.
Prepare HEP Report	HEPs on approximately 1,383.7 acres will be completed prior to the close of FY2005.
Conduct Pre-Acquisition Activities	In FY2003, completed all preacquisition activities including, appraisals, title searches, legal descriptions, boundary surveys, hazardous materials assessments, and assigned minimum habitat units on 3 propeties in the Upper Hangman Watershed.
Develop RM&E Methods and Designs	In FY2003, produced a Draft Monitoring and Evaluation Plan for the Hangman Restoration Project to assist in establishing monitoring and evaluation techniques that assess specific properties (project scale) and landscape (watershed scale) change over time.

Goals

In FY2006, the Hangman Restoration Project will complete the management plan during October, November and December of 2005 for 1,383.7 acres in the Upper Hangman Watershed that were acquired as mitigation for Albeni Falls Losses.

A least minimum of restoration activities will begin once the management plan is written. Restoration that will be needed no matter the choice of management alternative includes: removal of dense undergrowth in ponderosa pine stand to prevent the spread of wildfire and incourage wetland/riparian plant community development, thinning of ponderosa pine stand to approximate open woodland conditions, stabilization of 0.5 kilometers of stream bank, noxious weed eradication, initiation of camas wetland restoration, and planting of deciduous shrub/forest communities in riparian zones.

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Publish articles in the Coeur d'Alene Tribe's Natural Resource publication that is printed for approximately 1,200 local residents to provide information on BPA funded projects.
Coordination	Coordinate with the Coeur d'Alene Tribe's Hangman Fisheries Project to maximize dual benefits to fish and wildlife on BPA mitigation projects. Coordinate with regional entities (eg. UCUT, State of Idaho) in implementing Subbasin Plans.
Manage and Administer Projects	Manage restoration efforts, complete quarterly and annual progress reports, complete financial reporting, draft Scope of Work for succeeding year(s).
Produce Plan	Complete management plan for a total of 1,383.7 acres, which includes three contiguous properties purchased in FY2005.
Produce Annual Report	Produce annual report for FY2005.
Produce Status Report	Produce quarterly reports for FY2006
# of features	Construct and place 5 woodduck nest boxes on mitigation properties.
# of acres of vegetation planted (0.1 ac.)	100 acres of wetland/riparian habitat will be planted with native vegetation.
# of riparian miles treated (0.01 mi.; count each bank separately)	0.31 mile
# of acres treated (0.1 ac)	692.8 acres will be cropped using conservation tillage techniques.
# of acres treated (0.1 ac)	110.0 acrs will be chemically treated to eliminate noxious weeds. Undergrowth will be thinned from 45.0 acres of pine forest to prevent the spread of wildfire and allow for a change in understory plant communities.
Create, Restore, and/or Enhance Wetland	Enhance/restore 45.7 acres of camas wetland along Hangman Creek.
Maintain Terrestrial Structure	Fence and gate placement and maintenance on 1,383.7 acres of mitigation lands in the Upper Hangman Watershed.
Maintain Vegetation	Control and removal of noxious weeds on approximately 110 acres of the 1,383,7 acres of wildlife mitigation lands.
Investigate Trespass	Quarterly surveys of acquired 1,383.7 acres will be conducted to determin if damaging trespass is occuring.
Remove Debris	Abandoned and delapodated structures on the acquired mitigation properties will be removed.

2002-045-00 - Coeur D'Alene Fish Habitat Acq (Capital) Coeur d'Alene Tribe

Description: This project intends to protect wetland/riparian habitats within the Coeur d'Alene Subbasin through management rights acquisition and restore, enhance and maintain those habitat for the benefit of native fish and wildlife in perpetuity.

Accomplishments

This Project has never been contracted and funded, although funding levels have been recommended at $2,156,151, $2,321,500, $6,000,000, $6,000,000, and $6,000,000 for fiscal years 2002 through 2006.

Goals

The FY2006 goals and anticipated accomplishments center on identifying and acquiring 1,000 acres of habitat that will benefit the native fish and wildlife in the Coeur d'Alene Subbasin.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	A NEPA Checklist for targeted properties will be completed in FY2006.
Conduct Pre-Acquisition Activities	All pre-acquisition activities will be completed on target properties in FY2006.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Public comment will be saught on acquistions through publications in local newspapers and landowner contacts (General Public - 10,000).
Manage and Administer Projects	Subcontractors will be monitored for quality and timely production of deliverables, future scopes of work will be prepared, and financial accounting will be reported according to BPA standards.
Produce Status Report	Quarterly reports will be submitted according to BPA standards.

1991-060-00 - Pend Oreille Wetlands Acquisit (Expense) Kalispel Tribe Of Indians

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.

Accomplishments

The two properties (600 acres) known as the "Flying Goose Ranch" have been part of the widlife mitigation program since 1992. These two projects have been protected and restored, providinh a minimum of 1200 HUs to BPA for losses incurred due to the construction and innundation of Albeni Falls Dam. HU benefits are determined every 5 to 10 years by conducting Habitat Evaluation Procedures.

Goals

This is an O&M project and will maintain a minimum of 1200 HUs toward mitigating losses at Albeni Falls Dam.

1992-061-00 - Albeni Falls Wildlife Mitigati (Capital) IDFG

Description: Protect, enhance, and maintain important wetland and riparian wildlife habitat in the Lake Pend vicinity as on-going mitigation for construction and operation impacts associated with the Albeni Falls hydroelectric project.

Accomplishments

Added 3,241 acres and 1,517 HUs since 2001.

Goals

1992-061-00 - Albeni Falls Wildlife Mitigati (Expense) IDFG

Description: Protect, enhance, and maintain important wetland and riparian wildlife habitat in the Lake Pend vicinity as on-going mitigation for construction and operation impacts associated with the Albeni Falls hydroelectric project.

Accomplishments

Added 3,241 acres and 1,517 HUs since 2001.

Goals

1994-047-00 - Lake Pend Oreille Kokanee Miti (Expense) IDFG

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 fish declines including predation and competition.

Accomplishments

2003- reviewed bull trout and kokanee status with USACE, USFWS, NOAA, and BPA. Decided Lake Pend Oreille could be drawn down to low pool elevation to allow wave action to clean and re-sort gravels along the shoreline. Full draw down produced an average of $4.5 million in electric power revenues. Drawdown of 2003-04 created a minimum of 271,000 square feet of new shoreline gravel available for kokanee spawning in future years. Kokanee and Mysis shrimp populations estimates were made. Research into hydroacoustic methods to make predator (bull trout, rainbow trout, and lake trout)estimates was begun. Kokanee survival rates from egg to fry were made to determine effects of lake level changes. Survival over the winter of 2002-03 was the highest on record at 9.8%. Survival of older kokanee was calculated and shows high predation levels.

2004- Coordinated with federal agencies on lake level and decided to hold Lake Pend Oreille higher at the 2055' elevation during the winter of 2004-05. This created a minimum of 272,000 sq. ft. of additional spawning area. Estimated the egg to fry survival of kokanee over the winter of 2003-04, which was a full drawdown year. Survival dropped to 2.0%.
Monitored shrimp population and documented declines.
Monitored water quality and nutrients.
Worked on method to monitor predators with hydroacoustics. Tracking shows rainbow trout are shallow in mid-summer.
Conducted kokanee spawner counts.
Evaluated the use of large trap nets in an attempt to control lake trout.
Marked (thermal brand) all hatchery produced kokanee for later identification.
Core sampled substrate in kokanee spawning areas to determine quality and related it to lake level management.
Built artificial spawning cribs in the lake and monitored their use by kokanee (very little use).

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	2003-04 Project was found to meet NEPA compliance.
Enhance Floodplain	Drawdown in the winter of 2003-04 created more than 271,000 additional sq. ft. of kokanee spawning area that would be usable when lake is held higher.
Manage and Administer Projects	Project accomplished all of its field tasks and stayed within budget.
Produce Plan	During 2003 and 2004 meetings were held with Federal agencies to plan present and future draw downs of the lake.
Produce Annual Report	Annual reports for 2003 and 2004 were written, and edited by three reviewers. Both are pending final editing and signitures.
Produce Status Report	Quarterly reports were written every 3 months during 2003 and 2004. Copies were sent to our COTR and placed on the Department's web site.
Collect/Generate/Validate Field and Lab Data	During 2003 and 2004 we estimated: the kokanee population, egg-to-fry survival rates, shrimp abundance, density of predatory fish,monitored habitat use,and estimated quality of spawning areas.

Analyze/Interpret Data	Field data collected in 2003 and 2004 was analyzed and related to lake level changes produced by the Albeni Falls Dam.
Mark/Tag Animals	Our project verified that all hatchery kokanee had been marked with thermal bands that were coded onto their otoliths.

Goals

(Goals in example are really tasks, I'll assume that is what you want.)
Goal- to improve the Lake Pend Oreille ecosystem to benefit fish and wildlife while balancing with benefits of flood control and power production.
A. Develop a lake level management plan as specified in USFWS Biological Opinion for Bull Trout.
B. Conduct mid-water trawling for kokanee population estimates.
c. Mark all hatchery produced kokanee fry.
D. Conduct hydroacoustic survey on entire lake.
E. Trawl lake with small mesh fry net to estimate wild kokanee fry abundance.
F. Conduct kokanee spawner counts along shoreline and tributary streams.
G. Core sample shoreline spawning areas.
H. Monitor limnological factors.
I. Evaluate hatchery kokanee survival and potential impacts to wild kokanee.
J. Conduct hydroacoustic survey for rainbow trout.
K. Analyze population data and relate to lake level management.
L. Write quarterly and annual reports on project findings.
M. Electofish Pend Oreille River to sample warm water fish population.
N. Backcalculate ages of warm water fish and relate to operation of Albeni Falls Dam.
The goals of the above work is to protect native species, restore impacted fisheries, and improve riparian (shoreline) habitat around the lake.

CURRENT Metric / Work Element	Value or description
BPA Environmental Compliance	Discuss compliance of SOW with BPA.
Produce Plan	Assist Federal and State agencies with the development of a lake level management plan for Lake Pend Oreille. A flow chart will be developed to guide future lake level decisions and a meeting held to review annual data.
Collect/Generate/Validate Field and Lab Data	Conduct midwater trawling, hydroacoustic surveys, fry trawling and kokanee spawner counts to assess kokanee population.
Mark/Tag Animals	Insure that all hatchery produced kokanee (generally 5-15 million fry) have their otoliths cold-branded while in the hatchery. Otoliths will be sectioned and examined under a subcontract with a Washington otolith lab.
Analyze/Interpret Data	We will analyze kokanee population data collected by field sampling to determine affect of lake level changes and predation. Survival rates of hatchery and wild fish will be calculated.

Enhance Floodplain	About 100 miles of shoreline will be affected by winter lake level changes. Changes will enhance spawning conditions in hundreds of thousands of square feet of potential spawning beds. Spawning areas will be core sampled to document substrate quality.
Collect/Generate/Validate Field and Lab Data	Monitor Biotic and Abiotic Variables- water chemistry, zooplankton, and Mysis shrimp will be monitored to determine their influence on the kokanee population.
Analyze/Interpret Data	Improve Hatchery Stocking Program for Kokanee- research methods to improve the survival of hatchery produced kokanee. Survival rates of hatchery and wild kokanee will be compared to determine relative fitness of hatchery produced fish.
Produce Annual Report	Produce an annual report describing the findings of the previous year. Report will be edited by three biologist and their comments included.
Disseminate Raw & Summary Data	Project findings will be presented at a professional meeting or workshop. Quarterly reports will be provided to BPA.
Develop RM&E Methods and Designs	Attempt to develop a hydroacoustic technique to estimate the population of large predator fish in the pelagic waters of Lake Pend Oreille.
Analyze/Interpret Data	Attempt to define a balance point between predators and the kokanee prey base in Lake Pend Oreille. Kokanee production, yield, biomass, survival rates will be examined to determine predator impact on kokanee.
Analyze/Interpret Data	A model of the lake trout population will continue to be refined and used to show possible management scenarios to reduce predation of lake trout on kokanee, and reduce impact of lake trout on bull trout.
Collect/Generate/Validate Field and Lab Data	25 miles of the Pend Oreille River will be sampled to assess the effects of changes at Albeni Falls Dam on the warm water fish community. Fish will be collected by electrofishing, gillnetting,and/or haul seines, and aged to relate to water year.
Manage and Administer Projects	Oversee research projects on the Pend Oreille River and Lake Pend Oreille.
Produce Status Report	Produce 4 quarterly reports on project activities.
Manage and Administer Projects	Over see project activities, billing, budgets, personnel, and fieldwork.

1995-001-00 - Kalispel Tribe Resident Fish P (Expense) Kalispel Tribe Of Indians

Description: Assess trout habitat of the tributaries to the Pend Oreille and implement recommendations for enhancement. Provide bass habitat in the mainstem of the Pend Oreille and supplement the population.

Accomplishments

PAST Metric / Work Element	Value or description
Remove or Relocate Non-predaceous Animals	2002 - 2,941 brook trout removed from upper West Branch LeClerc Creek watershed.2003 - 2,523 brook trout removed from upper West Branch LeClerc Creek watershed.2004 - 1,374 brook trout removed from upper West Branch LeClerc Creek watershed.
Maintain Terrestrial Structure	2002 - Maintain barbed wire riparian exclosures at three sites.2003 - Maintain barbed wire riparian exclosures at three sites.2004 - Maintain barbed wire riparian exclosures at three sites.
Replace/Maintain Instream Structure	2002 - maintain 92 instream structures installed from 1996 to 1998.2003 - maintain 92 instream structures installed from 1996 to 1998.2004 - maintain 92 instream structures installed from 1996 to 1998.
Produce Inventory or Assessment	2002 - Fish and habitat assessments in 60 Km of stream.2003 - Fish and habitat assessments in 43 Km of stream.2004 - Fish and habitat assessments in 30 Km of stream.
Produce Design and/or Specifications	2004 - collect survey data a produce restoration design for 2005 instream structure installation.
Produce Annual Report	2002 - produce annual report for FY 2001.2003 - produce annual report for FY 2002.2004 - produce annual report for FY 2003.
Collect/Generate/Validate Field and Lab Data	2002 - Electrofish to monitor largemouth bass enhancement.2003 - Electrofish to monitor largemouth bass enhancement.2004 - Electrofish to monitor largemouth bass enhancement.

Goals

CURRENT Metric / Work Element	Value or description
Remove or Relocate Non-predaceous Animals	Electrofishing brook trout removal in 10 Km of stream in upper West Branch LeClerc Creek watershed.
# of stream miles treated (0.01 mi.)	0.75 mile of stream treated in East Branch LeClerc Creek
# of structures installed	12 to 15 LWD structures to be installed.
Start and end lat/long of treated reach (0.1")	Exact location to be determined in summer '05.
Maintain Terrestrial Structure	Maintain three barbed wire riparian exclosures in spring/summer '06.

Replace/Maintain Instream Structure	Maintain 104 instream structures constructed from 1996 to 2005; spring/summer '06.
Produce Inventory or Assessment	Complete 26 Km of fish and habitat assessments in East River watershed.
Produce Design and/or Specifications	Survey stream channels and design enhancement project for FY 2007.
Produce Annual Report	Produce annual report for FY '06.
Collect/Generate/Validate Field and Lab Data	Electrofish to monitor largemouth bass habitat enhancement; Fall 2005 and spring 2006.

1990-018-00 - Rainbow Tr Hab/Pass Impr Prog (Expense) Colville Confederated Tribes

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.

Accomplishments

-Replaced passage barrier culverts one on Bridge Creek, three on Thirty Mile Creek, and one on Roaring Creek.
-Horizontal and Habitat surveys on Bridge Creek, Thirty Mile Creek, Twentythree Mile Creek, and Gold Creek.
-Electroshock populations estimates for trout on Bridge, Thirty Mile, and Twentythree Mile Creeks
-Adult Adfluvial rainbow trout migratory trapping on Bridge, Bear, N. and S. Nanamkin, Thirty Mile, Twentythree Mile, Thirteen Mile, Seventeen Mile, Anderson, Gold, Iron, Louie Creeks and West Fork of the San Poil River.
-Adult and juvenile out migrant trapping on all stream as adult migratory traps above.
-Fall Kokanee trapping in the San Poil River
-Removed passage barriers on San Poil River at Bear and Seventeen Mile Creek
-Electroshocked and collected fin clips for DNA anaylsis on Bridge, Barnaby, Hall, Grizzly, Stall, Johns Mountain, Sitdown, Gibson, Wells, Lost, Cook Beaverdam, Jack, Thirty Mile, and Brush Creeks for determination of redband populations location.
-Defined and mapped all reaches and barriers (natural and man made in San Poil EDT Test Section.
-Inventory and GPS all culverts in San Poil EDT Test Section.
-Determined slope of each reach and consiolidated all water quality and habitat data on EDT Test Section
-Redd surveys on Louie, Iron, N. & S. Nanamkin, West Fork, Thirty Mile, Bridge, Bear, Roaring, Gold and West Fork
-Redd caps on Bridge, Thirty Mile, and S. Nanamkin Creeks to monitor emerging fry
-Created GIS shapefiles of all data and GPS data
-Monitored temperatures in approximately 15-20 streams each year
-Built and deployed temperature depth array in Lake Roosevelt in 2003 through 2005
-Operated screw trap in Gold Creek during 2003 through 2005
-Wrote grants and obtained EPA funding of ~$150,000 to complete work on ground for sediment reduction and improve water quality.
-Documented status and photographed all barriers along Hwy 21 (San Poil Hwy) and worked with WADOT to prioitize barrier replacement

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Conducted public meetings,outreach with newsletters and newspaper articles and obtained all NEPA compliance documentation for Bridge Creek Phase I and Phase II, Roaring Creek, Thirty Mile Creek, Lime Creek, and Louie Creek stream and habita improvements.
# of stream miles treated (0.01 mi.)	3550 feet
# of structures installed	83
Start and end lat/long of treated reach (0.1")	Start 48 13' 44.65
# of stream miles treated before realignment (0.1 mi.)	Create new channel 1320 feet
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	decommissioned by ripping, recontouring and blocking off section of Lime Creek Road that was too close to stream

# of road miles decommissioned (0.01 mi.)	1.6 miles of road
Start and end lat/long of each treated road segment (0.1")	Start 48 08' 54.73N/118 44' 17.41
# of road miles improved, upgraded, or restored	Relocated .25 mile of road on Louie Creek that was too close to stream. Improved .25 miles of Elbow Creek Road and put in beaver resistant culvert to protect road from flooding and maintain connection in a series of wetlands.
# of miles of fence (0.01 mi.)	1.75 miiles of fence was installed around Bridge Creek Phase I & II
# of acres of vegetation planted (0.1 ac.)	Seeded 14 acres on Bridge Creek Phase I and II of native grasses and sedges and planted 1800 trees Pine, dogwood, alder, aspen, willow, and cottonwood.
# of riparian miles treated (0.01 mi.; count each bank separately)	Treated .92 miles of steam on Bridge Creek
# of acres treated (0.1 ac)	Upland waterbars, and riparian streambank stabilization on 28 acres in Twenty-Five Mile, Deadhorse, South Nanamkin, Upper Bridge, Thirty Mile, Seventeen Mile, Jack, Manila, and Gold Creeks.
Replace/Maintain Instream Structure	Installed erosion control armouring on 300 feet of the San Poil River just north of South Nanamkin that was actively eroding and adding sediment to the river.
# of miles of habitat accessed (0.1 mi.)	Completed one diversion in South Nanamkin Creek to increase instream flows in late summer and protecting 2.6 miles of habitat.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Located pure stock of redband rainbow in Bridge Creek, collected broodstock and sent to hatchery for rearing to replace all stocking with native redband instead of non-native coastal rainbows.
# of fish by origin (ad-clip/non-clip)	Collected 100 redband from 4 locations on Bridge Creek for broodstock not marked
Install Fish Trap/Monitoring Weir	Adult Adfluvial rainbow trout migratory trapping on Bridge, Bear, N. and S. Nanamkin, Thirty Mile, Twentythree Mile, Thirteen Mile, Seventeen Mile, Anderson, Gold, Iron, Louie Creeks and West Fork of the San Poil River. Trapped in six streams each year.

Goals

The 2005 budget (for use in FY 2006) was intended for post-implementation monitoring of habitat improvements in Bridge Creek. No implementation of habitat/passage improvements was planned for this year and money was not funded to support implementation of any improvements. Funding of approximately $100,000 in EPA 319 money has been obtained for water quality and sediment reduction projects for 2006
-Monitor Habitat Improvements
-Monitor increased use by adfluvial rainbow trout of Habitat/Passage Improvements
-Monitor use by adfluvial rainbow trout in San Poil tributaries
-Monitor Land Uses in San Poil and reduce impacts to fisheries from proposed land uses

-Coordinate and prioitize removal of passage barriers in San Poil along highway 21
-Monitor Steam temperatures, flow regimes, and sediment levels in San Poil Sub-basin
-Monitor temperatures with depth array in Lake Roosevelt.
-Coordinate monitoring, land uses, and improvements in upper basin above Reservation boundary line with San Poil Sub-basin Managers
-Monitor fall kokanee spawning use in San Poil
-Monitor total dissolved gas and water quality issues in Lake Roosevelt and Upper Columbia
-Locate isolated populations of redband rainbow trout in tributaries of San Poil, Upper Columbia and Rufus Woods sub-basins and collect samples for DNA analysis
-Produce inventory assessment of barriers in Upper Columbia Sub-basin
-Produce inventory assessment of barriers in Rufus Woods Sub-basin
-Baseline horizontal and habitat survey of West Fork San Poil River
-GPS and/or digitize all information into GIS shapefiles
-Prepare SOW for nutrient addition project
-Prepare SOW for enhancing water retention in upper tributiaries of San Poil using relocated beaver project
Prepare SOW for long-term monitoring of San Poil project
Prepare SOW for assessing current habitat and status in Rufus Woods sub-basin project
Prepare SOW for assessing current species and their habitat use in Rufus Woods Sub-basin project

1990-018-00 - Rainbow Tr Hab/Pass Impr Prog (Expense) Colville Confederated Tribes

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.

Accomplishments

Goals

1992-048-00 - Hellsgate Big Game Winter Rang (Expense) Colville Confederated Tribes

Description: Protect, enhance, manage and evaluate wildlife habitats and species for partial mitigation for losses to wildlife resulting from Grand Coulee and Chief Joseph Dams.

Accomplishments

The Washington Agreement allowed the CCT to begin mitigating for hydropower losses by acquiring lands and funding the Hellsgate Big Game Winter Range Wildlife Mitigation Project (Hellsgate Project). Lands were acquired and managed under this project. It is the Tribes project to address wildlife mitigation and when lands are acquired this is the project that manages them. This project is currently managing 43,932 acres for the protection, restoration and enhancement of wildlife species and habitats to mitigate hydropower impacts from original construction and inundations.

The CCT intends to continue this project and include additional lands until full mitigation is complete as well as continue O&M on those lands for the life of those projects with reasonable funding from BPA.

The following metrics are including within this portion of the narrative:

2,691 acres of Conifer Forest habitat protected and will be enhanced for species using this cover type such as woodpeckers,elk, blue grouse, owls, amphibians and reptiles.

2,201 acres of Conifer Woodland habitat protected and will be enhanced for mule deer, bear, Lewis woodpecker, and other species using this cover type.

851 acres of Riparian/Shrub/Forest habitat protected and will be enhanced for obligate species such as amphibians, reptiles, neo-tropical and resident birds, small mammals, bats, mink and beaver.

599 acres of Rockland haabitat protected and will be enhanced for species such as bobcat, mule deer, sage and sharp-tailed grouse, and small mammals using this cover type.

60 acres of Shoreline habitat protected along the Columbia River for species utilizing this cover type such as waterfowl and wadding birds, reptiles and amphibians, and small mammals.

Maintain and monitor photo points to document vegetation changes on selected sites. Monitor and evaluate management activities for the above species utilizing protected lands.

PAST Metric / Work Element	Value or description
# of features	9,084 acres of Shrub-steppe habitat protected and managed for shrub-steppe obligates with Mule Deer, Sharp-tailed and Sage grouse the main management species for this cover type.
# of miles of fence (0.01 mi.)	10 miles of replacement fencing each year (40 miles since 2001). Installed 2 cattle guards and acquired 10 more to be installed over the next two years.
# of acres treated (0.1 ac)	2,360 acres of Agricultural habitat protected that will be converted back to grassland or shrub-steppe habitats (currently 600 acres enrolled in CRP) from its current stat of abandoned cropland/pasture.
Maintain Vegetation	7,655 acres of Grassland habitat protected and will be maintained for wildlife using this cover type such as sharp-tailed grouse.

Conduct Pre-Acquisition Activities	35,820 Habitat units Lost from Grand Coulee and Chief Joseph Dams14,708 Habitat units gained on 25,501 acres
Remove or Relocate Non-predaceous Animals	Weekly field checks throughout the grazing season to remove trespass livestock.

Goals

To fully mitigate for original construction and inundation losses from Grand Coulee and Chief Joseph Dams. This project will continue to protect, restore and enhance lands acquired for mitigation until fully mitigated. Full mitigation will occur when the losses are nullified by wildlife habitat gains through acquisition and restoration efforts. Currently we are 2/3 complete and expect to continue until done. Funding for continued O&M will be determined and carreid out through this project. Management activities for FY 06 are given in the metrics section.

A few of the metrics are outlined in narrative form within this portion, and are as follows:

Monitor species and habitats for utilization and change.

Complete site-specific management plan for acquired lands.

Submit required reports on management activities.

Acquire more lands to complete mitigation obligations.

Survey new lands using HEP for baseline credits.

Assess species and habitats on new lands.

Administer project and order materials and supplies.

CURRENT Metric / Work Element	Value or description
# of miles of fence (0.01 mi.)	Maintain boundary fences on all mitigation properties. Replace 10 miles new fence each year to replace worn out post and wire. Construct new fence on new lands were needed. Install 5 cattle guards to replace gates.
Maintain Vegetation	Conduct noxious weed control on at least 600 acres.
Remove or Relocate Non-predaceous Animals	Remove trespass livestock and close gates and/or repair access points.

1991-062-00 - Blue Cr Winter Range (Capital) Spokane Tribe Of Indians

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.

Accomplishments

2001 No acquisitions or preliminary work was conducted, since a MOA was not in place.

2002 MOA was completed.
CONDUCT PRE-ACQUISITION ACTIVITIES: Began conducting pre-acquisition work.

2003 Due to BPA financial crisis all land acquisition activities were placed on hold.

2004 CONDUCT PRE-ACQUISITION ACTIVITIES: Completed all work needed to purchase 6 tracts of land.
LAND PURCHASE: 1316 acres of land purchased as partial wildlife mitigation for C&I Losses for Grand Coulee Dam.

2005 CONDUCT PRE-ACQUISITION ACTIVITIES: Conducted or working on the work needed to purchase up to 26 tracts of land.
LAND PURCHASE: 148.59 acres purchased to date with the potential for an additional 1200-2185 acres being acquired by the end of FY05 as partial wildlife mitigation for C&I Losses for Grand Coulee Dam.

Goals

Goals for FY06 will be to continue with acquisition of wildlife mitigation projects in the attempt to complete C&I Losses at Grand Coulee Dam for the Spokane Tribe if additional funds are available. The Tribe could acquire approximately 4,500 acres of land for wildlife, which could meet the goals of the project.

CONDUCT PRE-ACQUISITION ACTIVITIES: Continue with work needed to purchase all lands identified in FY05.

LAND PURCHASE: Attempt to purchase enough property to complete Wildlife Mitigation for C&I Losses at Grand Coulee Dam.

1991-062-00 - Blue Creek Winter Range (Expense) Spokane Tribe Of Indians

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.

Accomplishments

In FY04: 456 minimum HU's, 1316.3 acres for $1,573,909

In FY05: 149 acres for $146,000. Potential for 1,199 acres for approximately $1,600,000, but it appears this will not be completed by the end of the FY05 and will have to be rescheduled into FY06.

In FY06: The total HU's available from Grande Coulee for the Spokan Tribe are approximately 7,079. Current HU's acquired are approximately 3,500 to 4,000 (depending on final HU's from FY04 purchases). If the current list of lands were purchased, this may account for approximately +1,000 HU's. This still leaves a balance of plus of minus 2,000 HU's to be acquired. If the above list is completed early in FY06, there is still the potential for considerable land purchases, thus the need for the $90,000 in additional expense funds for pre-acquistion funds.

Goals

Up to Plus or minus 2,000 HU's of wildlife credits for Grande Coulee Dam wildlife mitigation.

1995-011-00 - Chief Joseph Kokanee Enhanceme (Expense) Colville Confederated Tribes

Description: This is a stock assessment project, specifically to determine the stock status, strength, genetics, and local fishery contribution by natural production kokanee. High entrainment rates are suspected through Grand Coulee Dam. An hydroacoustic assessment

Accomplishments

Past Accomplishments.
· Conducted single beam acoustic monitoring at 14/24 turbine intakes at Grand Coulee Dam that determined that entrainment is severe.
· Determined that entrainment may be the greatest threat to the success of the BPA funded Lake Roosevelt hatchery program.
· Identified the third power plant as entraining the majority of fish (85%)
· Determined that the probable species of entrained fish were kokanee and rainbow trout followed by walleye and small mouth bass.
· Determined that the highest rate of entrainment occurred during daytime power peaking operations.
·Conducted sonic tagging work indicating that unidentified entrainment rates are occurring at the Grand Coulee Pumping/generating station
· Conducted annual adult kokanee spawning recruitment enumeration studies that indicated that the status of wild origin kokanee is tenuous at best.
· Conducted DNA genetic analysis to determine basic genetic blueprint of blocked area kokanee stocks.
· Determined that at a minimum 6 distinct kokanee stocks exist within the blocked area.
· Determined that strobe light technology has the potential to reduce entrainment at the third power plant of Grand Coulee Dam.
· Purchased a single 4 light strobe array for installation at a single turbine intake.
· Assisted in developing kokanee management actvities on Lake Roosevelt to allow reintroduction of a more appropriate locally adapted kokanee stock into Big Sheep Creek.
· Coordinated Lake Roosevelt fishery managers access to small family owned hydropower facility to facilitate fingerling kokanee planting.
· Fenced a total of 1200 feet of riparian habitat on the Nespelem River to protect spawning habitat from cattle grazing and reduce siltation and water temperatures.

Goals

wild origin, naturally producing kokanee in the blocked area.
Following the fy 2005 preliminary strobe light deployment we expect to have sufficient data to indicate the success in using strobe lights as a deterrent to fish entrainment at Grand Coulee Dam. We anticipate that subsequent project work related to strobe lights will entail strobe light deployment at all six third power plant turbine intakes and an initial assessment of entrainment at the Grand Coulee Pumping/Generating Station. Summer 2005 work will include a twice-weekly gill net assessment of species composition near the light array.
Additional project work will involve continuing monitoring of adult spawner recruitment, completion of the genetic blueprint work and initiation of an adult brood stock program, a juvenile kokanee supplementation program or both. We are currently developing an RFP for an HGMP for the blocked area and are moving toward a limited artifical production capability. This project in cooperation with the Lake Roosevelt monitoring program and the BPA funded kokanee hatcheries has assisted in reintroducing a locally adapted kokanee stock into an upper reservoir stream. We anticipate that this effort will lead to increased sport and subsistence fishing, while providing a potential egg source to help support the current hatchery program. Finally, our assistance to the Rainbow trout habitat improvement project will have increased available spawning and rearing habitat for both kokanee and rainbow trout in the San Poil sub-basin.

2001-032-00 - Coeur D'Alene Fisheries Enhanc (Expense) Coeur D'Alene Tribe

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

Accomplishments

1. Water Quality
a. Continuous temp monitoring at 24 sites (2003-05)
b. Monthly water sampling at 11 primary stations
i. Discharge, 2002- 2005. Weekly stage readings taken to support Instream Flow study (2003-04)
ii. TSS and Turbidity (2002-05)
iii. D.O., pH, conductivity, and temp using hydrolabs (2002–05)
iv. Analysis of TKN, Nitrate, Nitrite, Total Phosphorus, Orthophosphate, Nutrients, Alkalinity (monthly 2002-03), and in exclusively August 2004-05)
c. Periodic water sampling was done at 29 secondary stations in June, August, and during high flow events using same parameters as monthly schedule.
d. Continuous stage readings at 3 locations (2004-05)
e. Maintain water quality database and analysis of data
2. Rosgen Channel Type Delineation, Level 1, at 75 reaches (2003)
3. Rosgen Channel Type Delineation, Level 2, at 10 locations (2004-05)
4. Fish Sampling (2002-05) Sampling was done at 75 Rosgen locations (2003-05)
a. Migration trapping at four tributary locations using upstream and downstream traps (2003-05). An upstream trap has been constructed for the mainstem of Hangman Creek (2005).
b. Distribution and population estimates using electoshockers, 2002
c. Scales used to age fish (2002-2005)
d. Genetic samples taken 2003-2004, analysis completed by Washington Dept. Fish & Wildlife in 2005
5. 75 Macroinvertebrate samples taken and analysis completed in Spring 2005
6. IFIM study to provide a Temp model and physical habitat model relating to Redband Trout showing changes with various flow regimes. Data collection (2003-2004). Models and report (2005)
7. Monitored forest road maintenance, fish passage, and forestry practices (2003-05) involving approximately 450 miles of road in the watershed
8. Public Outreach activities including a Quarterly Watershed Group meeting, sponsoring and participation in various school events (500 students/yr), as well as contribution of articles to the Watershed Wrap (2000 copies circulated) describing goals and accomplishments of project
9. Submission of quarterly progress reports, budget reports, and annual reports
10. Coordination within the Coeur d'Alene Tribe, as well as other agencies and Tribes involved in the Columbia Basin
11. Long-term monitoring plan developed after priority areas identified
12. LWD placement (Increase Instream Habitat Complexity) in 0.1 miles of stream in Indian Cr (2005)
13. Vegetation planted in 4 locations to treat 3.0 miles of stream (2005)
14. Assisted in the creation of 9 GIS layers showing vegetation types, densities and heights (2005)

Goals

Continue important long-term data sets necessary to determine effectiveness of individual projects in improving habitat and numbers for local redband rainbow trout.

1. WATER QUALITY
a. Cont. temp monitoring at 24 sites
b. Cont. air temperature at 3 locations
c. Monthly water sampling at 11 primary stations
i. Discharge
ii. TSS and Turbidity

iii. D.O., pH, conductivity, and temp
iv. Analysis of TKN, Nitrate, Nitrite, Total Phosphorus, Orthophosphate, Nutrients, Alkalinity (Aug.)
d. Periodic water sampling at 29 secondary stations in June, August, and during high flow events sampling discharge, D.O., pH, conductivity, TSS, and tubidity
e. Continuous stage readings at 6 locations
f. Maintain water quality database and analysis of data
2. Rosgen Channel Type Delineation, Level 2 (5 sites/yr)
3. Fish Sampling: Sampling will be done within priority area using a subset of the original 75 Rosgen reaches
a. Upstream and downstream migration traps (4 tributaries), and a resistence board weir on the mainstem of Hangman Creek
b. Distribution and population estimates (38 sites)
c. Scales used to age fish, lengths and weights recorded
d. Participate in the writing of a peer reviewed article summarizing genetic findings in Hangman Creek
4. Study hydrologic processes with our sister project BPA 2001-033-00, using Hardin-Davis's IFIM study and new GIS vegetation layers created in 2005. The goal is to estimate the necessary restoration effort needed to provide adequate instream flows for Redband trout
5. Monitor forest road maintenance, fish passage, and forestry practices
6. Continue Public Outreach activities with watershed awareness meetings, school events, and support to ongoing efforts associated with contributing articles to the Fisheries Program WATERSHED WRAP, in order to raise the consciousness of the local landowners to the potential benefits arising from participation with the project.
7. Submission of quarterly progress reports, budget reports, and annual reports
8. Coordination within the Coeur d'Alene Tribe, as well as other agencies and Tribes involved in the Columbia Basin
9. Identify and select new restoration projects
10. Produce designs for new restoration projects
11. Obtain permits and other NEPA documentation for all projects
12. Complete important habitat restoration projects in order to improve conditions for survival of the sensitive redband rainbow trout.
a. 0.2 miles of stream will be treated to restore natural sinuosity, realign and reconnect with perched water table. Latitude 47° 6' 10", Longitude 116°48' 15"
b. 1.0 miles of fence installed to exclude cattle from stream.
c. Vegetation planted at 3 locations along 3.0 miles of streambank

CURRENT Metric / Work Element	Value or description
# of riparian miles treated (0.01 mi.; count each bank separately)	3.0 miles treated at two separate locations. Location A is vegetation planting after a fence is installed to exclude cattle. Location B is to revegetate after channel is realigned and connected to perched water table.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	0.2 miles of stream channel treated to return natural sinuosity and connection to a perched water table.
# of miles of fence (0.01 mi.)	1.0 miles of fence installed to exclude cattle from stream banks.

1985-038-00 - Colville Hatchery (Expense) Colville Confederated Tribes

Description: Produce 22,679 kg (50,000 lbs) 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.

Accomplishments

In 2002, we began marking hatchery production and triploiding all non-native production. Diligent efforts have been undertaken in establishing a native redd band broodstock.

Our education and outreach impacts approximately 1,000 individuals within the local education system and community activites hosted throughout the area.

Baseline surveys of all reservation lakes was completed in 2004. In 2005 efforts are being undertaken to survey reservation lakes to document management changes.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	NEPA supplemental analysis has been produced.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Local and regional information exchange has occurred each year.
Coordination	Planning and coordination with other projects has taken place each year.
Manage and Administer Projects	The project has been administered and all deliverables have been met.
Produce Annual Report	Annual reports have been produced and delivered to BPA.
Produce Status Report	Status reporting has been verbal and through contact with COTR.
Production: # fish released from program, by life stage and species	Eastern Brook Trout 400,000@25/lb.Lahontan Cutthroat 65,000@25/lb.Westslope Cutthroat 25,000@25/lb.Coastal Rainbow Triploid 100,000@5/lb.Redband Rainbow 60,000@5/lb. (will increase)
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Resident fish substitution.
Maintain Fish Health	Monthly fish health monitoring of production at Bridgeport Tribal Hatchery has been taking place.
Maintain Hatchery	Maintainance of building, grounds, and equipment at Bridgeport Tribal Hatchery has been ongoing.
Collect/Generate/Validate Field and Lab Data	Roving and voluntary creel of all reservation waters stocked has been ongoing.
Mark/Tag Animals	Apipose clip and elastomer tag all hatchery production has occurred since 2002.

Goals

In 2006 we should have 50% of our production converted to redd band rainbows and reduce our reliance on outside egg sources. Lakes and streams will continued to be monitored for wild/hatchery fish interactions and management changes will be documented.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Produce supplemental NEPA analysis.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Local and regional information exchange will occur .
Coordination	Planning and coordination with other projects will be maintained.
Manage and Administer Projects	The project will be administered and the deliverables will be met.
Produce Annual Report	Annual report will be delivered within 30 days of contract completion.
Produce Status Report	Monthly reporting to BPA will be done via Pisces.
Production: # fish released from program, by life stage and species	A minimum of 50,000 lbs of production will be maintained and the Rainbow production will continue to change over to Redbands.
Maintain Fish Health	Fish health will be monitored and recorded.
Maintain Hatchery	Bridgeport Tribal Hatchery buildings, grounds, and equipment maintenance will be performed.
Collect/Generate/Validate Field and Lab Data	Reservation waters will be creeled and at least 5 streams and lakes will be surveyed each year.
Mark/Tag Animals	All hatchery production will be differentially marked.

1991-047-00 - Sherman Creek Hatchery - O&M (Expense) WDFW

Description: Sherman Creek Hatchery's (SCH) primary objective is the restoration and enhancement of the Lake Roosevelt and Banks Lake Fisheries. In 1991, WDFW and BPA entered into a 25 year non-discretionary contract to fund the operations and maintenance of SCH.

Accomplishments

Here are some of Sherman Creek Hatchery's accomplishments since the last review in (2001).

Sherman Creek Hatchery Kokanee Salmon Releases

2002- 231,038 Yearling Kokanee planted @ Sherman Cr.
2002- 357,068 Yearling Kokanee planted from Netpens.
2002- 588,106 Total Yearling Kokanee Plants.

2003- 228,417 Yearling Kokanee planted @ Sherman Cr.
2003- 391,430 Yearling Kokanee planted from Netpens.
2003- 619,847 Total Yearling Kokanee Plants.

2004- 217,465 Yearling Kokanee planted @ Sherman Cr.
2004- 490,451 Yearling Kokanee planted from Netpens.
2004- 707,916 Total Yearling Kokanee Plants.

Sherman Creek Hatchery Wild Rainbow Netpen Releases

2002- 45,714 @ 3.34/lb. Trout Lodge Rainbows(Triploids)
2003- 14,309 @ 5.50/lb. Phalon Lake Rainbows
2004- 38,142 @ 10.30/lb. Phalon Lake Rainbows
2005- 76,700 Phalon Lake Rainbows (On-Hand)

Note: In 2002 the Trout Lodge Stock were substituted for the unavailable wild rainbows normally released.

Sherman Creek Hatchery Summer raceway rearing for Fall Transfer to Netpens.

2002-266,217 Rainbow Trout Fingerlings for Netpens
2003-268,327 Rainbow Trout Fingerlings for Netpens
2004-206,808 Rainbow Trout Fingerlings for Netpens

We are testing Spokane Stock Rainbows (Diploids & Triploids) to see what effects the triploids have on creel returns and impacts on native stocks in the system.
We continued to incorporate native or locally adaptive stocks of Red-Band Rainbow Trout in the netpen program. This is in response to the goal of increased use of native stocks within the program.
The LRHCT together with LRFEP have decided to shift Kokanee Netpen Production to kokanee fry plants in Sheep Cr. & Onion Cr. to try to establish/enhance returns of kokanee to those upper reservoir tribs.
Based on reccommendations by the LEHCT, SCH Netpens are being used to rear Wild RedBand Rainbow Trout in Lake Roosevelt.
Kokanee Netpens and their associated docks were purchased and constructed in 2002 to increase rearing capabilities at SCH.
Annual reports and project data are provided to BPA and the Co-Managers.

Goals

Sherman Creek Hatchery will continue to acclimate, rear, outplant, collect adults and eggs to restore and enhance the resident fisheries on Lake Roosevelt and Banks Lake.
Establish a kokanne broodstock for future egg requirements to create & enhance the kokanee fishery within Lake Roosevelt. Continue broodstock collection ensuring genetic diversity for both kokanee and rainbows. Assist in rainbow trout rearing and fishery enhancement using locally adapted or native stocks of rainbows. Assist and coordinate with other Fish & Wildlife Projects on Lake Roosevelt including: The Volunteer Netpen Project, Spokane Tribal Hatchery, Lake Roosevelt Fisheries Evalutation Project, and the Lake Roosevelt White Sturgeon Recovery Project.

Annual Production Goal Objectives

Unit Fish Operation Number Rec. Planted

Rw's KO Rearing 300,000 25/lb. 10/lb.

Rw's RB Rearing 300,000 90/lb. 15/lb.

Rw's KO Trapping Unknown

KFNP Wild RB Rearing 100,000 75/lb. 10/lb.

CFH Wild RB Rearing 100,000 Eggs 75/lb.

CFH KO Spawn Adults Fry

CFH KO Incubate Eggs Fry
Key: Rw's = Raceways KO = Kokanee Salmon KNP#1 = Kokanee Net Pens site 1 RB = Rainbow Trout KNP#2 = Kokanee Net Pens site 2 Size = number per / pound KFNP = Kettle Falls Net Pens I = Received In CFH = Colville Trout Hatchery O = Transferred or Planted

Facility Maintenance Incuding:
Dock repair and replacement at the Kettle Falls Netpen site.
Paint, siding and post replacement on the hatchery building at Sherman Creek.
Vehicle and hatchery grounds up-keep at Sherman Creek.
Sherman Creek Hatchery will complete Annual Reports, data collection, and project wide plant summaries and prepare and provide them to BPA and the Fishery Co-Managers on Lake Roosevelt.

1995-067-00 - Colville Confederated Tribes P (Capital) Colville Confederated Tribes

Description: Acquire, protect, enhance and evaluate wildlife habitat and species for partial mitigation for losses to wildlife resulting from Grand Coulee and Chief Joseph Dams.

Accomplishments

The wildlife mitigation program under the CCT Fish and Wildlife Department began in 1992 with the first land purchase using BPA funds under the Washington Agreement. The CCT has been trying to acquire land to offset identified loses from Grand Coulee and Chief Joseph Dams. The CCT have asked for 1.5 million dollars per year since FY2000 to complete mitigation losses. Currently 25,501 acres distributed over 4.1 million acres of the Colville Reservation. An additional 18,431 acres are being acquired to bring the program total up to 43,932 acres. The CCT is only 2/3 complete for original construction and inundation losses and to complete this process for full mitigation will require 10 to 20 thousand more acres at a 1:1 crediting ratio. Crediting BPA for identified losses using the Habitat Evaluation Procedure (HEP) for the CCt is 14,708 HUs on 25,501 acres. To fully mitigate the losses (35,820 HUs)will require more land.

Goals

To fully mitigate wildlife losses from Grand Coulee and Chief Joseph Dams. The CCT will continue through the Fish and Wildlife Department's Wildlife Mitigation program to protect, restore and enhance lands acquired for mitigation until complete. Full mitigation will occur when identified losses are nullified by wildlife gains through acquisition and restoration efforts. Currently 2/3 mitigated for the CCT expects to continue acquiring lands until done. Funding for continued O&M for these lands is expected to continue to protect those wildlife values acquired on project lands. Management activities for FY 06 is to acquire lands with the requested funds until complete mitigation occurs.

1995-067-xx - Colville Confederated Tribes Pre-Acquisition Activities/Cost Colville Confederated Tribes

Accomplishments

The Colville Confederated Tribes (CCT) request pre-acquisition funding to cover the costs associated with acquiring additional lands to fully mitigate for construction and inundation losses from Grand Coulee and Chief Joseph Dams. These funds will be used to cover all the necessary activities prior to protecting these new lands under the CCT Wildlife mitigation Hellsgate O&M project. The only wildlife project the CCT has is for O&M of lands already protected for mitigation. CCT has continued to ask for additional funds to acquire lands and finish construction and inundation losses. Currently there is no funding available for start-up costs and this one-year request will address that problem.

Goals

Construction and operation of Grand Coulee and Chief Joseph Dams essentially destroyed forever in excess of 88,000 acres of critical low elevation wildlife habitat. This habitat comprised land cover types bordering the Columbia River and its tributaries. This was habitat, rich in bio-diversity, supporting a large number and variety of wildlife species. Existing conditions throughout the region very likely preclude management entities from ever being able to fully mitigate these losses. However, the Colville Confederated Tribes Wildlife Mitigation Program and other similar ones around the Columbia Basin (STOI and WDFW) provide partial mitigation leading towards fulfillment of the Northwest Power Act and NPPC's Fish and Wildlife Program goal of fully mitigating hydropower losses. In addition, the regions primary limiting factors for fish and wildlife are habitat loss, fragmentation, and isolation from past and current land use practices. With the Colville Business Council's approval, the Hellsgate Mitigation Project will protect and maintain some of the few remaining portions of grassland, shrub-steppe, mixed range, riparian, and conifer forest/savanna habitat that is still in fair to good condition in the region. Acquiring enough land to finish is another story. Large areas of land are needed to protect larger species of wildlife with greater habitat requirements with the need for relatively undisturbed habitat. The idea is to have an area large enough to supply a secure core protected area surrounded by a buffer of land to meet species habitat needs and provide connectivity to the next core areas for population viability. It is important that these areas be acquired and integrated into the Tribe's Mitigation Program to suit the current and future needs of the different species and communities while protecting them against different kinds of environmental threats that exist today. The Tribe's Wildlife Mitigation program will also ensure membership suitable areas for cultural and subsistence practices now and into the future. Currently the CCT

1997-004-00 - Resident Fish Above Chief Joe (Expense) Kalispel Tribe Of Indians

Description: Coordinating, collecting, assessing, and making recommendations based on blocked area fisheries information.

Accomplishments

Pend Oreille watershed (through 2004)
Tributaries surveyed: 24
Km: 85.1
Reaches: 91
Fish sampling stations: 69
Lakes surveyed: 19
Monitored the Harvey Creek (Sullivan Lake) kokanee spawning population 2002-2004

Spokane/Little Spokane watersheds (through 2003)
Tributaries surveyed: 23
Km: 54.3
Reaches: 213
Fish sampling stations: 287
Lakes surveyed: 0
Genetic analysis of 21 rainbow trout populations

Spokane Indian Reservation (through 2003)
Tributaries surveyed: 10
Km: 60.3
Reaches: 51
Fish sampling stations: 46
Lakes surveyed: 4

Data Management
Created Joint Stock Assessment Project (JSAP) Unified Database (UDB)
•JSAP data
•Pre-existing data (<1998)
•Ongoing and new project data
Created JSAP data Engine
•Data import utility
o Upload files, append files, create tables, view relationships
•Web browser interface
o De-normalize, view, and download data files (under construction)
JSAP UDB Procedure Manual

Goals

Continue to conduct baseline fish and habitat assessments in tributaries and lakes identified as having no quantitative data within the Pend Oreille, Spokane, and Upper Columbia Subbasins. Collected data will be stored in the JSAP UDB where it can be viewed, queried, and downloaded via the internet.

1998-003-00 - Spokane Tribe Wildlife Mitiga (Expense) Spokane Tribe Of Indians

Description: Partial mitigation to protect, mitigate, and enhance wildlife mitigation lands on the Spokane Indian Reservation for construction and inundation losses of wildlife habitat on the Spokane Indian Reservation caused by Grand Coulee Dams

Accomplishments

2001
PLANT VEG: 2,500 riparian trees and shrubs planted (non-BPA enhancement)
INSTALL FENCE: 5000’ of removal, new, repairs
REMOVE VEG: weed control measures
IMPROVE ROAD: access road maintenance
COLLECT FIELD DATA: conducted 13 Wildlife Surveys
PRODUCED STATUS REPORTS: 4 Reports
PRODUCED ANNUAL REPORT: 1 Report

2002
PLANT VEG: 3,000 riparian trees and shrubs planted (non-BPA enhancement)
INSTALL FENCE: 5,000’ of removal, new, repairs
REMOVE VEG: weed control measures
IMPROVE ROAD: access road maintenance
COLLECT FIELD DATA: conducted 13 Wildlife Surveys
PRODUCED STATUS REPORTS: 4 Reports
PRODUCED ANNUAL REPORT: 1 Report

2003
PLANT VEG: 3,200 riparian trees and shrubs (non-BPA enhancement)
INSTALL FENCE: 6,500’ of removal, new, repairs
REMOVE VEG: weed control measures
IMPROVE ROAD: access road maintenance
COLLECT FIELD DATA: conducted 11 Wildlife Surveys
REMOVE DEBRIS: Site clean-up on 2 tracts
OPERATE/MAINTAIN FACILITY: Enclosed field shop
PRODUCED STATUS REPORTS: 4 Reports
PRODUCED ANNUAL REPORT: 1 Report

2004
PLANT VEG: 4,600 riparian trees and shrubs, and 36 acres of native grass (non-BPA enhancement)
REALIGN, CONNECT, AND/OR CREATE CHANNEL: 1000' of McCoy Creek channel restored (only manager salary during planning was BPA funded)
INSTALL FENCE: 6,500’ of removal, new, repairs
REMOVE VEG: weed control measures
IMPROVE ROAD: access road maintenance
COLLECT FIELD DATA: conducted 10 Wildlife Surveys
PRODUCED STATUS REPORTS: 4 Reports
PRODUCED ANNUAL REPORT: 1 Report

2005
PLANT VEG: 18,500 riparian trees and shrubs, and 12 acres of native grass (non-BPA enhancement);
REALIGN, CONNECT, AND/OR CREATE CHANNEL: 2640' of McCoy Creek channel (BPA funded managers time planning).
INSTALL FENCE: 10,500’ of removal, new, repairs

REMOVE VEG: weed control measures
COLLECT FIELD DATA: conducted 10 Wildlife Surveys
PRODUCED STATUS REPORTS: 4 Reports
PRODUCED ANNUAL REPORT: 1 Report

Goals

Primary goals for FY06 will be to conduct fencing activities on boundary fences to control trespass livestock, weed control, access road maintenance, wildlife monitoring & evaluation, and development of Site Specific Management Plans, and maintenance of any enhancement activities. Plant approximately 11,000 native trees and shrubs, and 80 acres of native grass establishment (O&M dollars only used for maintenance of enhancements).

2001-028-00 - Banks Lake Fishery Evaluation (Expense) WDFW - Olympia

Description: Determine the abundance and ecological interactions of fish populations in Banks Lake. Identify limiting factors for naturally recruiting and hatchery supplemented fish. Provide management recommendations to maximize the fishing potential of Banks Lake.

Accomplishments

2001
Project start-up, initial protocol development and initial data collection

2002
Determined that kokanee were near absent in the fishery and in low abundance in the lake

Determined that lake whitefish were near absent from the fishery and smallmouth bass were the most abundant in the fishery

Started first year of different kokanee release strategies (spring and fall releases and net pen rearing)

Determined that lake whitefish were the most abundant limnetic fish in the lake and their consumption rates possibly limited other planktivores (kokanee, rainbow trout)

Determined that seasonal predation by walleye on kokanee was not substantial

2003
Determined that kokanee numbers were beginning to increase

Determined that hundreds of kokanee were migrating back to Northrup Creek

Determined that whitefish densities were still high and consumption rates were a problem

Continued marking kokanee to determine the best release strategies

Determined that lake levels exclude many rearing fish species from nursery habitats.

2004
Kokanee migrating back to Northrup creek were in the thousands

Acute predation on kokanee during Fall stocking was high

Adult kokanee harvest was considerably higher than any other year of the project

Determined that entrainment for specific species and could be a limiting factor. Entrainment was high and was correlated to stocking events and larval hatching time

Determined that a substantial number of lake whitefish needed to be removed from the lake but determined that they were highly contaminated, which stopped our efforts to create a commercial whitefish food fishery

Continued marking kokanee to determine the best release strategies

Goals

Goals and Anticipated Accomplishments for FY2006 –

Determine the feasibility of creating an artificial kokanee spawning channel at Northrup Creek (including possible stream restoration, monitoring stream flows, and temperatures). This channel could also be used by rainbow trout. Trap kokanee at Northrup Creek to determine creek utilization.

Collect tissue samples from Banks Lake burbot for genetic analysis

Collect samples from other fish species to determine levels of contamination

Implement a commercial whitefish fishery (first year pilot study)

Determine the feasibility and necessity to conduct lake fertilization

Monitor largemouth bass introduced by the WDFW warmwater program

Continue to collect biological data during each season to monitor predator/prey interactions (bioenergetics modeling), fish diet shifts and changes in the population structure as a result of a commercial whitefish fishery

Conduct a summer hydroacoustic survey to determine fish abundance

Continue to monitor secondary production

Continue to collect kokanee for otolith extraction (will relate to release strategy)

Continue stocking kokanee and rainbow trout to fulfill management and harvest needs (including net pen rearing).

Complete the current entrainment survey in November 2006

Continue annual creel survey to determine angling pressure and harvest

Analyze data and complete deliverables

Note: The goals listed above relate to objectives, strategies and hypotheses in the Upper Columbia and Crab Creek subbasin plans.

2001-029-00 - Ford Hatchery Improvement O&M (Expense) WDFW - Olympia

Description: Improve water supply and operate and maintain Ford Hatchery to enhance the recreational and subsistence kokanee fisheries in Lake Roosevelt and Banks Lake, and bolster put-and-take resident trout fishing lakes in Region 1 (Eastern WA).

Accomplishments

Table 3. Ford Hatchery Fall Kokanee stocking summary for Banks Lake
Direct Plants

Year... Number... Avg. size ...Pounds

2001... 471,758 ... . 7 6,552
2002*...639,063 ... 67.5 ... 9,467
2003*...419,898 ... 51.4 ... 8,172
2004... 486,058 ... 57.1 ... 8,505
Net Pen Transfers

2001 ... 0

2002 ... 0

2003... 128,759 ... 52.9 ... 2430

2004 ... 160,303... 63.6 ... 2518

*Note: In 2002 an additional 50,050 fall fry were planted in Banks Lake by the Spokane Tribal Hatchery.
In 2003 an additional 50,000 fall fry will be planted in Banks Lake by the Spokane Tribal Hatchery.
The additional STH plants are part of an exchange for the precocity study on Lake Roosevelt

Goals

2006-2007 Annual Operation Plan (AOP) Goals
The operation and program goals from the 2006-2007 AOP are as follows:
1. Coordinate Ford Hatchery production with those at WDFW Sherman Creek and Spokane Tribal Hatchery to meet regional program goals for Lake Roosevelt and Banks Lake.
Status:
2. Fish health monitoring and effective feed program to meet planting size goals.
Status:

3. Use of new production well for incubation needs.
Status:
4. Construct a Pump House for the New Well.
Status:
5. Construct new pond screens for rearing kokanee fry and fingerlings.
Status:
6. Hire full-time temporary employee to accommodate program increase (Oct.)
Status:
7.Receive 1.4 mill. kokanee eggs from Lake Whatcom in Dec. 03 (BY 05)
Status:
8.Rear and plant 700,000-kokanee fingerlings into Banks Lake (BY 05) (Oct. 06)

Status:

2001-030-00 - Sharp Tailed Grouse Habitat (Expense) Colville Confederated Tribes

Description: Conduct a population viability analysis for a comphrenhensive, adaptive management plan to restore critical shrub-steppe and riparian deciduous habitat to secure a viable metapopulation of sheap-tailed grouse on the Intermountain Province region.

Accomplishments

This Project was designed to develop and implement an adaptive management plan that will include restoration of native plant communities on lands within the Colville Reservation to support viable meta-populations of Columbian sharp-tailed grouse. Part of this project is cooperating with other agencies and Tribes within the Intermountain Province and throughout the western states for the preservation and conservation of Columbian sharp-tailed grouse and their habitats. For the last four years the focus of the project has been monitoring and evaluating the current populations of sharp-tailed grouse and their habitats on the Colville Reservation. Radio telemetry was used extensively in conjunction with GPS to map seasonal habitat use and home ranges of radio collared grouse. These maps were used to prioritize areas for vegetative analysis, restoration, enhancements, and protection. This is currently the last year of funding for the Sharp-tailed Grouse Project. This is an extremely important project that addresses the concern of various agencies throughout the region dealing with a State Threatened and Endangered species. It is the recommendation of the Regional Grouse Team that future funding for this project be a priority with the IMP and that the work continues in order to conserve and protect this species and its associated habitats.

The following narratives are provided in narrative form:

Vegetation data for 70 transects was analyzed and entered into the Regional HSI model.

Radio collared grouse are tracked weekly throughout the year in order to monitor population trends, track seasonal movements, and conduct seasonal survival surveys.

Grouse Team members assisted in an augmentation program by trapping 40 sharp-tailed grouse originating in British Columbia and releasing 20 of the marked birds on the Colville Reservation.

Took blood samples from the augmented birds to determine genetic fitness.

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Conducted a public outreach program to inform individuals of the status of Columbian sharp-tailed grouse on the Colville Indian Reservation and the IMP.
Coordination	Formed a Regional Grouse Team of individuals and agencies within the Columbia River System involved in the mitigation,restoration,and conservation of sharp-tailed grouse, the group included representatives from CCT, STOI,Cd'AT, KST, WDFW,WSU, U of I, etc.
Produce Plan	A Reservation wide Sharp-tailed grouse Management Plan was developed and submitted to the Regional Team for review.
Produce Status Report	Developed quarterly and annual reports for the length of the project.
Prepare HEP Report	From July to August 2004 Habitat Evaluation Procedures (HEP) were done.

Develop RM&E Methods and Designs	Annual spring lek counts are done from mid March to early May. On the Colville Reservation 36 historic leks have been identified and monitored; 8 are currently active.
Collect/Generate/Validate Field and Lab Data	25,000 acres of land currently occupied by sharp-tailed grouse was mapped and cover typed for vegetation analysis.
Mark/Tag Animals	Wire walk-in traps were used to trap active leks and radio collars and leg bands were applied to 89 captured grouse. 10% of the 89 marked grouse were recaptured and refitted with new radio collars. This shows an average survival rate of > than 2 years.
Disseminate Raw & Summary Data	A literature review of sharp-tailed grouse in the Region was compiled.
Analyze/Interpret Data	Mitigation and Reservation lands are surveyed annually to identify new breeding grounds.

Goals

Our ultimate goal is to develop and implement an adaptive management plan that will also include restoration of native plant communities on 60,000 acres within the Province to support a viable meta-population of sharp-tailed grouse. Within the Intermountain Province Sub-basin Plan the protection and restoration of sharp-tailed grouse is identified in the Upper Columbia, San Poil, and Rufus Woods inventory, assessment, and management plan sections. We will continue assessing and evaluating Columbian sharp-tailed grouse habitat on new lands that are acquired to fully mitigate for hydropower losses. Listed as a State T&E species, Columbian sharp-tailed grouse populations are considered high risk. This project is designed to address that risk by implementing the proposed management activities in the Sharp-tailed Grouse Management Plan for the Colville Reservation. Continued management activities are necessary to protect, restore, and enhance critical habitats and dwindling populations on the Colville Reservation and elsewhere in the state of Washington. Management actions that include augmentation and population supplementation will be implemented in FY06 to address the issue of population dynamics in relation to habitat.

In addition the following metrics goals are to be accomplished:
Design and implement new traps that are more “bird friendly.” Monitor and evaluate marked birds monthly and record data. Assist Grouse Team members in augmentation efforts by trapping sharp-tailed grouse and releasing the marked birds on the Colville Reservation. Take blood samples from the augmented and translocated birds to determine genetic fitness. Assessment of 18,000 acres of new mitigation acquisition on the Westside of the Reservation for suitability for sharp-tailed grouse. Off Reservation assessment of land suitability for sharp-tailed grouse on usual and traditional areas. Mark all translocated and augmented grouse with radio collars and leg bands.

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Conduct a public outreach program to inform individuals of the status of columbian sharp-tailed grouse on the Colville Indian Reservation and the IMP.
Identify and Select Projects	Establish working relationships with landowners in order to resotre or enhance land on the reservationin historic or current sharp-tail range.
Produce Inventory or Assessment	Conduct annual spring lek counts from Mid March to early May. Survey new Mitigation and Reservation lands annually to identify habitat utilization and population expansion.

Coordination	Continue coordinating with the Regional Grouse Team to asses and evaluate the management activities conducted by each entity involved in the mitigation, restoration, and conservation of sharp-tailed grouse.
Produce Design and/or Specifications	Using ArcGIS 9.0 develop maps of current and potential sharp-tail range. Using GPS develop maps of the seasonal movements of resident and augmented male and female grouse to evaluate habitat use, home ranges, and emigration and immigration.
Produce Status Report	Develop quarterly and annual reports for the length of the project.
# of acres of vegetation planted (0.1 ac.)	Restore native plant communities on mitigation lands by implementing a variety of techniques including seeding, plug planting, mowing , weed control, ect.
Remove or Relocate Non-predaceous Animals	Implement predator control on native and nonnative species during the sharp-tail breeding and brood rearing season.
Develop RM&E Methods and Designs	Assess the relationship between Columbian sharp-tailed grouse and other terrestrial species occupying similar habitats.
Collect/Generate/Validate Field and Lab Data	Evaluate vegetation data and enter it into the Regional HSI model to assist management activities for restoratin and enhancement efforts.
Mark/Tag Animals	Trap active leks and collect pertinent data (replace radio collars when necessary).
Disseminate Raw & Summary Data	Translocated and augmented grouse need to be tracked monthly to record seasonal habitat use, dispersal movements, population data, and home ranges.

2001-031-00 - Resident Fish Symposium (Expense) Lake Roosevelt Forum

Description: The Lake Roosevelt Forum will develop, coordinate, promote and convene an annual three-day symposium dealing with resident fish programs and related research within the Intermountain Province, with particular emphasis on the Lake Roosevelt Subbasin.

Accomplishments

- Conference held November 15, 16 and 17 2004
- Over the course of the three day conference, 229 people attended. This attendance was about the same as the successful 2003 conference.
- 3 general sessions and 12 concurrent sessions were held. The opening session Northwest Power and Conservation Council members, their staff and representatives of area tribes reviewing the status of adopting subbasin plans.
- There were 61 presenters.
- Conference evaluations showed the conference being rated as outstanding by participants.

Goals

Encourage and facilitate innovative coordination, planning and assessment of resident fish and related programs in the Intermountain Province by improving and enhancing the quality and quantity of information exchange among fish managers, policy makers, agency and tribal representatives, and the public.

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	200 or more people attending one or more days of the conference. The conference will be 3 days. Attendees will include natural resource managers, scientists, policy makers, elected officials and the general public.

2001-034-00 - Forage & Mule Deer Conditions (Expense) WSU

Description: We are proposing a cooperative, five-year research investigation involving the WDFW, the lead agency, and Washington State University (WSU), a collaborating agency, to assess the role of habitat in maintaining mule deer numbers.

Accomplishments

3 M.S. theses completed
2 Ph.D.’s in progress
33 presentations
Manuscripts: 2 in press, 3 submitted, 2 in preparation

1.Determine if cougar predation is limiting mule deer in IM Province

We have captured and radio-located 38 cougars. Cougar density ranges from 0.86 – .1.8 cougars/100 km2 . Very high hunting mortality of cougars does not seem to reduce predation on mule deer, nor halt their population decline. Cougar immigrating into high-density white-tailed deer areas may counteract any cougar removals. Our aerial surveys and sightability model show relative prey availability for cougars as 72% white-tailed deer and 28% mule deer. We investigated kill sites & found a mean kill rate of 1 deer/6.7 days/cougar, with a selection ratio of 1.5 for mule deer and 0.8 for white-tailed deer. The average litter size of cougars was 2.6, birth interval was 18 months, and a reproductive rate of 1.2 kittens/female/year. The average mortality rate of mule deer in the cougar study area is 0.7 deer/year, with 60% caused by cougars.

2. Determine if habitat quality is limiting mule deer in IM Province

We examined the relationship among food quality, intake, body mass & fat, nursing time, & pregnancy rates in 24 hand-raised mule deer and their fawns. A 2nd set of experiments is now underway. We created a model relating ultrasound measurements and body condition scores on live and dead deer to actual body fat using 25 deer, and developed a method for assessing pregnancy and fetal rates in live deer.

We collected > 500 fecal samples for diet analysis, > 5000 samples of forage biomass, & > 500 samples for nutritional analysis. We created a GIS vegetative cover layer, and are now ground-truthing it.

We capture wild does twice a year. Mean weight = 73 kg and rump fat = 1 cm in Dec, and 69 kg and 0.05 cm in March. Body fat varies across the study area, with fatter animals in shrub-steppe & seasonal migration areas. Fetal rates vary between 1.3 – 1.6 fawns/doe. We also determine the age and sex ratios yearly.

We locate > 100 wild does twice a month. Mean annual survival rates of does ranges from 0.84 – 0.94, with most deaths from cougars or unknown causes. Half of newborn fawns in shrub-steppe died within 1.5 months of birth, but death rates declined to 21% thereafter. Coyote predation caused half of fawn deaths. Larger fawns & fawns with fatter does did not survive longer.

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	We have made 33 presentations about the mule deer research for Teachers, students, general public, scientific audiences, with an average of 25 people per audience
Manage and Administer Projects	We have managed the predation and nutrition components andof our research project, which included extensive field and captive animal experiments, along with laboratory analysis. We have supervised 5 graduate students and up to 8 field assistants each yea

Produce Annual Report	We have produced 3 annual reports (FY 2002, 2003, 2004)
Produce Status Report	We have produced quarterly reports for FY 2003-2005
Produce/Submit Scientific Findings Report	We have completed 3 Master's theses, and 2 scientific manuscripts have been accepted for publication in peer-reviewed journals. 3 additional manuscripts have been submitted to journals
Maintain Terrestrial Structure	We have built (2001) and maintained a captive mule deer facility at WSU
Collect/Generate/Validate Field and Lab Data	We have collected data on cougar locations, mortality, kill rates, reproduction, mule deer locations, mortality, fetal rates, body condition, quantity and quality of vegetation.
Mark/Tag Animals	We have radiocollared 38 cougars, over 200 mule deer does, and 19 mule deer fawns
Analyze/Interpret Data	We have analyzed movements, home range, survival, reproduction of mule deer and cougars, and body condition of mule deer.

Goals

FY 2006 is the final year of data collection for our field and pen studies. Equal efforts will be placed on data collection, summary, final reporting, publication and dissemination of project findings.

1. Determine if cougar predation in relation to white-tailed deer populations is limiting mule deer in the IM Province

By teaming with project funded by NSF, we will have a full time houndsman dedicated to capturing cougars, which will greatly increase our capture success, sample size, and data collected. We should add > 10 more cougars for the final year of data collection. We hope to double the number of cougars with GPS collars, which will produce 1300 to 2000 habitat locations, as many as we collected during the first 3 years of our project combined. We will publish an article describing our new method of quantifying deer populations using ground counts. Our new GPS technology will allow us to more than triple the number of cougar kill sites in FY2006 to 300. We expect to gather data on reproduction in 3 adult female cougars who are expected to give birth in FY 2006. We will analyze data on cougar density, kill rates of mule deer and white-tailed deer in relation to deer density.

2. Determine if nutrition is limiting mule deer in IM province

· Complete 2nd year of experiments with captive deer relating forage quality to body condition and pregnancy rates, & analyze data.
· Submit manuscript on predictive models for body fat in mule deer, predation & survival of mule deer fawns, and habitat use by lactating does & fawns to journals
· Collect fecal samples from 60 more mule deer, 6-8 samples across study area, & plant biomass & forage samples across study area through 2006.
· Complete diet analysis and nutritional analysis of forages.
· Determine diet selection, quantity & quality of forage for deer across study area
· Determine body fat of wild mule deer does in fall, and compare with reproductive rates of captive deer with similar body fat
· Determine home range, survival rates, & mortality rates of wild, radio-collared deer across study area.
· Develop management prescriptions for enhancing habitat quality where data suggest nutritional deficiencies in mule deer.
· Begin validating current HEP models developed for mule deer in IM and adjacent provinces

· Make presentations to both scientific and lay audiences about mule deer project

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	We expect to make > 10 new presentations during FY 2006
Manage and Administer Projects	We will manage 2 Ph.D. students, 5 technicians, 1 subcontract, develop SOW and budgets
Produce Annual Report	We will produce an annual report and begin a final report
Produce Status Report	We will produce 4 quarterly reports
Produce/Submit Scientific Findings Report	We will submit at least 3 new manuscripts to a scientific journal
Maintain Terrestrial Structure	We will continue to maintain the mule deer facility and animals within
Collect/Generate/Validate Field and Lab Data	We will continue to collect data on location, mortality, kill rates, litter sizes of cougars, location, diets, mortality, body condition, fetal rates of mule deer, and forage quality and quantity
Mark/Tag Animals	Up to 8 more cougars will be radiocollared
Analyze/Interpret Data	We will analyze home range, survival rates, reproduction, kill rates of cougars. We will analyze home range, herd boundaries, forage preference, diet, body condition, survival of mule deer and compare across the study area

2000-014-00 - Evaluate Lamprey Habitat/Popul (Expense) USFWS

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

Accomplishments

Work has been established in Cedar Creek, a tributary to the Lewis River (WA). Since relatively little is known about lamprey, some of the initial work focused on determining effective sampling methodologies and logistics. Baseline data has now been collected to begin understanding how to evaluate lamprey abundance and distribution as well as what the anundance and distribution is in Cedar Creek. All annual and quarterly reports have been submitted. While some of the initial data has been synthesized (see journal publicationmetric), to date some of this work has been focused on collecting preliminary data and data that be used in subsequent time series analyses.

PAST Metric / Work Element	Value or description
Coordination	Worked collaboratively with WDFW on design, implementation, and management implications.
Produce Environmental Compliance Documentation	Ensured that environmental compliance requirements were met.
Manage and Administer Projects	Conducted project contract administration with BPA.
Provide Technical Review	Participated with Columbia River Lamprey Technical Workgroup.
Produce Annual Report	Produced 2003 and 2004 annual reports.
Produce Status Report	Produced all quarterly reports required since last provincial review.
Install Fish Trap/Monitoring Weir	During both years since the last provincial review we have installed and operated an adult traps as well as a downstream migrant trap.
Develop RM&E Methods and Designs	Developed an experimental design and began to evaluate capture probabilities and sampling efficiencies for larval lamprey.
Collect/Generate/Validate Field and Lab Data	Conducted spawning ground surveys. Collected information on nest construction. Recorded adult movement into spawning areas. Evaluated spawning habitat requirements of adults. Evaulated larval distribution, habitat use, and biological characteristics.
Mark/Tag Animals	PIT-tagged adult lamprey.
Disseminate Raw & Summary Data	Provided data to support subbasin planning, Columbia River Lamprey Technical Workgroup activities, the multiagency Lamprey Summit, and to assist in the USFWS evaluation of the petition to list lamprey under the ESA.
Analyze/Interpret Data	Calculated adult abundance and described behavioral and biological characteristics of adults. Calculated larval abundance and described behavioral and biological characteristics of adults. Estimated larval capture probabilities. Evaluated habitat use.

Produce/Submit Scientific Findings Report	Stone, J. and S. Barndt. 2005. Spatial Distribution and Habitat Use of Pacific Lamprey (Lampetra tridentata) Ammocoetes in a Western Washington Stream. J. Freshwater Ecology 20(1):171-185.

Goals

In FY 2006, we anticipate that we will begin to sytnthesize the data collected during previous years and explore for trends and patterns. We should be able to better understand if and how adult lamprey abundance and distribution can be monitored. We should be able to better understand if and how larval lamprey abundance and distribution can be monitored.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Ensure that environmental compliance requirements are met.
Coordination	Work collaboratively with WDFW on project design, implementation, and management implications.
Manage and Administer Projects	Conduct project contract administration with BPA.
Provide Technical Review	Participate with Columbia River Lamprey Technical Workgroup.
Produce Annual Report	Produce 2005 and 2006 annual reports.
Produce Status Report	Produce all quarterly reports required in 2005 and 2006.
Install Fish Trap/Monitoring Weir	During 2005 and 2006, install and operate adult traps as well as a downstream migrant trap.
Develop RM&E Methods and Designs	Modify the experimental design and continue to evaluate capture probabilities and sampling efficiencies for larval lamprey.
Collect/Generate/Validate Field and Lab Data	Conduct spawning ground surveys. Collect information on nest construction. Recorded adult movement into spawning areas. Evaluate spawning habitat requirements of adults. Evaulate larval distribution, habitat use, and biological characteristics.
Mark/Tag Animals	PIT-tag adult lamprey.
Disseminate Raw & Summary Data	Provide data to support subbasin plan implementation, Columbia River Lamprey Technical Workgroup activities and to assist in the USFWS if further evaluation lamprey status becomes necessary.
Analyze/Interpret Data	Calculate adult abundance and describe behavioral and biological characteristics of adults. Calculate larval abundance and describe behavioral and biological characteristics of adults. Estimate larval capture probabilities. Evaluate habitat use.
Produce/Submit Scientific Findings Report	Submit a manuscript - The influence capture probabilities on abundance and distribution estimation: larval lamprey.

1993-060-00 - Select Area Fishery Evaluation (Expense) WDFW - Olympia

Description: Develop and enhance fisheries in the lower Columbia River utilizing hatchery stocks, while protecting depressed wild stocks, through application of net-pen rearing, and monitor and evaluate rearing effects on habitat at net-pen sites.

Accomplishments

Produce Hatchery Fish
Conducted on/offsite broodstock collection, spawning, incubation, egg/fish transport, juvenile rearing, offsite acclimation, and on/offsite releases of spring (CHS) and fall chinook (CHF), and coho (COH) from SAFE facilities.
Released 2,739,500 CHS, 897,100 CHF, 3,457,800 COH (BPA production).
Mark/Tag Fish
Mass-marked 100% of releases.
CWT-tagged annual release groups for all species/sites (468,100 CHS; 74,300 CHF; 418,900 COH w/ BPA funds).
Outreach/Education
Held 5 SAFE public meetings.
Prepared staff reports & held Compact hearings to adopt/modify SAFE seasons.
Collect Field Data
Conducted biological sampling of SAFE commercial/sport landings, at hatcheries, and from tributary spawning ground surveys.
Monitored water quality/benthic invertebrates quarterly at net pen sites.
Conducted test fishing.
Conducted recreational creel surveys.
Collected production data for all SAFE releases.
Analyze/Interpret Data
Produced catch estimates for SAFE commercial/recreational fisheries.
Prepared species-specific run-reconstruction, SAR's, fishery contribution, and economic benefit analyses.
Summarized fisher participation/contributions.
Coordination
Held bi-monthly/annual work group meetings
Disseminate Data
Uploaded CWT data to RMIS
Provided ponded-fish, fish-liberation, hatchery mark-recovery, and CWT-release reports.
Posted commercial landings to agency websites.
Manage/Administer Projects
Submitted SOW's, invoices, budgets, spending plans, accrual estimates, and property inventories.
Initiated PISCES reporting.
Produce Reports
Produced 1997-2000 Annual & 2004 Project Completion reports.
Produce Environmental Compliance Reports
Completed NEPA process & BA's for SAFE production/harvest.
Completed 7 DEQ NPDES water quality reports.
Produce Plan
Produced 3 SAFE HGMP's.
Produce Status Reports
Submitted 7 progress reports.
Build/maintain Artificial Production facility
Maintained 4 SAFE hatcheries and 8 net pen sites.
Constructed new net pen facility at Tongue Pt. and well at SFK.

Goals

Transfer to net pens, complete rearing and release 1.75 million 2004 brood spring chinook smolts.
Transfer to net pens, complete rearing and release 2.0 million 2004 brood coho smolts.
Take/receive eggs, incubate/hatch and begin early rearing for 1.75 million 2005 brood spring chinook.
Collect adult fall chinook, take eggs, incubate/hatch and begin early rearing for 500,000 2005 brood Select Area Bright fall chinook.
Collect Adult coho, take/receive eggs; incubate/hatch and begin early rearing for 2.0 million 2005 brood coho.
Mass mark 100% of the 2005 brood spring chinook, fall chinook and coho smolts. Coded-wire tag five groups of 25,000 spring chinook, three groups of 25,000 coho, and one group of 25,000 fall chinook.
Complete rearing and release of 500,000 2005 brood Select Area Bright fall chinook smolts.
Compile run reconstruction information from fishery landings, stream surveys, and hatchery returns for 2005 Select Area spring chinook, fall chinook, and coho returns including: age/stock composition, smolt to adult survival, fishery contribution and ex-vessel value, impacts to non-local stocks, harvest rates, stray rates and predict 2006 returns.
Hold informational public meetings prior to 2006 spring and fall fisheries. Adopt seasons and regulations in a Compact/Joint State hearing. Hold additional Compacts/Joint State hearings as necessary to modify seasons or regulations.
Sample commercial landings form 2006 winter/spring/summer/ fall Select Area fisheries for species/stock composition, average weights, fin marks and coded wire tags, scales, lengths and other biological information.
Sample 2006 recreational fisheries for spring chinook coho and fall chinook in Select Areas and Select Area tributaries.
Estimate landings in 2006 commercial and sport fisheries.
Conduct spawning ground surveys in Select Area tributaries.
Sample hatchery escapement of spring chinook, fall chinook, and coho.
Monitor water quality/chemistry at Select Area net-pen sites for compliance with DEQ.
Upload 2005/2006 SAFE coded wire tag data and mark sample sizes.

2000-012-00 - Eval Factors Limiting Col R Ch (Expense) USFWS

Description: Evaluate factors limiting chum salmon production in Hardy Creek, Hamilton Springs, and Columbia River side-channel.

Accomplishments

PAST Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Conducted spawning ground surveys, Collected information on redds, Recorded adult movement among spawning areas
Install Fish Trap/Monitoring Weir	Installed and operated adult trap, Installed and operated emergence traps, Installed and operated juvenile fish traps
Analyze/Interpret Data	Calculated adult abundance estimates, and described behavioral and biological characteristics, Calculated juvenile abundance estimates, and described behavioral and biological characteristics
Produce Annual Report	Analyzed data and produced annual report
Produce Status Report	Produced quarterly reports
Manage and Administer Projects	Conducted project contract administration, Coordinated with and provided data to Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, Technical Recovery Team, Columbia River Fish Passage Center
BPA Environmental Compliance	Ensured environmental compliance requirements were met

Goals

CURRENT Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Conduct spawning ground surveys, Evaluate artificial spawning channel if flows are sufficient for operation
Install Fish Trap/Monitoring Weir	Install and operate juvenile fish traps, Install and operate emergence traps
Produce Annual Report	Analyze data and produce annual report
Manage and Administer Projects	Conduct project contract administration, Coordinate with and provide data to Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, Technical Recovery Team, Columbia River Fish Passage Center
Produce Status Report	Produce quarterly reports
BPA Environmental Compliance	Ensure environmental compliance requirements are met
Analyze/Interpret Data	Calculate adult and juvenile abundance estimates, Describe behavioral and biological characteristics, Evaluate habitat relative to redds and emergence, Calculate indices of performance, Analysis and synthesis of data

2001-053-00 - Reintro Of Chum In Duncan Cr (Expense) Pacific States Marine Fisheries Comm

Description: Monitor and evaluate the success of the recently restored spawning channels for chum salmon at Duncan Creek. If necessary, jump start the population by collecting brood stock from adjacent populations.

Accomplishments

In FY 2004, 54 (27 female and 27 male) adult chum salmon were placed into the spawning channels. Egg-to-fry survival in the spawning channels was estimated at 60%. Received an Investigative New Animal Drug permit from the Federal Department of Agriculture allowing the use of strontium chloride hexahydrate salts to place marks on naturally produced chum salmon fry. In FY 2005, 69 (34 female and 35 male) adult chum salmon were placed into the spawning channels. The preliminary estimate of egg-to-fry survival in the spawning channels was 27%. Strontium chloride hexahydrate was used to mark natural production fry.

PAST Metric / Work Element	Value or description
Produce Annual Report	Annual reports have been submitted each year.
Replace/Maintain Instream Structure	Improved on berm placed in 2002 to prevent Duncan Creek from going overland during high flows and importing fines into the spawning channels.
Council 3-step Process: Step 3	Submitted a combined 3-step review fall of 2004. Received a favorable response from ISRP in January 2005. In March of 2005, the Council confirmed that the conditions placed on this project as part of the 3-step review had been met.
Production: # fish released from program, by life stage and species	FY-04 approximately 76,000 thermally marked chum salmon fed fry
Incubation: # fertilized eggs into incubation program, by species	FY-04 approximately 80,000
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S and R
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	FY-04 36 (6 age-3, 29 age-4 and one age-5) female and 38 (36 age-4 and 2 age-5) male non-clipped chum salmon
Install Fish Trap/Monitoring Weir	FY 2004 – Designed/construct/installed/removed adult trapping facility at dam structure. FY 2005 - installed/removed adult trapping facility at dam structure.
Develop RM&E Methods and Designs	Beginning in FY 2004 all naturally produced fry from the spawning channels were marked via immersion in a bath of strontium chloride hexahydrate. A closed marking system was developed to accomplish this on-site.
Mark/Tag Animals	FY 2004 and 2005 - In conjunction with seining for broodstock collection, live tagging of released adults resulted in statistically valid population estimates for mainstem spawning populations (Ives, Multnomah, Horsetail, St Cloud and I-205 areas).

Goals

Overall – re-establish a self-sustaining natural population of chum salmon in Duncan Creek.

Strategies -

Hatchery and natural production supplementation: Collect a minimum of 30 pairs for artificial production at Washougal Hatchery. Achieve 90% green-egg to release survival at hatchery. Thermally mark all hatchery-produced fry. Release marked fed fry at the mouth of Duncan Creek. Collect a minimum of 30 pairs for direct supplementation into the spawning channels. Egg-to-fry survival at the spawning channels should be close to 40%. Trap 100% of natural production as they emigrate from the spawning channels. Mark all naturally produced fry with strontium chloride hexahydrate salts and release.

Monitor adult returns: Continue to mark all adults seined and released during adult collection activities to generate statistically valid spawning population estimates. Recover otoliths from returning adults to determine origin and calculate contribution of program origin adults to spawning populations.

Monitor physical parameters in spawning channels: Continue to monitor the physical parameters of the spawning channels to ensure conditions remain favorable for spawning and incubation of chum salmon.

2003-012-00 - Shillapoo Wildlife Area (Expense) WDFW - Olympia

Description: Maintain and implement measures to restore and enhance wetland, riparian, and upland habitat in the Vancouver Lake Lowlands area.

Accomplishments

2004:

Permitting/coordination neared completion with Ducks Unlimited and NRCS for the first wetland cell at the south end of Shillapoo Lake. Design work for the remainder of the Shillapoo Lakebed began in coordination with US Army Corps of Engineers.

Design/permitting work initiated for wetland enhancement on the North Unit in cooperation with DU.

~200 acres were mowed to increase quantity and quality of grazing habitat for Canada geese.

Himalayan blackberry control was initiated in approximately 60 acres of important upland and wetland habitat managed for wintering waterfowl and 1500 linear feet of fence line.

Repaired fencing on a portion of the North unit, which will reduce maintenance costs and result in improvement of the area as waterfowl forage area.

Fertilized 40 acres of mowed pasture.

Increased control efforts for Poison Hemlock and Purple Loosestrife.

Repaired fences, placed tree mats and tubes and cleared blackberry in existing and future oak and riparian enhancement sites. Desirable volunteer plants were marked for preservation.

Began long term monitoring by establishing photo points

2005 (to date):

Completed installation of the Vancouver Lake unit water supply. Began managing water levels to effect vegetation management.

DU began construction of the first wetland cell in Shillapoo Lake. Permitting work for the North Unit wetland project began.

Over seeded 20 acres on the North Unit and 5 acres on the South Unit intended to improve waterfowl pasture and aid in blackberry and poison hemlock control.

All known major occurrences of P Hemlock treated by mid-May.

Planted oak trees in two five acre sites.

Repaired 800 feet of boundary fence.

Reestablished advisory group for the wildlife area to assist with management planning and user group conflict resolution.

All non-grazed waterfowl sites (~400 acres) in the North and South Units were mowed for waterfowl forage

enhancement.

PAST Metric / Work Element	Value or description
Create, Restore, and/or Enhance Wetland	Construction of one levee and associated water control structure is 50% complete.
Create, Restore, and/or Enhance Wetland	Completed the installation of the water supply for approximately 80 acres of wetlands on the Vancouver Lake Unit.
Produce Design and/or Specifications	Design work for 2 wetland basins within Shillapoo Lakebed and one further north in the North Unit are both 50% complete.
Maintain Terrestrial Structure	Maintaind and operated water control structures as needed or conditions allowed on the South and Vancouver Lake Units.
Maintain Vegetation	Maintained or enhanced 400 acres of goose forage habitat by mowing to produce lush regrowth.
Maintain Vegetation	fertilized 40 acres of upland waterfowl forage habitat.
# of acres treated (0.1 ac)	Initiated control of Himalayan blackberry in 60 acres and an additional 1500 linear feet of fencelines.
# of acres treated (0.1 ac)	Removed scattered plants or seedheads from purple loosestrife in two sites totaling approximately 200 acres.
Maintain Terrestrial Structure	repaired approximately 0.5 miles of fence.
Maintain Vegetation	Maintained 5 acres of planted trees and shrubs.
# of acres of vegetation planted (0.1 ac.)	Planted oak seedlings at two locations totalling ten acres
# of acres of vegetation planted (0.1 ac.)	Over seeded 25 acres of upland pasture to improve waterfowl forage and aid in weed and brush control.

Goals

Continue coordination with DU, USACOE and others working toward completion of wetland enhancement projects and/or begin full operation to enhance wetland habitats.

Implement Moist soil management practices on 50 to 100 acres.

Begin control work for Himalayan blackberry in an additional 50 acres and 500 feet of fence or roadside.

Complete site prep and begin restoring riparian zone along Lake River.

Modify South Unit intake pump and/or screens to improve it's utility to manage wetland basins and provide improved fish protection. (Currently the pump is not operable during low water in order to protect listed fish and wetland goals are not being met as a result.)

Fertilize 200 acres.

Plant 50 acres understory crops.

Plant 100 acres fall grain.

Over-seed 50 acres pasture.

Spray 200 acres for Canada Thistle.

Continue Purple Loosestife and Poison Hemlock control work.

Continue planting as needed and maintain oak habitat and great blue heron sites.

CURRENT Metric / Work Element	Value or description
Create, Restore, and/or Enhance Wetland	Begin or complete work on 700 acres of wetlands associated with three separate projects.
# of acres treated (0.1 ac)	Apply moist soil practices to 50 to 100 acres of wetlands to remove reed canary grass.
# of acres treated (0.1 ac)	Initiate 50 acre area to remove Himalayan Blackberry and an additional 500 linear feet along fencelines etc.
# of acres of vegetation planted (0.1 ac.)	Begin planting 20 acres along Lake River.
# of riparian miles treated (0.01 mi.; count each bank separately)	1.8 miles
Maintain Vegetation	Fertilize 200 acres, plant 50 acres understory crops, 100 acres fall grain, 50 acres pasture.
# of acres treated (0.1 ac)	Spray 200 acres for Canada thistle removal.
# of acres treated (0.1 ac)	Control 200 acres of Purple Loosestrife.
Maintain Vegetation	Maintain 10 acres of oak habitat plantings and 40 acre heron nest site.

1999-025-00 - Sandy River Delta Habitat (Expense) USFS

Description: Restore 600 acre island of rare Columbia River floodplain "gallery" riparian forest. Restore 200 acres wetland/associated upland habitat. Remove 1930's dike from original Sandy River channel to restore hydrology and increase anadromous habitat.

Accomplishments

Note: the Forest Service produced an annual report and status reports, and conducted monitoring in 2003, 2004 and 2005, but did not use BPA funds for the work, so these items are not included in the metric accomplishments.

PAST Metric / Work Element	Value or description
Maintain Vegetation	2003: Maintained vegetation by disking and spot spraying on 213 acres riparian forest restoration
# of acres treated (0.1 ac)	2003: Removed vegetation on 57 acres by disking, spraying and mowing to prepare for riparian forest planting.
# of acres of vegetation planted (0.1 ac.)	2003: Planted 67 acres with native grasses to prepare for riparian forest restoration
Maintain Vegetation	2003: Maintained vegetation by repeat disking and spraying on 50 acres wetland edge to prepare for planting
# of acres of vegetation planted (0.1 ac.)	2004: Planted 115 acres of riparian forest with native grasses; planted a 50 acre subset of this 115 acres with shrubs.
Maintain Vegetation	2004: Maintained vegetation by mowing and spot spraying on 115 acres riparian forest.
# of acres treated (0.1 ac)	2004: Removed vegetation by disking on 90 acres to prepare for riparian forest restoration planting.
# of acres of vegetation planted (0.1 ac.)	2004: Planted 10 acres of wetland edge.
# of acres treated (0.1 ac)	2004: Removed vegetation by disking on 30 acres wetland edge.
Maintain Vegetation	2004: Maintained vegetation by spot spraying on 30 acres wetland edge.
Create, Restore, and/or Enhance Wetland	2004: Installed well to augment natural runoff into wetlands.
# of acres of vegetation planted (0.1 ac.)	2005: Planted 65 acres of riparian forest with trees and shrubs (completed).
# of acres of vegetation planted (0.1 ac.)	2005: Planted 115 acres of previously planted riparian forest by interplanting with shrubs (completed).
# of acres treated (0.1 ac)	2005: Removed (maintained) vegetation on 115 acres of previously planted riparian forest by spot spraying (completed); additional mowing, spraying treatments proposed for summer 2005. Note: 2005 SOW used Remove Vegetation; Maintain Veg may be closer.
# of acres treated (0.1 ac)	2005: Removed (maintained) vegetation on wetland by pumping water from newly installed well (in progress). Note: 2005 SOW used Remove Vegetation; Maintain Veg may be closer.

# of acres treated (0.1 ac)	2005: Remove (maintain) vegetation on 10 wetland edge acres by spot spraying treatments (proposed for summer 2005). Note: 2005 SOW used Remove Vegetation; Maintain Veg may be closer.

Goals

Goals: Continue wetland and riparian forest restoration, including continued establishment of previously treated areas. Conduct NEPA for dike removal.

The actual 2006 program of work will vary based on the success of the 2005 program. Cost assumptions were based on 2005 costs, and actual accomplishments will vary with actual 2006 costs. Actual accomplishments may vary based on support from other partners.

CURRENT Metric / Work Element	Value or description
# of acres of vegetation planted (0.1 ac.)	2006: Plant vegetation on up to 10 acres of wetland edge, adjacent shrub-scrub.
Maintain Vegetation	2006: Maintain wetland vegetation by pumping water from well.
Maintain Vegetation	2006: Maintain vegetation on up to 10 wetland edge acres by spot spraying treatments.
# of acres of vegetation planted (0.1 ac.)	2006: Plant vegetation on up to 30 acres of riparian forest (new planting area).
Maintain Vegetation	2006: Maintain vegetation on up to 65 acres of previously planted riparian forest.
Manage and Administer Projects	2006: Subcontractor costs to administer other subcontractors.
Produce Annual Report	2006: Produce Annual Report.
Produce Status Report	2006: Produce quarterly status reports.
Produce Environmental Compliance Documentation	2006: Conduct NEPA for proposed restoration of the original Sandy River channel (dike removal).

1991-078-00 - Burlington Bottoms Wldlf Mitig (Expense) ODFW

Description: The project would mitigate for hydro-electric facilities through protecting, maintaining, and enhancing wildlife habitat and related Habitat Units, benefitting target and other wildlife including Threatened, Endangered, and At-Risk species.

Accomplishments

Since the last review in 2003, the following accomplishments have occurred:

- Continued to implement the Five-Year Habitat Management Plan for the site in order to protect and enhance existing habitat values on the site.

For FY2004 through March, FY2005, this included:
- Installation of native plants on approximately 30 acres of wetland and forested habitats.
- Removal on invasive non-native plant species on approximately 50 acres on the site.
- Conducted vegetation surveys to determine success of restoration activities and assess long-term habitat changes on the site, approximately 100 acres.
- Conducted surveys and monitoring for pond-breeding amphibians to assess restoration success and assess breeding activity of State listed species (Northern Red-legged Frog); total acres surveyed in 2004 and 2005 was approximately 100 acres.
- Conducted point count surveys for neotropical migratory songbirds in 2004 and 2005 on approximatley 200 acres. Data from surveys will be linked with vegetation survey data and habitat assessments over the long-term to help determine changes in habitats over time and success/failure of restoration activities in the riparian forest habitats on the site.
- In 2004 and 2005, continued work on the goal of constructing a water control structure on the site as part of the long term moist soil management plan for the site.
- Obtained all necessary state and federal permits for water rights and fill/removal.
- Coordinated all work with local, state and federal agencies and non-profits including Multnomah County Planning, OR Division of State Lands, OR Water Resources Department, USFWS, NOAA Fisheries, Ducks Unlimited, NRCS and BPA. Total acreage affected by this project will be approximatley 100-150 acres.
- Conducted fish surveys for the affected area on approximately 0.5 miles of backwater slough habitat.
- Fall of 2004, completed foundation work for the water control structure.
- Completed herbicide reports for BPA.
- Completed FY2004 Annual Report.

Goals

Goals and anticipated accomplishments for FY2006 include the following:

- Continue to implement the Habitat Management Plan for the site, which includes protection and restoration of habitat for a diverse array of fish and wildlife species.
- Conduct restoration activities on the site which will include:
1) installation of native plantings on approximately 40 acres;
2) removal of invasive plant species such as English ivy, blackberry and Japanese knotweed on approximately 75 acres.
- Conduct vegetation monitoring and evaluation on approximately 100 acres to help determine success/failure of restoration activities.
- Conduct wildlife surveys for pond breeding amphibians and neotropical migratory landbirds on approximately 150 acres.
- Conduct surveys and document activity for listed species including bald eagle, peregrine falcons, northern red-legged frogs, etc. on 300 acres.
- Operate water control structure and evaluate functionallity to assess success of moist soil management as part of

long-term restoration goals for the site; approximatley 100-150 acres.
- Continue operations and maintenance on site which includes removal of downed trees on all roads, debris pickup, etc.; 417 acres.
- Complete all quarterly reports.
- Complete herbicide reports.
- Complete 2006 Annual Report.

1991-078-00 - Burlington Bottoms Wldlf Mitig (Expense) ODFW

Description: The project would mitigate for hydro-electric facilities through protecting, maintaining, and enhancing wildlife habitat and related Habitat Units, benefitting target and other wildlife including Threatened, Endangered, and At-Risk species.

Accomplishments

2a. Past accomplishments since FY 2003 review include:

- Continued to implement Habitat Management Plan for the site. Activities accomplished under the goals and objectives for the Plan included:

- For FY 2004 through March, 2005, enhanced approximately 30 acres of wetland habitats through native plant installation.
- Removed invasive plant species (ivy, blackberry, Japanese knotweed, etc.) on approximately 50 acres.
- Conducted surveys and monitoring for amphibians and neotropical migratory songbirds on approximately 150 acres.
- Conducted surveys for ESA listed fish species.
- Conducted vegetation surveys and monitoring on approximately 100 acres.
- Completed Biological Evaluation in regard to related Section 7 Consultation.
- Completed Section 7 Consultation with NOAA Fisheries and USFWS for planned work on water control structure.
- Obtained necessary State and Federal permits (water rights, fill/removal) for water control structure work.
- Completed cultural resource surveys for water control structure related work.
- Coordinated with county, state and federal agencies to ensure compliance with all regulations including NEPA, ESA, etc.
- Completed installation of water control structure foundation in October, 2004.
- Completed herbicide reports for BPA.
- Completed quarterly and annual reports for BPA.

Goals

2b. Anticipated accomplishments with the FY 2006 funding include the following:

- Enhance approximately 40 acres of wetland habitats through native plant installation.
- Remove invasive plant species (ivy, blackberry, Japanese knotweed, etc.) on approximately 75 acres.
- Conduct surveys and monitoring for amphibians and neotropical migratory songbirds on approximately 150 acres.
- Conduct surveys for ESA listed fish species.
- Conduct vegetation surveys on approximately 75 acres.
- Conduct operations and maintenance (removal of downed trees, mowing, debris removal, etc.) on 417 acres.
- Continue O&M of completed water control structure in order to enhance approximately 100-150 acres of wetland/floodplain habitats on site.
- Complete herbicide reports.
- Complete quarterly & annual reports

1992-059-00 - Amazon Basin/Eugene Wetlands - (Expense) Nature Conservancy

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.

Accomplishments

The Willow Corner restoration project, which was constructed with funding from BLM, began in August 2003. As of May 2005 this project has restored about 6 acres of TNC owned land on which the BPA wildlife easement has been placed, as well as an additional 7 acres of adjacent City of Eugene owned land.

Enhance three acres of oak woodland - Work since 2003 included mowing of blackberries in the understory, girdling of additional dense oaks, monitoring of girdled oaks, and taking annual photo monitoring plots.

Restore invaded wet prairie - we have had youth corps crews work on thinning invading ash trees from a 4 acre unit of invaded wet prairie located just east of the East Burn Unit. We have also hired a tree contractor in 2003 and 2004 to remove non-native trees from a 4 acre area.

PAST Metric / Work Element	Value or description
Remove or Relocate Predaceous Animals	We continue to spend some time monitoring bullfrogs in the ponds along both forks of Willow Creek from late June until they go dry fi. We removed any egg masses that were observed. A few adult bullfrogs were observed (perhaps recent in-migrants).
# of acres of new purchase/easement (0.1 ac.)	164 acres in four new parcels
# of acres treated (0.1 ac)	8 acres of non-native woody vegetation removala nd ash thinning
# of acres of vegetation planted (0.1 ac.)	6 acres of prairie vegetation plantd in Willow Corner; 12 "islands" of native plants installed into Fender's Island; In April 2003 we had a group of volunteers plug willow cuttings into a small eroding tributary of the east fork of Willow Creek
# of miles of fence (0.01 mi.)	1.5 miles of fence has been REMOVED from the site in 2003 and 2004.

Goals

Install weather station in the hayfield.

Monitor listed threatened and endangered plant and animal species, including Willamette daisy, Bradshaw’s lomatium, Shaggy horkelia, Curtus’s aster, Kincaid’s lupine, and Fender’s blue butterfly.

Perform breeding bird surveys in wet prairie, oak woodland/savanna, ash woodland, and conifer forest habitats.

Continue volunteer defensibility monitoring.

Monitor fences and signage and maintain or repair as necessary.

Monitor hydrology and water quality conditions to compare with baseline conditions regarding streamflows and water quality inputs to the Willow Creek site.

Begin non-native vegetative control efforts on Cuddeback, Alvord and Rathbone parcels. Mow to reduce flowering and seeding of problem non-native plant species and spot treat with herbicide where needed. On Cuddeback, mow eastern half one time in August/September and western half one-two times during growing season. Mow fire breaks around entire Cuddeback site and on Alvord and Rathbone as needed.

Continue non-native vegetation control efforts; reduce or eliminate the top 10 problem non-native plant species and maintain areas previously treated. In addition to manual and mechanical methods we plan to again hire a Bobcat with a mowing attachment to mow blackberry thickets in oak and ash woodland habitats that we were not able to access with other mowing equipment that we were utilizing. Mow fire breaks around entire site.

CURRENT Metric / Work Element	Value or description
Remove or Relocate Predaceous Animals	continue bullfrog eradication project removing adults and egg masses as they are identified.
# of miles of fence (0.01 mi.)	REMOVE another 0.25-0.5 miles of fencing
# of acres treated (0.1 ac)	remove non-native trees and thin ash from approximately 20 acres of ash woodland
Conduct Controlled Burn	We plan to conduct three controlled burns, two in wet prairies totalling approximately 50acres and one in an oak woodland of approximately 3-5 acres
Prepare HEP Report	HEP surveys and reports need are to be completed for the four new parcels
Produce Environmental Compliance Documentation	A Management Plan for Willow Creek will be completed
Produce Annual Report	We will submit an annual report
Produce Status Report	Quarterly status reports will be submitted

1992-068-00 - Willamette Basin Mitigation (Capital) ODFW

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. The Willamette Basin Mit

Accomplishments

BPA assisted in the acquisition of Green Island, a 865 ac island at the confluence of the McKenzie and Willametter Rivers. The acquisition was completed in 2003 at the end of the last provincial agreement. This area contains signficant restoration and enhancement value including substantial areas of of riparian habitats, upland wet prairies, bottomland hardwood forests. No new acquisitions were completed since this last review. From 2003-2005, most of the work on this island has been through the expense budget (please see project accomplishments under that budget item)including substantial restoration and enhancement work, management planning, and monitoring and evaluation.

Goals

The anticipated accomplishments from the proposed acquisitions are substantial including protection of habitats that have declined to a fraction of their historic size. Included in these parcels are considerable areas of wetland prairies and bottomland hardwood forests, habitats that are <10% of their former extent. All sites are adjacent to a state wildlife area and near USFW Wildlife Refuges, Willamette greenways, and urban greenspaces. The restoration potential is also substantial for all sites through the control of weedy exotics, and re-planting of native plants. Additional, portions of two sites have the potential to create and/or enhance wetlands features.

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	The wildlife area has been used as a study area for OSU and a teaching field site. A large corps of volunteers assist in vegetation renewal and weed control. The staff have a on-going outreach program- 10 teachers/400 students/1000 general public
Conduct Pre-Acquisition Activities	Substantial work will need to be completed for pre-acquisition activities including appraisals, MOU, conservation agreements, etc..
Produce Environmental Compliance Documentation	One site has a completed Haz-mat review. The others will not likely need one.

1992-068-00 - Willamette Basin Mitigation (Expense) ODFW

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. The Willamette Basin Mit

Accomplishments

The Willamette Mitigation program acquired areas with considerable fish and wildlife value including the Sorenson Meadow (1998) and South Pasture (1998) parcels on Buford Park, Big Island (1999), Herbert Farms (2000), Canby Landing (2001), and Green Island (2003). All sites contained substantial focal habitats identified in the subbasin plan. From 2003-2005, funding was provided for active restoration including exotic species removal and control, native plant restoration and enhancement, management planning, biological assessments, outreach and education, and ecological modeling. For restoration and enhancement, BPA provided resources to remove invasives and replant or reseed wetlands, bottomland hardwood forests, and upland prairies, and develop hydrologic assessments to re-connect side channels, remove berms, and roads, and other impediments to water flow. Additional funding was provided to develop management plans for Sorenson Meadows and Big Island and initiate management plan development for Green Island and Muddy Creek (Herbert Farms). BPA also funded an ecological and hydrological study for the Coast and Middle Forks of the Willamette through USCOE and WRI to identify historic and current hydrologic and ecological functions. This work will provide benchmarks and assist in the implementation of an effort to restore and identify critical fish and wildlife habitats associated with these reaches and be a template for future restoration work along the main stem. BPA also provided funds to begin restoration of wetlands, wetland prairies, and bottomland forests on E.E. Wilson Wildlife Area.

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Outreach and educational activities included graduate student research, field trips, volunteer work, publications/reports, public presentations-estimated 10 T/200 S/500-800 P
Produce Inventory or Assessment	Biological assessments included systmatic botanical, avian, mammalian, amphibian surveys, hydrologic evaluations, ecological modelling, and GIS mapping of current habitats.
Manage and Administer Projects	ODFW and all subcontractors managed all phases of restoration work, monitoring, and evaluation, and management planning and development. Included were site visits, contract work, planning work, and reporting.
Identify and Select Projects	ODFW worked with multiple subcontrators to develop mitigation and restoration projects on all sites and provided coordination of all activities including budgets, site planning, and management guidance.
Provide Technical Review	ODFW worked with all subcontractors to review restoration plans and assisted in the development and oversight of management plans for all sites. A major components of our work is seeking and selecting appropriate sites for restoration and mitigation.
Produce Annual Report	All subcontractors report annually. ODFW will provide annual report covering all activities to BPA in June 2005.
Produce Status Report	Because of staff changes, no quarterly reports were produce, but an annual report is scheduled for June 2005. We intend to provide this report on the PISCES system with the help of our COTR

Produce/Submit Scientific Findings Report	USCOE and MRI provided reports on the hydrologic assessment and ecological modelling. Other subcontractors provide reports on on-going biological assessements and planning.
Maintain Vegetation	On-going reduction of invasives and exotics on all sites including mowing, spraying, and hand removal to enhance native plant restoration
Maintain Terrestrial Structure	BPA funded improving access for restoration activities by installing parking pads, limited culverts, and road gravel.
# of stream miles treated before realignment (0.1 mi.)	BPA funded planning efforts to reconnect historic channels on Green and Big Islands and South Pasture. Approx-1 mile of stream reconnectivity work is under consideration.
# of acres of vegetation planted (0.1 ac.)	Approximately 30 acres were replanted with native trees and shrubs including about 15,000 trees and shrubs on Sorenson, South Pasture, Big and Green Islands.
# of acres treated (0.1 ac)	Approximately 300 ac were mowed and sprayed to control invasives and exotic vegetation on Green Island, Frontage Road, Big Island, South Pasture, Sorenson, and Muddy Creek.
Create, Restore, and/or Enhance Wetland	BPA funded construction to restore side chaneels and develop engineering and constrution plans for further side channel restoration.
Conduct Pre-Acquisition Activities	On-going work to identify HUs and conduct HEPs includes working with wildlife area managers, NGOs, and private landowners to initiate acquisition process.
Prepare HEP Report	HEP reports were prepared for Big Island and the Confluence Site (Coast/Middle Fork Willamette). HEP estimates were completed for Canby and Herbert Farms.
Conduct Pre-Acquisition Activities	Pre-acquisition activities were conducted for several sites near EE Wilson Wildlife Area and Crocker area south of Eugene.

Goals

For FY 2006 the proposed projects include restoration and enhancement of vegetation in priority or focal habitats on Green Island, Big Island, Sorenson Meadow, South Pasture, Frontage Road wetlands, West Check Station prairie, and Shenk and Mill Creek prairie and wetlands. This work will include invasive species control, and reseeding and planting of native shrubs and trees. Management plans will be completed for Sorenson Meadows, Green Island, and Herbert Farms (Muddy Creek). Biological assessments and hydrologic planning will continue at Green and Big Islands, South Pasture, and Sorenson Meadows. A biological evaluation of existing flora and fauna will be completed at Herbert Farms. Wetlands will be created at South Pasture and Frontage Road and enhanced through replanting and control at Shenk and Mill Creek. The feasibility phase of the Willamette Floodplain Study (USCOE and MRI-Coast and South Forks Willamette) will be completed including the hydrologic survey and modeling and ecological modeling assessments. Excavation will begin to open additional side channels on South Pasture

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Continue outreach at all sites including student and volunteer participation, field trips, publications, and presentaions. Estimated target audience: 5 graduate students, 8 teachers, 300 students, 500-800 general public

Identify and Select Projects	Work will continue to identify restoration sites including OPRD greenway parcels, private land in permanent conservation easements, wildlife areas, and urban greenspaces.
Produce Inventory or Assessment	Monitoring and evaluations will continue at all current sites. Additional surveys are scheduled for Herbert Farms and EE Wilson. Shenk and Mill Creek have had and will continue to have extensive monitoring of avian sps.
Coordination	ODFW will continue to coordinate with NGOS and other stakeholders for restoration, management planning, and monitoring.
Provide Technical Review	We will provide technical review for Herbert Farms and Green Island Management Plans and on-going technical evaluation of implemetation phase for Sorenson and Big Island management plans.
Produce Annual Report	We will produce an annual reports to BPA in July-Aug 2006 of all activities that were funded by BPA .
Produce Status Report	We will provide quarterly status reports to BPA on all projects proposed under the FY2006 budget in electronic and hardcopy formats.
Disseminate Raw & Summary Data	GIS maps and evaluation data will be available from Green Island. Hydrologic evaluations from USCOE and the Ecological Assessement Modelling Study from WRI will be available for review.
Maintain Vegetation	Sites previously planted will be maintained through herbicide and mechanical control of weeds. Mulching and irrigation of tree and shrub plantings will continue as needed.
# of stream miles treated before realignment (0.1 mi.)	Approx. 0.75 mile of linerar side channels will continue to be maintained, excavated, or realigned along the South Pasture site. Reconnection of side channels is proposed for Green Island.
Manage/Maintain Database	GIS and monitoring databases will be maintained for all sites.
# of acres of vegetation planted (0.1 ac.)	Approx. 250 ac. will be replanted or reseeded with native plants.
# of acres treated (0.1 ac)	Approximately 400 acres will be mowed or sprayed for control of weedy invasives and exotics.
Create, Restore, and/or Enhance Wetland	Wetlands will be enhanced or created at South Pasture, Frontage Road, Shenk, and Mill Creek.
Prepare HEP Report	HEP baseline evaluations are planned for Green Island, Canby Landin, EE Wilson, and Herbert Farms and have been scheduled with the regional HEP team for August.
Conduct Pre-Acquisition Activities	Pre-acquisition activities are planned for 4-5 sites near EE Wilson and potentially near other active restoration or mitigation sites.

1996-070-00 - Mckenzie Focus Watershed (Expense) MWC

Description: Continue McKenzie River Focus Watershed Program Coordination. Develop, coordinate, plan, design, implement and monitor habitat protection, restoration and water quality projects; improve resource stewardship through public outreach and educaiton

Accomplishments

FY03, FY04, FY05 (to present date):
Planning and Coordination - Convened 28 Council meetings; Attended 19 basin-wide meetings/conferences; Coordinated Mohawk Watershed Partnership, including 28 meetings and 10 newsletters; Convened McKenzie/Willamette Confluence Steering Committee 8 times; Informed decision-makers about watershed issues; Conducted 63 presentations to local community groups; Coordinated 3,400 volunteer hours on watershed council projects; Increased annual funding through matching funds (~$1,000,000 - not including current year match); Ongoing maintenance of office; Finalized transition to nonprofit status; Created Education, Finance and Projects Committee in FY05, each committee has meet at least once since inception; Developed Business Plan; Renewed office lease; Coordinated 16 habitat restoration projects; Coordinated 6 culvert replacement projects; Coordinated 1 project site tour; Convened Water Quality Committee 10 times and adopted Macroinvertebrate Monitoring Report; Coordinated monthly tributary monitoring; Coordinated 3 annual macroinvertebrate sampling events; Map development through ArcView used to enhance outreach efforts; Attended 3 McKenzie River Cooperative Maintenance and Security Partnership meetings; Produced and distributed 8 McKenzie Watershed Council newsletters, Produced 25 community events to encourage public participation in watershed; Provided water quality education and guidance to K-12 students and teachers; Utilized and trained volunteers to present "Salmon Picnic"; Produced 2 community workshop events encouraging best management practices.

Reporting - 2 Annual Reports delivered to BPA.

RM & E and Data Management –
Developed project database to track Conservation Strategy implementation; Disseminated water quality monitoring data via website.

Goals

Continued McKenzie River Watershed Program Coordination. Develop, coordinate, plan, design, and monitor habitat protection, restoration and water quality projects; improve resource stewardship through public outreach and education.

FY06 Goals:

Planning and Coordination - Convene 11 McKenzie Watershed Council meetings; Attend 6 basin-wide meetings/conferences; Continued coordination of Mohawk Watershed Partnership; including 11 meetings and 4 newsletters; Convene 3 McKenzie/Willamette Confluence Steering Committee meetings and develop and fund 2 new projects; Meet with local decision-makers to inform about watershed council activities and issues; Increase annual funding through match funds; Continue high quality office maintenance; Renew Business Plan goals; Coordinate continued management of 24 restoration projects and develop 3 new projects for FY07; Coordinate 3 culvert replacement projects; Coordinate 1 project site tour; Convene Water Quality Committee 3 times - review DEQ trends analysis and revise with local trends information; Coordinate annual macroinvertebrate collection event, Coordinate monthly tributary monitoring efforts with local school districts; Continue map development efforts, use maps to enhance outreach efforts; Attend annual McKenzie River Cooperative Maintenance and Security Partnership meeting; Produce and distribute 2 McKenzie Watershed Council newsletters, Coordinate at least 6 community outreach events and 1 landowner workshop; Provide water quality education and guidance to K-12 students and teachers; Train volunteers to aid in "Salmon Picnic" presentations; Revise Conservation Strategy Benchmarks.

Reporting - 1 Annual Report delivered to BPA; 4 Status Reports delivered to BPA.

RM & E and Data Management: Update project database; Disseminate water quality data conducted in watershed to interested stakeholders.

2000-016-00 - Tualatin River National Wildli (Expense) USFWS

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.

Accomplishments

All internal cross fencing was removed.
Detailed topographic survey was completed.
Planning, including a five-year restoration and management plan, and baseline HEP was completed.
Engineering and design was completed.
Habitat restoration of 115 acres of oak savanna was initiated, and work will continue during 2005.
Control of non-native invasive plant species was initiated and will continue during 2005.
Baseline vegetation and wildlife surveys were conducted and will continue during 2005.
Detailed water well survey and test wells were completed using FWS funds.
Wetland enhancement of 30 acres will be completed during 2005, pending allocation of the requested within-year increase of $99,683.
Water well, delivery pipeline, and associated infrastructure to deliver water to enhanced wetlands will be completed during 2005, using FWS funds.

PAST Metric / Work Element	Value or description
# of acres treated (0.1 ac)	50.0

Goals

Enhance 30 acres of seasonal emergent wetland.
Restore 11 acres of scrub-shrub wetland.
Restore 20 acres of wet meadow prairie.
Restore 7 acres of Oregon ash woodland.
Initiate restoration of 27 acres of riparian forest adjacent the Tualatin River.

1995-057-01 - S Idaho Wildlife Mitigation (Expense) IDFG

Description: Protect, enhance, restore and maintain wildlife habitats to mitigate for construction losses at Anderson Ranch, Black Canyon and Deadwood dams.

Accomplishments

2002 to present: Protection and management of the BPA-purchased Krueger property (166 acres, 57 HUs).

Goals

Continue on-going oversight of the property and fulfill legal obligations for noxious weed control -Metrics 22, Maintain Vegetation; and
53, Remove Vegetation.

1997-019-00 - Stinking Water Salmonid Project (Expense) Burns Paiute Tribe

Description: Evalute and determine the life history, distribution, and critical habitats pertainant to populations of bull trout and other salmonids within the Malheur subbasin.

Accomplishments

FY 2003 and 2004 Accomplishments
Category - RM & E and Data Management
Work Element - Collect Data

Metric Description - Reservoir and River Fish Collection
Value - 2736 Trap Hours

Metric Description - Distribution Survey on Big Creek, Lake Creek and Meadow Fork Creek
Value - 25.05 River KM Sampled

Metric Description - Distribution Survey
On Logan Valley Mitigation Site – Project #2000-09-00
Value - 2600 meters of Big Creek and Lake Creek Sampled.

Metric Description - Upper Lake Creek Population
And Distribution Survey
Value - 7.2 River KM Sampled

Metric Description - Stream Temperature Data
Value - 3 Annual Monitoring Sites on Logan
Valley Mitigation Site Project #20000900

Metric Description - Tailrace Fish Collection
Value - 120 Creel Hours

Metric Description - Summer Distribution Survey
On Malheur River Mitigation Site – Project #2000-027-00
Value - Electroshocked via drift boat 7 sites in 2003 – 3080 seconds of electro-fishing time
Electroshocked 9 sites approximately 900 meters of the Malheur River

Metric Description - Bull Trout Spawning Surveys
Value - 122.2 Stream miles Surveyed

Metric Description - Radio Tagged Bull Trout (subadult) from North Fork Malheur River and Upper Malheur
Value - 19 fish tagged

Metric Description - Tissue Samples from Bull, Brook, and Brook/Bull Hybrid Fish from
Lake Creek and Meadow Fork Creek

Value - 1,253 Total Tissue Samples

Metric Description - Genetic Analysis of Brook, Bull, and brook/bull hybrids from Lake Creek
Value - 460 fish analyzed by USFWS Abernathy
Fish Technology Center

Annual report for FY 2003 has been completed and submitted to BPA. Annual Report for FY 2004 is currently in

draft form. Final Report for FY 2004 is due September 1, 2005 to BPA according to contract.

Goals

FY 2006 Goals
Category - RM & E and Data Management
Work Element - Collect Data
Metric Description - Collect Tissue Samples from Bull and Redband Trout from Elk Creek, Sheep Creek, Horseshoe Creek
Value - Collection of 300 Tissue Samples

Metric Description - Tissue Samples from Redband Trout from Canyon and Black Canyon Creeks
Value - 100 Tissue Samples

Metric Description - Genetic Analysis of Bull
Bull and Redband Trout from Elk Creek, Sheep
Creek, Horseshoe Creek
Value - Analysis of 300 Tissue Samples

Metric Description - Genetic Analysis of Redband Trout from Canyon, Hunter and Black Canyon Creeks
Value - Analysis of 150 Tissue Samples

Metric Description - Population and Distribution Surveys on Canyon and Black Canyon Creeks
Value - 11 miles of survey

Metric Description - Habitat Surveys on Canyon and Black Canyon Creeks
Value - 11 miles of survey

Metric Description - Stream Temperature Data
Value - 3 Sites on Logan Valley Mitigation Site
Project #2000-09-00

Metric Description - Bull Trout Spawning Surveys
Value - 58 Stream miles surveyed

2000-009-00 - Logan Valley Wildlife Mitigati (Expense) Burns Paiute Tribe

Description: Restore and enhance critical fish and wildlife habitat, enhance historic home range and seasonal habitat for resident and migratory species, control weeds, and improve water quality for headwaters of the Malheur River Basin.

Accomplishments

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Conducted a field trip in both 2003 and 2004 for local schools. Approximately 60 students and 1 teacher were involved annually. Tribal education of the mitigation process continues.
Produce Inventory or Assessment	Eastern Oregon Agricultural Research Center is conducting research on the project site to determine the effects of sub-surface irrigation efforts. In addition, monitoring of willow regeneration is occurring.
Coordination	Coordination has occurred with the USFWS, Eastern Oregon Agricultural research Center, USFS, Oregon Department of Fish and Wildlife, U.S. Department of Agriculture farm services, Harney Co Watermaster, and local ranchers to coordinate conservation efforts
Produce Annual Report	An annual report was produced for both 2003 and 2004.
Produce Status Report	3 quarterly reports were submitted for both 2003 and 2004. The first quarterly report for 2005 has also been completed.
Develop Alternative Water Source	A water trough and pump were purchased to eliviate the need for water gaps and reduce the potential of stream bank erosion and riparian degredation.
# of acres of vegetation planted (0.1 ac.)	30 acres were seeded with Idaho Fescue.
# of riparian miles treated (0.01 mi.; count each bank separately)	Planted willows along 2 miles of stream to encourage willow regeneration. Involved tribal youth members to give them an opportunity to experience working for the benefit of wildlife.
# of acres treated (0.1 ac)	Thinned approximately 30 acres of lodgepole pine forest. In addition, cattle treat an average of 250 acres annualy to reduce residual vegetation and create a mosaic of available habitats.
Maintain Terrestrial Structure	16.5 miles of permanent fence are maintained annually. In addition, 2 miles of drop-down fence are raised and lowered. As much as 5 miles of electrical fences are erected annually to define cattle pastures and prevent riparian damage.
Replace/Maintain Instream Structure	Work continues to replace head gate structures to better control water use and maintain water rights.
Maintain Vegetation	Contain and or eradicate colonizing weed populations through herbicide applications.
Operate/Maintain Facility	Maintained facilities at project site including cabin, barns, sheds, corrals, and livestock scales.

Investigate Trespass	Public access is controlled and monitored throughout the field season. Cattle are monitored from June through September to ensure appropriate land use.
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	We have begun the process, along with the USFS, of installing a fish screen at the head of an irrigation canal which will allow us to utilize a water right that has not been in use for 4+ years.
# of road miles improved, upgraded, or restored	Coordinated with USFS to install a bridge that crosses Lake Creek and allows access to the project site without having to drive through the creek and create sedimentation or degrade the stream bank. 0.01 miles of road improved.

Goals

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Continue outreach programs to educate the public about fish and wildlife and the mitigation process.
Coordination	Continue to coordinate with federal, state, county, and other government agencies along with private landowners in a cooperative effort for the benefit of fish and wildlife.
Produce Annual Report	Produce an annual report at the end of each fiscal year.
Produce Status Report	Produce 3 quarterly reports throughout the fiscal year.
Conduct Controlled Burn	Perform a small scale burn (10 acre) to determine vegetation response with a long term goal of reintroducing natural fire regime.
Develop Alternative Water Source	Investigate water driven pumps to determine feasibility of creating off-site water for cattle.
# of features	Create additional snags, hang nest boxes, and bat boxes. # of features unknown.
# of miles of fence (0.01 mi.)	Install 5 miles of let down fence to protect riparian corridors along Lake Creek.
# of riparian miles treated (0.01 mi.; count each bank separately)	Continue to reestablish willows along riparian corridors. Six miles of riparian treated.
# of acres treated (0.1 ac)	Continue to control noxious weeds as needed. Spot spraying only. Maximum of 1 acre treated.
Create, Restore, and/or Enhance Wetland	Install flashboard risers to make irrigation efforts more effecient and effective.
Maintain Terrestrial Structure	Continue to maintain cabin, barns, sheds, corrals, cattle scale.
Maintain Vegetation	Irrigation will be utilized to maintain wet meadow complex. In addition, cattle will be used as a vegetation treatment.
Operate/Maintain Facility	Maintain fish screens at irrigation diversions.

Investigate Trespass	Continue to monitor and controll access and recreation activities on the project site.

2000-027-00 - Acquisition Of Malheur Wildlif (Expense) Burns Paiute Tribe

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

Accomplishments

PAST Metric / Work Element	Value or description
Produce Plan	We are in the final stages of completing the management plan for the project site.
Produce Annual Report	An annual report has been produced for both 2003 and 2004.
Produce Status Report	Three quarterly reports were produced for both 2003 and 2004.
Develop Alternative Water Source	Protected spring by developing off-site water for cattle and fencing spring site.
# of miles of fence (0.01 mi.)	Created 6 miles of fence to exclude cattle from riparian corridors and protect redband trout spawning habitat.
# of acres of vegetation planted (0.1 ac.)	Eighty two acres have been converted from hay meadows to either food plots or native grass plantings. An additional 35 acres are currently being converted into alfalfa.
# of riparian miles treated (0.01 mi.; count each bank separately)	Planted 1,250 cottonwood trees in riparian corridors treating 12 miles of stream bank.
# of acres treated (0.1 ac)	Approximately 6,000 acres are monitored for noxious weeds annually however only about 350 need treatment.
Create, Restore, and/or Enhance Wetland	Restoring beavers on the property has resulted in creating a 5 acre wetland.
Maintain Terrestrial Structure	Maintained houses, barns, sheds, corrals, fences, and all equipment associated with operation of the project site.
Estimated # of miles of secondary stream reach improvement	1/4 mile of irrigation canal was lined to increase efficiency of water transfer and allow the irrigation of an additional 35 acres.
Collect/Generate/Validate Field and Lab Data	Established vegetation plots to monitor management effectiveness.
Maintain Vegetation	Approximately 200 acres of meadow are hayed each year to initiate fall regrowth which increases palatibility and nutrient content of grasses.
Maintain Vegetation	Grazing was utilized in 2004 for noxious weed control and to increase productivity of plant communities.
Maintain Terrestrial Structure	Each year irrigation ditches are excavated, burned, or otherwise maintained to ensure efficient water transfer.

Goals

CURRENT Metric / Work Element	Value or description
Develop Pond	We would like to create multiple ponds (1-5) to increase waterfowl resting and brood rearing habitat and increase the amphibian distribution.
# of features	We would like to install 50-100 nest boxes and/or nest platforms adjacent to wetland and riparian areas.
Produce Annual Report	We will continue to provide an annual report.
Produce Status Report	We will continue to provide 3 quarterly reports throughout the fiscal year.
Develop Pond	Install an artisian well that will maintain pond hydrology throughout the year and provide waterfowl nesting, resting, and brood rearing habitat. In addition, amphibian populations will benefit.
# of acres treated (0.1 ac)	Continue to treat 350+ acres to control weeds.
# of riparian miles treated (0.01 mi.; count each bank separately)	Plant fruit bearing trees and shrubs along riparian corridors. We will treat approximately 6 miles of riparian with 5,000 - 10,000 shrubs.
# of miles of fence (0.01 mi.)	Fence spring sites in Hunter Creek drainage to decrease damage from wildlife and livestock. Maximum of .5 miles of fence installed.
Maintain Terrestrial Structure	Continue to maintain houses, barns, sheds, fences, and corrals as needed.
# of acres of vegetation planted (0.1 ac.)	Continue to reestablish bitterbrush and native bunchgrass communities that have been depleted over the past 50 years. 10-20 acres treated.
# of miles of fence (0.01 mi.)	Continue the process of converting all fences to "wildlife friendly" which includes a smooth wire on top and smooth wire on bottom. 1 mile of fence treated.
# of miles of fence (0.01 mi.)	Remove fencing that is no longer needed or is in disrepair that may hinder wildlife movement. .5 mile of fence treated.
Maintain Vegetation	Continue to maintain meadow plant communities through irrigation and haying activities.
# of acres of vegetation planted (0.1 ac.)	Convert 18 acres of meadow grass into alfalfa to serve as a wildlife food plot.

2003-029-00 - Assess Upper Malheur Above Beu (Expense) Burns Paiute Tribe

Description: The project is broke into two phases, the first being a feasibility study on the reintroduction of anadromous fish in the Malheur Subbasin. The second phase is the development of a reintroduction plan for the Subbasin.

Accomplishments

No direct funding has been provided by Bonneville Power Administration for this project. Nevertheless, Task 1.2 and 1.3 relate to the collection of existing data and this has been done by Idaho Power Company (IPC) in their Reintroduction Feasibility Study submitted in their draft License Application to the Federal Energy Re-licensing Commission, The NPCC Malheur River Subbasin Plans, and project no. 199701900, Evaluate the Life History of Native Salmonids in the Malheur River Basin. The Idaho Power Re-licensing study drew some strong assumptions that conflict with ongoing research finding in project 199701900. Studies that utilize live anadromous fish needed to complete Phase I are: 1) Adult Behavior and Egg-to-Fry Survival, 2) Juvenile Migration Behavior and 3) Survival, Juvenile Transportation / Adult Return. Many of the other tasks identified in the original proposal under Phase are suspected to be completed by the IPC in their re-licensing effort.

Goals

Category – Planning and Coordination

Work Element – Coordination

Metric Description – Obtain necessary state / federal permits and coordinate efforts with cost share entities.

Value – All necessary animal transportation and release permits.
Value – Coordinated work plan with cooperators and cost share entities.

Category – RM & E and Data Management

Work Element – Collect Data

Metric Description – Adult Behavior and Egg-to-Fry Survival Study on the Malheur River Reach (above Warm Springs Dam) and North Fork Malheur River Reach (above Agency Valley Dam).

Value – Radio tag 100 Adult Salmon per reach
Value – Weekly migration observations through radio tracking tag fish per reach
Value – Determine spawning locations per reach
Value – Cap natural redds and create artificial redds in same are and plant eggs per reach
Value – Determine incubation success from natural and artificial redds per reach

1995-015-00 - Lake Billy Shaw O&M And M&E (Expense) Shoshone Paiute Tribe

Description: The purpose of this Operation and Maintenance(O&M) project is to enhance and develop the Billy Shaw fishery area as a premier fishery in the Northwest U.S. Stocking with native fish (or suitable species) shoreline and water quality enhancement/monitorin

Accomplishments

All three reservoirs received 4-star ratings from the Idaho Statesman in 2003-2005. Lake Billy Shaw has become a destination location known for its excellent fisheries and remote location with high quality scenic and natural values. We have received many compliments from anglers about the higher-level of maintenance, scientific study, and dissemination of fishery and reservoir information over the past 3 years.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	2003: assembled and prepared EC documents; developed maps for EC documentation; conducted public involvement activities
Produce Environmental Compliance Documentation	2004: same as 2003 plus conducted cultural resources survey and worked with Nevada SHPO
# of acres treated (0.1 ac)	2003: 5 shoreline acres treated to remove tamarisk (salt cedar)
# of acres treated (0.1 ac)	2004: 5 acres treated to remove tamarisk; woody vegetation removed from Lake Billy Shaw dam
# of road miles improved, upgraded, or restored	2003: approximately 13 miles of perimeter and boat launch roads maintained at LBS; gravel added and grade maintained; 11 culverts installed; 7 cattle guards maintained
# of road miles improved, upgraded, or restored	2004: perimeter road maintainted; culverts maintained; gravel and rip-rap added
Maintain Terrestrial Structure	2003: 5 portable restrooms installed and maintained; 5 off-site stock water ponds maintained and 2 additional ponds enhanced; 12 miles perimeter fence with 8 gates maintained and 28 rock jacks were installed; 1 solar-powered pump and trough maintained
Maintain Terrestrial Structure	2004: maintained 5 portable restrooms, 6 stock water ponds, 12 miles perimeter fence with 8 gates and 29 rock jacks, 1 solar-powered pump and trough
Maintain Vegetation	2003 and 2004: irrigated native plantings and maintained areas where tamarisk were removed; deepened water wells for trees; installed support posts; maintained photopoints and created maps
Produce Status Report	2003: produced monthly progress reports to match invoices; 2004: produced monthly progress reports to match invoices
Manage and Administer Projects	2003: managed subcontracts with fish suppliers; accrual and other financial reporting for BPA; development of SOW package; management of budget, purchasing, personnel, etc.
Manage and Administer Projects	2004: managed subcontracts with fish suppliers; accrual and other financial reporting for BPA; development of SOW package; management of budget, purchasing, personnel, etc.

# of riparian miles treated (0.01 mi.; count each bank separately)	2004: planted 170 regionally native trees and shrubs at LBS; 30 trees and shrubs planted at Mountain View for Arbor Day celebration; approximately 200 willows were planted along shoreline using Stinger technology
# of riparian miles treated (0.01 mi.; count each bank separately)	2003: one mile of shoreline planted with willows and tules using Stinger we constructed
Operate/Maintain Facility	2003: inspected and maintained LBS reservoir, dam, diversion structures, fish screens, trash racks and associated structures; stocked fish in 3 reservoirs; monitored seepage at LBS
Operate/Maintain Facility	2004: same as 2003 plus installed 2 weirs to monitor seepage
Collect/Generate/Validate Field and Lab Data	2003: data collected for water levels, water quality, creel surveys, and gill netting at all three reservoirs; bird species and plant species data collected at LBS
Collect/Generate/Validate Field and Lab Data	2004: water level and quality data, creel surveys and gill netting data gathered at 3 reservoirs; wildlife surveys at LBS
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	2003: held public meetings; wrote articles for papers; developed fishing guide; hosted Boy Scouts; had classes at LBS for elementary school; hosted 6 youth workers; helped create 6th grade class science fair project; participated in community gatherings
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	2004: same as 2003 plus developed website; hosted t.v. fishing program for kids at LBS; worked with Boy Scouts to create interpretive sign depicting prey items for trout
Produce Annual Report	Annual reports produced for 2003 and 2004
Manage/Maintain Database	2003 and 2004: spreadsheets for reservoir data maintained, including creel, gill net, water quality, water level, and species data. GIS database maintained, and website maintained.

Goals

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Produce and assemble documents and maps for EC documentation; continue public involvement activities
# of road miles improved, upgraded, or restored	Maintain 13 miles of perimeter and boat launch roads including cattle guards
# of riparian miles treated (0.01 mi.; count each bank separately)	Plant 1 mile of native vegetation with Stinger jet; locate ditches where willows will be removed by other Tribal programs, and use those cut willows from there. Plant 100 native trees and shrubs.
# of acres treated (0.1 ac)	Remove any new tamarisk along shoreline of LBS.
Maintain Terrestrial Structure	maintain 5 portable restrooms, 6 stock water ponds, 12 miles perimeter fence with 8 gates and 29 rock jacks, 1 solar-powered pump and trough

Operate/Maintain Facility	Monitor seepage at LBS; inspect and maintain LBS dam, diversion structures, fish screens, paddle wheels, weirs, portable restrooms, pump house, trash bins; maintain vehicles and equipment
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Reach 60 students, 2,000 general public, and 8 teachers through teaching classes, hosting youth workers, writing articles, maintaining website, distributing fishing guide, hosting events and attending events
Manage and Administer Projects	Manage personnel, fish supplier subcontracts, administrative work, budget, purchasing, BPA financial reporting and accruals, SOW package, and general project management activities.
Produce Annual Report	Produce annual report.
Produce Status Report	Produce monthly status reports.
Operate/Maintain Facility	Stock Lake Billy Shaw, Sheep Creek, and Mountain View reservoirs with rainbow trout.
Produce Plan	Revise M&E Plan for Lake Billy Shaw reservoir.
Collect/Generate/Validate Field and Lab Data	Collect water quality, water level, creel, gill net, wildlife and vegetation survey data. Manage and analyze data to guide management of reservoirs.
Manage/Maintain Database	Maintain GIS database and data spreadsheets.

1995-057-03 - S Idaho Wildlife Mitigation (Expense) Shoshone Paiute Tribe

Description: Acquire, enhance and protect wildlife habitat to mitigate for the construction of Anderson Ranch, Deadwood, and Black Canyon hydroelectric facilities.

Accomplishments

PAST Metric / Work Element	Value or description
Conduct Pre-Acquisition Activities	Performed appraisal, title search, land boundary survey, and developed legal description and maps for one land parcel.
Identify and Select Projects	SIWM is a consensus-based group and we identify priority land parcels and priority projects together.
Coordination	Coordination with land owners, SIWM participants, federal agencies, non-profits, and groups interested in wildlife mitigation and conservation.
Produce Inventory or Assessment	Identify land parcels for land acquisition and estimate minimum HUs.
Produce Status Report	Produced Quarterly Reports.
Produce Annual Report	Produced Annual Reports.
Produce Environmental Compliance Documentation	Assembled and developed all required EC documentation.
Manage and Administer Projects	Completed tasks in support of BPA's programmatic requirements, including SOW package and financial reporting. Basic project management tasks.

Goals

CURRENT Metric / Work Element	Value or description
Prepare HEP Report	Present HEP report and estimated HUs for land parcel.
# of acres of new purchase/easement (0.1 ac.)	Acquire 2,500 acre wildlife property
Produce Environmental Compliance Documentation	Coordinate cultural resources and hazardous waste surveys; prepare NEPA documents.
Identify and Select Projects	Identify willing landowners and cost-sharing partners; maintain good relations with groups interested in wildlife mitigation. Coordinate with SIWM members to identify and select priority projects. Coordinate MOA document and signing. Attend HEP trainin
Conduct Pre-Acquisition Activities	Conduct all pre-acquisition activities for priority land parcel and negotiate purchase agreement.
Produce Annual Report	Deliver Annual Report to BPA.
Produce Status Report	Produce Quarterly Status Reports.

1997-011-00 - Shoshone-Paiute Habitat Enhanc (Expense) Shoshone Paiute Tribe

Description: This project increases critical riparian areas of the Owyhee River and its tributaries as well as preserves the numerous natural springs located on the Duck Valley Indian Reservation. Provides a clean pure source of water for the fish and wildlife.

Accomplishments

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	All EC documents were prepared, and maps and other documents were generated or assembled for 2003 and 2004 project years.
Manage and Administer Projects	For FY03 and FY04, SOW packages and all BPA programmatic requirements were completed; budgets and purchasing were managed; invoices were submitted in a timely manner; general project management; equipment and vehicles were maintained.
Maintain Terrestrial Structure	In 2003 & 2004, all fences, enclosures, rock jacks, off-site watering structures, bioengineering projects, culverts, and backcountry road project structures were maintained.
Replace/Maintain Instream Structure	Replaced and maintained improved stream crossings and bioengineering projects in Skull Creek, N.Fork Skull Creek, Fawn Creek, and Summit Creek.
# of stream miles treated (0.01 mi.)	2003: Developed plan in cooperation w/ Tribal Environmental Program (TEPP) to restore 3 miles of the E.Fork Owhyee River.
# of structures installed	2003: 3 road crossing areas on Skull Creek and 1 on N.Fork Skull Creek had banks re-shaped, vegetation added, and stream meanders re-routed
Produce Inventory or Assessment	In 2003, in cooperation with the Tribal Environmental Protection Program, DVIRFG delineated wetlands and assessed wetland types on the reservation in order to develop a Wetlands Management Plan.
Develop Alternative Water Source	In 2003, several off-site watering troughs were placed to keep livestock out of the E.Fork Owyhee River, its tributaries, and sensitive springs.
# of road miles improved, upgraded, or restored	In 2003, the unimproved road causing sediment loading to Fawn Creek (a pure redband trout stream) was improved with sediment reduction measures including 6 road crossings for springs, sediment catchment basins, and about 20 drainage dips.
# of road miles improved, upgraded, or restored	In 2003, 13 drainage dips were installed in the road following Skull Creek (pure redband trout stream). Sediment catchment basins using geo-jute were also installed.
# of riparian miles treated (0.01 mi.; count each bank separately)	.5 miles of Skull Creek were re-vegetated in FY03; department constructed a "Stinger" water jet for willow planting.
# of miles of fence (0.01 mi.)	At least 5 miles of fencing installed for spring exclosures; at least 5 miles of fencing of riparian areas in FY03.

Produce Plan	In 2004, DVIRFG completed and submitted the M&E Plan for Habitat Enhancment projects. The Plan was accepted by both ISRP and BPA.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Science fair projects with youth; hosted 6 youth workers; hosted public meetings, workshops, and celebrations; developed science curriculum and taught classes for elementary school; macroinvert sampling w/ Boy Scouts; wrote articles for paper
Produce Annual Report	Produced annual reports.
Produce Status Report	Produced Quarterly Reports.
Collect/Generate/Validate Field and Lab Data	2003: collected water quality data on 16 streams and the E.F. Owyhee River; collected water, soil, and fish samples on 3.5 miles of the Owyhee River with Tribal Environmental Protection Program to test for metals from upstream abandoned mine site.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Deputy Director delivered presentations at Annual Wildlife Society meeting; livestock symposiums; Tribal Council meetings; CBFWA Resident Fish Committee meetings

Goals

CURRENT Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Implement M&E Plan
Maintain Terrestrial Structure	Maintain all fences, off-site watering structures, road improvements, rock jacks, etc.
Replace/Maintain Instream Structure	Maintain all stream crossings, road crossings, culverts, re-shaped banks and re-located stream meanders.
Produce Plan	Work with TEPP to develop Wetlands Management Plan.
Produce Annual Report	Produce Annual Report
Produce Status Report	Produce Quarterly Reports.
Manage and Administer Projects	Complete SOW package; BPA programmatic requirements; financial reporting; timely invoicing; general contract and project management.
# of miles of fence (0.01 mi.)	Install 5 miles of riparian fencing; protect 4 springs with fencing
Develop Alternative Water Source	Develop 4 alternative watering sites with troughs and strategic mineral placements
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Reach 60 students; 300 general public; 5 teachers.
Produce Environmental Compliance Documentation	Produce and assemble all required EC documentation and maps.
Manage/Maintain Database	Manage and maintain data for local and larger databases.

2003-026-00 - Inven/Eval Duck Valley Reserva (Expense) Shoshone Paiute Tribe

Description: Conduct wildlife surveys to determine species composition and relative abundance on the Duck Valley Indian Reservation. HEP analyses will be conducted to determine habitat suitability index for target wildlife species.

Accomplishments

Goals

1998-002-00 - Snake River Native Salmonid As (Expense) IDFG

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 Hells Canyon Dam in Idaho, and implement recovery/protection plans.

Accomplishments

Major accomplishments in FY03
• Performed 477 fish and habitat surveys in southwest Idaho in 2003.
• Analyzed the factors affecting the distribution and abundance of Yellowstone cutthroat trout in the Upper Snake River Basin. Incorporated into 2002 annual report.

Major accomplishments in FY04
• Completed a Bull Trout Status Assessment for Idaho in December 2004. It will be submitted for publication in a scientific journal.
• Performed 400 fish and habitat surveys in southwest Idaho in 2004.
• Installed and retrieved temperature loggers from over 200 locations to monitor summer (Jun – Sep) water temperature, bringing our total number of locations where we have joint surveys of water temperature and fish survey information to over 200.
• Completed the Yellowstone Cutthroat Trout Status Assessment in Idaho in July 2004. It will be submitted for publication in a scientific journal. Incorporated into 2003 annual report.

Major accomplishments in FY05
• Finalized sample site selection, study methodology, and hypotheses to be tested for our redband trout genetic study. Analysis is underway.
• Finished analyzing the effectiveness of a 3-year brook trout removal project that ended in 2003. This data will be in the 2004 annual report and will soon be submitted to a peer-reviewed journal.
• Completed one of two parts of the Yellowstone cutthroat trout genetic analysis using microsatellite and mitochondrial DNA analysis to determine purity, relatedness, genetic diversity, and other questions. Both parts will be submitted for publication in scientific journals.
• Finished first year evaluating an alternative technique (pheromone attractants) for brook trout removal from streams where they threaten native salmonids. It will be submitted for publication in a scientific journal, and also will be Part 2 of 2004 annual report.

PAST Metric / Work Element	Value or description
Produce Inventory or Assessment	Produced Bull Trout and Yellowstone Cutthroat Trout Status Assessments since 2003
Coordination	Exchanged data with and attended meetings with numerous federal, state, tribal, and other agencies.
Produce Annual Report	Produced annual reports for each year of project without exception.
Produce/Submit Scientific Findings Report	Currently working on 6 manuscripts that are in various forms of readiness for submittal to journals.
Collect/Generate/Validate Field and Lab Data	Collected water temperature from 61 locations since 2003, tied directly to fish surveys.
Submit/Acquire Data	Performed 877 fish and habitat surveys in southwest Idaho since 2003.

Manage/Maintain Database	Have entered all fish and habitat surveys done to date (2,344) into a database that has been shared extensively, and done QA/QC.
Disseminate Raw & Summary Data	Have shared project data through dozens of inquiries since 2003.

Goals

Major accomplishments in FY06
• Conduct 2nd year of study on pheromone attractants to remove brook trout from streams.
• Finalize data collection at 70 additional study sites (mostly large-river mark-recapture surveys) for a Mountain Whitefish Status Assessment in the Upper Snake River Basin.
• Collect remaining genetic fin clips necessary for redband trout genetic study.
• Initiate a graduate student study to evaluate growth of RBT from desert vs. montane streams to assess differences.
• Initiate the Redband Trout Status Assessment.
• Continue to compile data into a database.

CURRENT Metric / Work Element	Value or description
Coordination	Goal 1: Coordination will be ongoing for data sharing, study site selection, etc.
Produce Annual Report	Goal 2: FY06 annual report will cover Redband Trout or Mountain Whitefish Status Assessment.
Develop RM&E Methods and Designs	Goal 3: Second year of study on brook trout pheromone attractants for a removal technique and first year of study on redband trout growth in desert and montane streams will be conducted, following finalization of study design considerations.
Collect/Generate/Validate Field and Lab Data	Goal 4: Collect remaining fin clips necessary for redband trout genetic population structure study we are conducting.
Submit/Acquire Data	Goal 5: Conduct fish surveys at 70 study sites (mostly large-river mark-recapture surveys) for a Mountain Whitefish Status Assessment in the Upper Snake River Basin.
Manage/Maintain Database	Goal 6: Data will continue to be stored in a database and QA/QC will be performed.

1999-032-00 - Consumptive Sturgeon-Hells Can (Expense) Nez Perce Tribe - Lapwai

Description: The goal of this proposed project is to determine the feasibility of a put, grow, and take white sturgeon fishery in Oxbow and Hells Canyon reservoirs.

Accomplishments

Goals

1991-019-01 - Hungry Horse Mitigation/Flathe (Expense) Salish & Kootenai Tribes

Description: Implement and monitor fisheries improvement activities for native species and conduct a feasibility study on the reintroduction of sharp-tailed grouse. Research factors limiting the successful application of mitigation and restoration measures.

Accomplishments

2003 - Monitoring: Flathead Lake trend series on native species abundance, ongoing creel survey, measurement of lake trout biology parameters.

Research: Development of bioenergetics model and identification of shoreline erosion rates.

Restoration: 3 miles of riparian fence, 2 culvert upgrades, 3 miles of road decommissioned, 200 m riparian planting, 1500 lake trout suppressed, 50 m channel reconstruction, 600 m lake shoreline restoration.

2004 - Monitoring: Flathead Lake trend series on native species abundance, ongoing creel survey, measurement of lake trout biology parameters, off-site reservoir creel.

Research: Development of bioenergetics model and identification of shoreline erosion rates.

Restoration: 1 mile of riparian fence, 200 m riparian planting, 3500 lake trout suppressed.

2005 - Monitoring: Flathead Lake trend series on native species abundance, ongoing creel survey, measurement of lake trout biology parameters, off-site reservoir creel.

Research: Development of bioenergetics model and identification of shoreline erosion rates.

Restoration: 2 miles of riparian fence, 800 m riparian planting, 4 miles road decommissioning, 9500 lake trout suppressed.

Goals

Objective 1: Monitor native species abundance
Metric: Collect/Generate/Validate Field Data Conduct annual gillnetting to determine the population responses to mitigation measures. This work has been conducted in every year of the project, contributing to a very long and important data set defining trends in native species.

Objective 2: Monitor angling pressure and harvest
Metric: Collect/Generate/Validate Field data
Conduct the ongoing creel survey to quantify catch and harvest rates with roving and access site interviews, and quantify pressure through aerial counts. This work has been ongoing since 1998 and provides feedback on non-native species suppression and population responses to mitigation.

Objective 3: Monitor lake trout biology
Metric: Collect/Generate/Validate Field Data
Measure age and length at maturity, fecundity, growth and mortality rates, and year class strength. These parameters are measured annually and are critical data for understanding and monitoring suppression of this top predator. Without suppresion we cannot achieve our goals of native species restoration.

Objective 4: Monitor success of off-site stocking
Metric: Collect/Generate/Validate Field Data
This work is done annually to confirm the success of stocking in small reservoirs, which we do to replace lost opportunity.

Objective 5: Research food web interactions
Metric: Collect/Generate/Validate Field Data
The bulk of this work will be completed in 2005 with the finalization of the comprehensive bioenergetics model. Limited monitoring will continue in future years.

Objective 6: Research and design solutions to shoreline erosion.
Metric: 1)Collect/Generate/Validate Field Data
2)Upland Erosion, Sedimentation Control
3)Enhance Floodplain, Restore Wetland

Objective 7: Conduct fisheries habitat restoration
Metrics: Potentially all habitat improvement metrics. Specifically we plan to decommission roads, install fence, plant riparian areas, remove passage barriers, reconstruct degraded channels, and suppress non-native species.

1991-019-03 - Hungry Horse Mitigation/Habita (Expense) MFWP

Description: Enhance and protect native fish communities in the Flathead Basin through watershed assessments, fish passage improvements, habitat enhancement, off-site fishery restoration, applied research, and project- and watershed level monitoring.

Accomplishments

This project uses a combination of stream habitat restoration, fish passage improvement, hatchery technology and offsite mitigation to offset NPCC-approved fisheries losses caused by the construction and operation of Hungry Horse Dam.

Note: All location coordinates are decimal degrees; Montana State Plane

1999 – Hubbart Reservoir was treated with 800 gallons of rotenone at minimum pool elevation to remove an over abundance of yellow perch.

2000 - Eliminated two fish passage barriers in Paola Creek; one at Highway 2 crossing and one at Forest Service Road 1638 crossing. A final fish passage barrier was eliminated in 2000 and involved modifying a gradient check structure at the railroad bridge abutment.

2000 - Completed a minimum instream flow study on the South Fork Flathead River (Marotz and Muhlfeld 2000). The new minimum flow requirement was implemented by the BoR in 2001.

2000 - Completed a stream restoration and revegetation project in the lower 1.9 km of Emery Creek, a major spawning tributary to Hungry Horse Reservoir.

2000 - Participated in a cooperative fencing project in Rogers Lake with 2 other agencies and upgraded the boat ramp.

2002- Completed riparian fencing and stream restoration project in Dayton Creek.

2001 - Restored natural pool frequency to that of undisturbed referenced reaches in Hay Creek, a tributary to the North Fork Flathead River.

2002 - Dredged approximately 13,000 cubic feet of sediments and organic material from Dry Bridge Slough to deepen the existing channel and improve conditions for rearing trout.

2003 - Installed two unpstream barriers to fish migration in Abbot Creek to prevent access by hybrid rainbow trout.

2003 - Installed an upstream barrier on Gooderich Bayou to prevent rainbow trout spawning. The barrier enlarged a pond upstream providing rearing habitat for westslope cutthroat.

2003 and 2004 - Began cooperative project with the US Forest Service to replace or remove road culverts to reduce fine sediments in critical spawning areas in Coal, Granite, Whale, Red Meadow, and Big Creeks.

2004 - Completed species inventories of Mountain Lakes scheduled for chemical rehabilitation to remove nonnative fish species from the S. F. Flathead River.

2004 - Completed plan to restore LWD and natural stream pattern in Hallowat Creek.

2005- Reconstructed 1,500 foot channelized reach in Haskill Creek.

PAST Metric / Work Element	Value or description
Remove or Relocate Non-predaceous Animals	Hubbart Reservoir: Location: T-25N R-24W Section-07; -114.73593W, 47.94041N Area: 479.6 Acres
If installing a ladder, does the ladder meet NOAA specifications for attraction flow, pool dimensions, jump height, etc? (Y/N)	Paola Creek: Yes
Does the structure remove or replace a fish passage barrier? (Y/N)	Paola Creek: Yes
# of miles of habitat accessed (0.1 mi.)	Paola Creek: 5.8 miles
Was barrier Full or Partial? (F/P)	Paola Creek: Partial barrier.
Produce/Submit Scientific Findings Report	South Fork Minimum Flow Study: Completed and reported study. Location: Begin: -114.01447W, 48.34156NEnd: -114.09070W, 48.38883NLength: 8.4-km
# of stream miles treated (0.01 mi.)	Emery Creek: 1.2 miles
# of structures installed	Emery Creek: 50 structures
Start and end lat/long of treated reach (0.1")	Emery Creek: Begin: -113.92740W, 48.33643NEnd: -113.93094W, 48.37286N
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Emery Creek: B/R
# of road miles decommissioned (0.01 mi.)	Emery Creek: 3 miles
Start and end lat/long of each treated road segment (0.1")	Emery Creek: Begin: -113.92740W, 48.33643NEnd: -113.93094W, 48.37286N
# of acres of vegetation planted (0.1 ac.)	Emery Creek: 25 acres
# of riparian miles treated (0.01 mi.; count each bank separately)	Emery Creek: 2.4 miles
Enhance Floodplain	Emery Creek: Reconnected and improved floodplain
# of miles of fence (0.01 mi.)	Rogers Lake: 1.7 miles
# of road miles improved, upgraded, or restored	Rogers Lake: upgraded 75 foot boat ramp
# of miles of fence (0.01 mi.)	Dayton Creek: 2.6 miles
# of acres of vegetation planted (0.1 ac.)	Dayton Creek: 18 acres

# of riparian miles treated (0.01 mi.; count each bank separately)	Dayton Creek: 2.6 miles
# of stream miles treated (0.01 mi.)	Hay Creek: 0.2 miles
# of structures installed	Hay Creek: 12
Start and end lat/long of treated reach (0.1")	Hay Creek:Begin: -114.29012W, 48.75045NEnd: -114.28743W, 48.74947N
Develop Pond	Dry Bridge Slough: Dredged 4897.27 acres pond. Location: -114.2949W2, 48.18720NArea:
Remove or Relocate Non-predaceous Animals	Abbot Creek: Installed two barriers to preclude hybrid spawning and removed spawning adults. Mouth Location: -114.04584W, 48.39338N
Remove or Relocate Non-predaceous Animals	Gooderich Bayou: Installed barrier to preclude hybrid spawning. The barrier enlarged a pond upstream providing rearing habitat for westslope cutthroat.Location: -114.23224W, 48.26603N
# of stream miles treated before realignment (0.1 mi.)	Emery Creek: 1.2 miles
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	Emery Creek: 1.4 miles
Start and end lat/long of treated reach (0.1")	Emery Creek:Begin: -113.92740W, 48.33643NEnd: -113.93094W, 48.37286N
Identify and Select Projects	North Fork Road Project: Began cooperative project with the US Forest Service to replace or remove road culverts to reduce fine sediments in critical spawning areas in Coal, Granite, Whale, Red Meadow, and Big Creeks.
Produce Design and/or Specifications	Hallowat Creek Restoration: Produced plan to add LWD to 3 miles of critical bull trout spawning and rearing habitat.Begin: -114.36687W, 48.60181NEnd: -114.31755W, 48.57376N
# of stream miles treated before realignment (0.1 mi.)	Haskill Creek: 0.3 miles
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	Haskill Creek: 0.4 miles
Start and end lat/long of treated reach (0.1")	Haskill Creek:Begin: -114.28432W, 48.41419NEnd: -114.28476W, 48.41580N
# of stream miles treated (0.01 mi.)	Haskill Creek: 0.3 miles
# of structures installed	Haskill Creek: 5 structures
Start and end lat/long of treated reach (0.1")	Haskill Creek: Begin: -114.28432W, 48.41419NEnd: -114.28476W, 48.41580N

# of acres of vegetation planted (0.1 ac.)	Haskill Creek: 4 acres
# of riparian miles treated (0.01 mi.; count each bank separately)	Haskill Creek: 0.6 miles
Manage and Administer Projects	Hungry Horse Mitigation Program: Project management and administration continued to increase workload due to BPA programmatic requirements, such as SOWs, Pices, fiscal reporting to the NWPPC etc.
Remove or Relocate Non-predaceous Animals	South Fork Mountain Lakes Project: Completed species inventories of Mountain Lakes scheduled for chemical rehabilitation to remove nonnative fish species from the S. F. Flathead River.
Identify and Select Projects	Hungry Horse Mitigation Program: Identified, prioritized, and selected projects.
Coordination	Hungry Horse Mitigation Program: Coordinated all work for fish projects, including other agencies, landowners, and regional contacts.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Hungry Horse Mitigation Program: 5/250/1500
Provide Technical Review	Hungry Horse Mitigation Program: Provided technical reviews for project designs and reports, including engineering plans, restoration plans, project selection, RM&E methods etc.
Produce Inventory or Assessment	Hungry Horse Mitigation Program: Inventoried and assesed projects on an ongoing basis, including passage and habitat improvement inventories, fish eradication projects, and watershed assessments.
Produce Plan	Hungry Horse Mitigation: Planned all activities of this multi-faceted project, including operation plans, management plans, maintenance plans, implementation plans, restoration plans, RME plans, HGMPs, feasibility studies, and surveys.
Produce Annual Report	Hungry Horse Mitigation Program: Produced annual progress reports.
Produce/Submit Scientific Findings Report	Hungry Horse Mitigation: Published significant findings in peer-reviewed journals, including work on bull trout, dam operations, scale microchemistry, and hybridization.
Produce Environmental Compliance Documentation	Hungry Horse Mitigation: Produced environmental compliance documents for all fish projects as specified in the Accomplishments section.
Council 3-step Process: Step 1	Sekokini Springs Natural Rearing and Experimental Facility: Completed Step 1 of the NPCC's 3-step process.
Council 3-step Process: Step 2	Sekokini Springs Natural Rearing and Experimental Facility: Initiated Step 2 of the NPCC's 3-step process.

Goals

Summer 2005- Construct the Hallowat Creek Restoration Project to improve spawning and rearing habitat conditions for bull trout.

Fall 2005 and summer 2006- Install permanent barrier in Rabe Creek to prevent hybrid trout from using the stream for spawning.

Fall 2005- Improve the existing upstream barrier to fish migration in Abbot Creek to prevent access by hybrid rainbow trout and install geotextile fabric matting in a 50 m section below the barrier to eliminate spawning habitat.

Fall 2005- Install permanent barrier in Taylor's Outflow to prevent hybrid trout from using the stream for spawning.

Winter 2005-2006. Complete IFIM model for Flathead River and conduct time-series analyses for various dam operation scenarios.

Sekokini Springs Natural Rearing Facility: Convert two existing rearing ponds into four ponds with water surface elevation control and littoral habitat enhancement.

Mountain Lakes Project: Chemically eradicate hybrid fish from 3 lakes.

CURRENT Metric / Work Element	Value or description
# of stream miles treated (0.01 mi.)	Hallowat Creek: 3 miles
# of structures installed	Hallowat Creek: 670 LWD pieces: approximately 220 LWD structures (single pieces, aggregates)
Start and end lat/long of treated reach (0.1")	Hallowat Creek: Begin: -114.36687W, 48.60181NEnd: -114.31755W, 48.57376N
Remove or Relocate Non-predaceous Animals	Rabe Creek: Install barrier near the mouth to preclude hybrid fish from spawning in the stream. Location: -114.07115W, 48.46200N
Remove or Relocate Non-predaceous Animals	Abbot Creek: Improve lower barrier in Abbot Creek to prevent access by hybrid rainbow trout and install geotextile fabric matting in a 50 m section below the barrier to eliminate spawning habitat.Location: -114.04584W,
Remove or Relocate Non-predaceous Animals	South Fork Mountain Lakes Project: Chemically treat three lakes to restore native cutthroat trout.Three Eagles Lakes (2): North Lake: -113.86250W, 48.10935NSouth Lake: 113.85518W, 48.10162NWildcat Lake:-113.94959W, 48.19893N
Remove or Relocate Non-predaceous Animals	Taylors Outflow: Install barrier near mouth to prevent hybrid fish from spawning in the stream. Location: -114.16530W, 48.36985N
Develop Pond	Sekokini Springs Natural Rearing Facility: Convert two existing rearing ponds (with water surface elevation control) into four ponds and enhance littoral habitat.Location: -114.05065W, 48.45729N

Produce/Submit Scientific Findings Report	Flathead IFIM study: Complete IFIM model for Flathead River and conduct time-series analyses for various dam operation scenarios. Begin: -114.09070W, 48.38883NEnd: -114.12837 W, 4806068. NLength: 69.3km

1991-019-04 - Hungry Horse Mitigation - Koka (Expense) USFWS

Description: Conduct nonnative fish removal in Lake McDonald in Glacier National Park to facilitate restoration of native bull trout and westslope cutthroat trout in the Flathead drainage; produce hatchery fish for offsite stocking to mitigate Flathead Lake losses.

Accomplishments

The Creston NFH has annually produced the requested amount of fish for offsite stocking locations to mitigate losses to the Flathead lake and river system caused by the construction and operation of Hungry Horse Dam. These stocking numbers have been up to 100,000 rainbow and up to 100,000 westslope cutthroat trout annually. These committments have been met every year.

Goals

FY 2006 Aquire eggs, rear and stock up to 100,000 westslope cutthroat trout.

FY 2006 Aquire eggs, rear and stock up to 100,000 rainbow trout.

1996-087-01 - Montana Focus Watershed Coordi (Expense) Salish & Kootenai Tribes

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.

Accomplishments

Since 2002, this project has accomplished the following. The following list primarily focuses on projects implemented with on-the-ground BPA dollars and generally does not include on-the-ground projects implemented with other funding sources in which this project played a role. Thus, this list represents only a portion of the activities and accomplishments that this program was a part of.

Coordination
· This project attended and/or participated in numerous inter-agency, inter-governmental, watershed group meetings since 2002 in order to share information and prevent duplication.
· This project has been instrumental in receiving approximately $1 million in grant dollars and cost share to implement projects on the ground since 2002.

Identify and Select Projects
· This project worked with numerous landowners, lessees, etc over the course of the funding cycle to identify potential projects and implement those projects with sister BPA funded projects as well as other funding sources.
· This project was instrumental in the initiation and completion of many projects within this funding cycle including multiple riparian fencing, off-channel stock water, fish screens, irrigation efficiency, and stream bank stabilization projects as well as revegetation, road obliteration culvert removal and instream pond removal projects.

Manage & Administer Projects
· This project finalized multiple MOAs with private landowners, leasees, and grazing associations to implement stream restoration & protection projects on the ground.
· This project advertised, awarded, and managed multiple projects with contractors necessary to implement projects on the ground to protect and improved habitat.

Produce Status Reports & Annual Report
· This project completed all necessary quarterly and annual reports within the funding cycle. Due to the contract period’s recent expiration, an annual report for 04 has not been submitted yet.

Goals

Coordination: This project will continue to work with and identify any groups, agencies or individuals interested in watershed and resource management. This helps to prevent duplication and enhance communication and cooperation. This project will also seek out and secure cost share and funding opportunities.

Identify and Select Projects: This project will continue to work with private landowners to identify restoration and enhancement projects. This project will work with other BPA funded projects and other technical experts to prioritize projects in accordance with the subbasin plan.

Manage & Administer Projects
This project will continue to develop MOAs with private landowners, lessees, etc in order to implement restoration and enhancement projects on the ground. This project will also continue to advertise, award, and manage multiple projects with contractors necessary to implement projects on the ground to protect and improved habitat. This project will continue to complete environmental compliance documents for project 199101901. This project will track success based on the number of cooperators and the number projects implemented throughout the course of the year with this project’s assistance. This will be reported in quarterly and annual status reports.

Produce Status Report This project will submit quarterly progress reports to state accomplishments during the

quarter.

Produce Annual Report This project will produce an annual report summarizing the year at the end of the FY06 contract period.

2002-003-00 - Secure & Restore F&W Habitat (Capital) Salish & Kootenai Tribes

Description: Utilize land acquisition and habitat restoration to protect and enhance habitats critical to fish and wildlife. Reduce human-wildlife conflicts on acquired and restored lands to increase their value for wildlife.

Accomplishments

Because it took over 5 years from project submittal to an agreed upon MOA allowing for actual implementation, this project has accomplished little to date, except for the MOA discussions. However, BPA signed an MOA in early May with CSKT to begin acquiring land to mitigate the impacts to resident fish. In late May, the Tribes received a pre-award authorization from BPA to begin pre-acquisition activities. This will allow us to begin to implement the necessary activities to acquire land such as appraisals, surveys, title searches, etc.

Goals

Conduct pre-acquisition activities and all necessary negotiations in order to purchase land as outlined in the subbasin plan to mitigate for the direct impacts to resident fish (as measured in stream km) associated with the construction and inundation of Hungry Horse Dam (125 km).

1988-064-00 - Kootenai R White Sturgeon (Capital) Kootenai Tribe Of Idaho

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

Accomplishments

Goals

1988-064-00 - Kootenai R White Sturgeon (Expense) Kootenai Tribe Of Idaho

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

Accomplishments

From Objectives listed in 2002 proposal to BPA and in Annual Statements of Work.

Captured wild white sturgeon broodstock for use in the conservation aquaculture program. (Annually)

Spawned wild white sturgeon broodstock. (Annually)

Produced white sturgeon offspring from wild adults. (Annually)

Marked and released white sturgeon juveniles into the Kootenai River using preservation stocking criteria. (Annually)

Monitored and evaluated recaptured hatchery released white sturgeon juveniles from the Kootenai River for survival, growth, and condition. (Annually)

Monitored sturgeon and burbot stock status in Kootenay Lake. (Annually)

Monitored and evaluated effects of environmental contaminants on sturgeon reproduction. (Annually)

Operated back-up facility in Canada for the sturgeon conservation aquaculture program. (Annually)

Developed and implemented disease testing protocol for monitoring juvenile white sturgeon health. (Annually)

Monitored genetics of white sturgeon broodstock and progeny. (Annually)

Investigated cryopreservation techniques for white sturgeon gametes and assessed viability of sperm collected in the field. (Annually)

Hatched and reared rainbow trout for bait and food for wild white sturgeon broodstock held in hatchery (Annually)

Implemented educational program by providing hatchery tours, as well as technical assistance and training to others involved in white sturgeon and burbot conservation. (Annually)

Participated in developing a burbot conservation strategy using a collaborative approach. (2003-2005)

Developed and implemented a research plan for developing conservation aquaculture techniques for burbot. (2003-2005)

Prepared draft Step One document for a conservation aquaculture facility for burbot restoration for submittal in FY2006. (2005)

Submitted quarterly and annual project reports. (Annually)

Published three manuscripts in professional journals. (2002, 2005)

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Annually provided over 200 tours to school groups, agency staff, political officials and private citizens. Information about white sturgeon and their habitat and environment was provided during the course of the tour.
Coordination	Annually reared progeny in two separate facilities to prevent fish loss due to unforeseen circumstances. Reared unique families at the KTOI and Canadian Kootenay hatcheries.
Council 3-step Process: Step 1	2005- Prepared draft Step One document for a conservation aquaculture facility for burbot restoration for submittal in FY2006.
Production: # fish released from program, by life stage and species	2002-2004 -Released over 40,000 Age 1 and older white sturgeon juveniles using preservation stocking criteria (includes releases from the Tribal hatchery as well as the BC back-up facility)
Incubation: # fertilized eggs into incubation program, by species	Annually incubated and hatched white sturgeon eggs following protocols outlined in the spawning and breeding plans (total of approx. 200,000 -300,000 eggs taken per year, depending upon # of spawners
Rearing: # fish into program (fish ponded), by life stage and species	Annually reared white sturgeon following protocols outlined in the spawning and breeding plans. Between 2002 and 2004, produced between 9-17 families with up to 1,500 Age 1 fish/family
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Annually collected and spawned wild broodstock following protocols outlined in breeding plan for white sturgeon (Kincaid 1993 for 2002-2003 and KTOI 2004 for 2004 and 2005)
Maintain Hatchery	Annually maintained buildings, hatchery equipment, grounds, vehicles, and boats.
Mark/Tag Animals	Annually retained family identities by keeping individual families separate during egg, larvae, YOY, and juvenile stages. Marked juvenile white sturgeon with PIT tag and scute removal before release.

Goals

The goal of the project is to prevent extinction, preserve the existing gene pool, and begin rebuilding healthy age class structure of endangered white sturgeon and imperiled burbot in the Kootenai River.

Objectives for FY2006
Capture wild white sturgeon broodstock for use in the conservation aquaculture program.

Spawn wild white sturgeon broodstock.

Produce white sturgeon offspring from wild adults.

Mark and release white sturgeon juveniles into the Kootenai River using preservation stocking criteria.

Monitor and evaluate recaptured hatchery released white sturgeon juveniles from the Kootenai River for survival, growth, and condition.

Monitor sturgeon and burbot stock status in Kootenay Lake.

Monitor and evaluate effects of environmental contaminants on sturgeon reproduction.

Operate back-up facility in Canada for the sturgeon conservation aquaculture program.

Monitor and evaluate juvenile white sturgeon health.

Monitor white sturgeon broodstock and progeny genetics and develop white sturgeon gene library.

Investigate cryopreservation techniques for white sturgeon gametes and assess viability of sperm collected in the field and stored with extender.

Hatch and rear rainbow trout for bait and food for wild white sturgeon broodstock held in hatchery.

Implement educational program by providing hatchery tours, as well as technical assistance and training to others involved in white sturgeon and burbot conservation.

Participate in implementing the burbot conservation strategy using a collaborative approach.

Continue developing conservation aquaculture techniques for burbot.

Submit draft Step One document for a conservation aquaculture facility for burbot restoration.

Submit draft Step One document for reconfiguring the sturgeon conservation aquaculture facility.

Submit quarterly and annual project reports.

1988-065-00 - Kootenai R White Sturgeon Inve (Expense) IDFG

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.

Accomplishments

The Kootenai River Investigations is comprised of four projects. Recruitment of sturgeon to the Kootenai River has been limited since Libby Dam began operation with regulated flow. M&E of the spawning by white sturgeon during mitigated flows is important. White sturgeon often spawned during decreasing flows. Analysis suggests optimum white sturgeon spawning is above 630 m3/s, ideal flows 1,131 m3/s, an ideal temperature range of 9.5 to 12oC. White sturgeon spawning has improved but location is a bottleneck that is being addressed in 2005 and 2006 with habitat enhancement. Sturgeon continue to spawn over sand substrate, which is unsuitable for adequate survival of eggs and larvae. This Workplan proposal also addresses the need to evaluate winter flows to allow migration passage of burbot to traditional spawning locations in Idaho.
Burbot in the Kootenai River may be near demographic extinction and a 2004 population estimate indicates there may 60 fish present. Analysis of a six year data of telemetry indicated flows of about 200 m3/s from Libby Dam for a period of 90 d or more would be ideal for burbot spawning migration. A Conservation Agreement has been completed. A systems operation request of Libby Dam for burbot spawning migration for 2005 and 2006 and evaluation will be in progress.
Declines in other fish populations such as kokanee, bull trout, and redband rainbow trout populations have also been documented. Research conducted on bull trout will be valuable in directing management strategies aimed at conservation and recovery of the species in Idaho. Redband rainbow trout research is being conducted on life history, distribution, and abundance to enhance effective management. Recent trout research from 2001-2003 concentrated on determining recruitment sources to the Kootenai River upstream of Bonners Ferry. We have tracked radio-tagged rainbow trout to determine spawning tributaries, and measured juvenile rainbow trout out-migration from tributaries. Our data suggest that Boulder Creek is the largest source of recruits to the Kootenai Rive

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	2005: For nutrient restoobtained 124 permit from Montana Fish Wildlife and Parks; Short Term Activity Exemption from Idaho DEQ, Land Lease Agreement from , approval from MT State Historical Preservation Office, and Land Easement from Idaho Dept. of Lands.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	In 2003-2004 we provided to the public and our peers oral and written news releases describing our studies and demonstrating our accountability. Many times this was done in a scientific forum. We produced at least one news item a month to the public.
Produce Inventory or Assessment	2003 Inventoried non-sportfish populations and burbot 2004 Inventoried non-sportfish populations and burbot 2005 Inventoried burbot pop 03 Completed creel survey of harvest 03-05 collected burbot tissue and ran mtDNA 03-05 M&E white sturgeon spawning
Coordination	In 2003 and 2004 we continued to cooperate and plan with the Kootenai River white Sturgeon RT, Kootenai Tribe of Idaho, MT Fish Wildlife and Parks, British Columbia and federal managig agencies in the activities to rehabilitate fish and restore ecosystem

Manage and Administer Projects	2003-2005 managed and administered BPA funding for Kootenai River studies as well as sub-contracts with British Columbia Ministry, USGS, University of Idaho, and Eco Annalysts.
Produce Annual Report	2003 produced three annual reports 2004 produced three annual reports 2005 produced four annual reports
Produce Status Report	2003 produced four quarterly repts 2004 produced four quarterly repts 2005 produced one quarterly repts
Produce/Submit Scientific Findings Report	2003 published one ms. in Transactions of the American Fisheries Society2004 published one ms. a Symposium sponsored by the American Fisheries Society2005 published two ms. in Transactions of the American Fisheries Society and one in J. Fish Biol.
Enhance Nutrients Instream	In 2003 and 2004 we continued to maintain a large scale sampling system of zooplankton and sport and non-sport fish to maintain a data base to be used in nutirent restoration for M&E. In cooperation with the KTOI.
Operate/Maintain Facility	2003-2005 operation and maintenance of a field station for Kootenai River Fisheries Recovery Investigations at Kootenai Wildlife Refuge
# of fish	2003 Captured 10 white sturgeon and transported to suitable spawning habitat 2004 Captured 17 white sturgeon and transported to suitable spawning habitat
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Research and conservation culture of Kooteni River white sturgeon.
# of fish transported	In 2003 and 2004 IDFG provided to the KTOI and cooperated in the sampling of adult females for brrod stock and the collection of sperm for up to abot 10 fish.
Install Fish Trap/Monitoring Weir	2003 Maintained three drift nets and one screw trap for trout outmigrants
Develop RM&E Methods and Designs	In 2003 and 2004 we eamined 10 years of telemetry data to develop a maximum flow scenario for burbot migration and statistical analysis of flows and temperature on burbot spawning migration.
Collect/Generate/Validate Field and Lab Data	2003 Collected and generated data on white sturgeon, trout, burbot and non-sport fish populations2004 Collected and generated data on white sturgeon, trout, burbot and non-sport fish populations including population estimates in 2004 22 mtn whfish radio
Mark/Tag Animals	2003 We tagged over 50 white sturgeon and put transmitters on 12 2004 We tagged over 50 whitee sturgeon and put tramnsmitters on over 102005 we have tagged 40 wite sturgeon and put transmitters on about 12

Manage/Maintain Database	2003-2005 Managed data base for wild and hatchery white sturgeon, burbot and rainbow and bull trout - tag number, capture data, length, weight, location other data bases for temporal zooplankton densities
Analyze/Interpret Data	2003 and 2004 Evaluated population statistcs for white sturgeon and burbot demographics and time to extinction and population increase in hatchery sturgeon.

Goals

In 2006 the Kootenai River Fisheries Recovery Investigations will be comprised of four projects that involve two ESA listed species; white sturgeon and bull trout and two petitioned species Columbia Redband Rainbow and burbot: White sturgeon M&E and habitat rehabilitation, Salmonid studies, Burbot stock status and limiting factors, and nutrient restoration. The objectives of the white sturgeon recovery efforts will have several related investigations. M&E of habitat enhancement and restoration sponsored by the USACE 1135 program. Improved spawning and rearing habitat will be evaluated at the present sturgeon spawning location and what may be the historic reach. The value of the white sturgeon embryo release project to sturgeon recovery, and further resolution to the importance of cobble substrate to larval survival and rearing will be measured. Also, the movement of hatchery sturgeon juveniles and wild will be studied and compared to density distributions. Salmonid studies will focus on the improvements to recruitment because of nutrient restoration and the incresinmg densities of adults. Rainbow trout redd size and distribution within rearing tributaries will be compared to available habitat as a limiting factor to recruitment. Bull trout spawning locations and will be determined with radio or sonic telemetry. The burbot studies will focus on M&E of measures from the Burbot Conservation strategies, e.g. a winter SOR to promote winter migration and spawning, genetic resolution to the prospects of a donor stock and captive spawners. The population abundance and recruitment will be monitored. The continuation and M&E of nutrient restoration will occur in 2006. The benefits of nutrient restoration to the white sturgeon and burbot rehabilitation, sport and non-sport native fishes will be measured and combared using the large scale data base. Also the benefits to the sport fisheries and contribution to the angler harvest will be assessed. Public and peer outreach will continue with news releases, TV, and publications in scientific journals.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Nutrient Restoration will include any reports due to permiting agencies in addition to a Sec.10 report for handling ESA listed Kootenai River white sturgeon.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	We will continue to educate the public and our peers by oral and written news releases describing our studies and demonstrating our accountability.
Produce Inventory or Assessment	Rainbow trout population will be inventoried to monitor recruitment and population numbers as will Sport and non-sportfish and zooplankton inventories at specific sites(large scale sampling)for the planning of continued nutrient rest. and coop. w/KTOI
Coordination	In 2006 we will continue to cooperate and plan with the Kootenai River white Sturgeon RT, Kootenai Tribe of Idaho, MT Fish Wildlife and Parks, British Columbia and federal managig agencies in the activities to rehabilitate fish and restore ecosystem

Manage and Administer Projects	In 2006 we will manage and administer BPA funding for Kootenai River studies as well as sub-contracts with British Columbia Ministry, USGS, University of Idaho, and Eco Annalysts.
Produce Annual Report	We will produce four annual reports for each of the next fiscal years; white sturgeon M&E, Salmonid studies, Burbot investigations, and Nutrient Restoration
Produce Status Report	We will continue to produce four quarterly reports
Produce/Submit Scientific Findings Report	We have four ms. in progress of which two Rainbow trout recruitment and Dual tagging of white sturgeon and tag loss differences have been accepted for publication by Northwest Science and two burbot ms. in preparation burbot demographics and temp.cues
Enhance Nutrients Instream	In 2005 and 2006 we will M&E nutrient resoration by examining changes in the growth and abundance of secondary producers and evaluate benefits to sport and non-sport fish including rainbow trout, sturgeon burbot and mountain white fish pop. vital statisti
Operate/Maintain Facility	The Kootenai River Fisheries Investigations field station will be maintained on the Kootenai Wildlife Refuge. Besides maintenance the building and grounds have an annual state and federal inspection.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Research and conservation culture of Kootenai River white sturgeon
# of fish transported	We will assisst the KTOI with hatchery operations by helping them with the collection of brood fish while we are sampling adult sturgeon. Up to 12 females may be delivered to the hatchery and sperm from 12 to 20 males.
Install Fish Trap/Monitoring Weir	In 2006 we will deploy matts to sample sturgeon eggs and M&E sturgeon spawning and rearing substrates placed by a Pilot project. We will M&E rainbow trout regulations in place to improve recruitment and M&E the Burbot Conservation Strategy
Collect/Generate/Validate Field and Lab Data	In 2006 we will collect and generate data on white sturgeon, bull, cutthroat, and rainbow trout, mountain white fish, burbot and non-sport fish populations including population estimates, recruitment,. Success of the Pilot habitat study.
Mark/Tag Animals	In 2006 we will tag up to 50 white sturgeon and put depth sensitive VEMCO transmitters on 12 males and females each year and mark and recapture up to 300 juvenile white sturgeon, cont. tagging burbot and put trans. on up to 10 bull and rainbow trout

Manage/Maintain Database	Long term data bases on white sturgeon hatchery and wild will be maintained and burbot to monitor demographic changes and age and hatchery wild composition.
Analyze/Interpret Data	Data collected during the FY 2005 and 2006 will be managed and interpreted to determine changes and contributions due to in river habitat restoration or enhancement and to measure progress. Statistics will be used to interpret level of change.

1994-049-00 - Kootenai River Resident Fish A (Expense) Kootenai Tribe Of Idaho

Description: Identify the most appropriate and effective management strategies to enhance aquatic biota in the Kootenai River Ecosystem and recover native species assemblages across multiple trophic levels.

Accomplishments

The project has accomplished the following since 2002:

Contributed to productivity, kokanee, and ecosystem restoration in the lower Kootenai/y and Arrow Lakes ecosystems using nutrient restoration techniques.

Monitored nutrient levels and productivity metrics before, during and after experimental nutrient addition in South Arm Kootenay Lake and Arrow Lakes Reservoir.

Mitigated costs and assisted in coordinated implementation of ecologically restorative nutrient addition in the Kootenai River ecosystem (South Arm Kootenay Lake) and Arrow Lakes Reservoir.

Evaluated ecological and logistical feasibility of experimental nutrient restoration in the Kootenai River.

Performed, evaluated and reported results from replicated in-river controlled nutrient addition (mesocosm) experiments in the Kootenai River. Submitted findings to peer-review journals.

Characterized distinct geomorphological reaches of the Kootenai River (canyon, braided, meandering) in terms of potential nutrient limitation(N, P, or co-limitation) and ecological status (autotrophic, heterotrophic).

Identified, assessed and began protection and rehabilitation of critical stream segments within tributaries of high importance relative to lower Kootenai River ecosystem restoration.

Implemented a multitrophic level and water quality biomonitoring program (14 standard field sites in BC, ID, and MT) to characterize pre-and post nutrient addition characteristics of primary, secondary, and tertiary production.

Completed all preparations for a controlled, large-scale nutrient enhancement effort in the mainstem Kootenai River, downstream of Montana-Idaho border.

Completed all NEPA and various permitting activities for experimental nutrient restoration in Kootenai River.

Convened with multiple agencies and institution personnel to exchange information, coordinate complementary program implementation for the Kootenai river ecosystem.

Submitted Report of Research Findings(2004).

Goals

The following project activities are planned for FY 2006:

Coordination, oversight, and organization of 2005 International Kootenay River Ecosystem rehabilitation Team (IKERT) Meeting

Prepare and provide a 2005 IKERT Meeting Proceedings CD, and a document including abstracts for a meeting proceedings document

Complete the project Biomonitoring Manual that summarizes and integrates aspects of the project’s biomonitoring program

Prepare project annual and status reports, publications, and other documents as needed

Implement large-scale, Nutrient Restoration Experiment on mainstem Kootenai River

Do annual Biomonitoring of Water Quality, Algae, macroinvertebrates, and the fish community

Perform a Kootenai River Contamination Study on Heavy Metals, Organochlorines, Pesticides & PCB compounds in critical sturgeon spawning and rearing areas, and examine heavy metals accumulation in macroinverts and sediments downriver of the Kootenai River Nutrient Restoration Experiment

Continue Tributary Evaluation, Monitoring and Rehabilitation

Continue Kootenay Lake Nutrient Restoration and monitoring; perform Arrow Lake Monitoring

Continue Development and refinement of Kootenai River Ecosystem Project DataBase

Perform Statistical Analyses of Trophic & Water Chemistry Data

Perform Kootenai River and Lake Kokanee Genetic Analyses and submit report of findings

Perform intensive Biomonitoring of Water Quality and Algae parameters at 11 sites downriver of the Kootenai River Nutrient Restoration Experiment

Continue Biomonitoring of Littorial Zone Productivity at 2 sites in the meander reach, downriver of the Nutrient Restoration Experiment.

1995-004-00 - Libby Reservoir Mitigation Pla (Expense) MFWP

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.

Accomplishments

2000 - Restored 5,900 feet of Parmenter Creek.
2000 - Restored the mouth of O'Brien Creek to mitigate delta formation and stream instability to ensure bull trout passage.
2000 - Stabilized channel and a water diversion project in cooperation with the city of Troy on O'Brien Creek to ensure bull trout passage in a core area. Installed a fish screen and arrested a head cut.
2000 – Restored the Libby Field Station Spring Creek to serve as a conservation facility for Kootenai River Basin redband trout. We treated the stream and pond with antimyicin to remove nonnative brook trout. Existing ponds were enlarged and contoured. Installed a self-cleaning fish screen to isolate the facility. Wild redband trout were collected from the Callahan Creek drainage located near Troy, MT.
2001 - Restored approximately 500 feet of Sinclair Creek to reduce bank erosion, and enhance fisheries habitat for westslope cutthroat trout.
2001 - Libby Creek (phase 1)reconstructed approximately 1,200 feet of stream channel on Libby Creek (Libby Demonstration Project) to stabilize stream banks, reduce sediment, and improve rearing habitat for salmonids.
2001 – Reconstructed 840 feet of Grave Creek (Phase 1) to stabilize banks, reduce sediment, and improve rearing habitat.
2001 – Installed Glen Lake Irrigation District Diversion and Fish Screen.
2001 – Chemical rehabilitation of Banana Lake to remove exotic fish species.
2001 – Built City of Troy Community Fishing Pond.
2002 – Built Lincoln County Fair Ground Community Fishing Pond, Eureka, Montana.
2002 – Grave Creek Phase I Restoration Project.
2002 – Libby Creek (Upper Cleveland) Restoration Project.
2003 –Young Creek State Lands Restoration Project.
2004 –Grave Creek Phase II Restoration Project.
2005 –Therriault Creek Restoration Project.

PAST Metric / Work Element	Value or description
# of stream miles treated (0.01 mi.)	2000 - Restored 5,900 feet (1.12 mi.) of stream channel of Parmenter Creek.
# of structures installed	2000 - Parmenter Creek, Installed 1,500 cubic yards of large rock, 2,200 cubic yards of rip rap rock, and 300 whole trees to enhance salmonid habitat with the creek.
Start and end lat/long of treated reach (0.1")	2000 - Parmenter Start 604527E 5360155N End 605180E 5360922N Note: All location coordinates are UTM using WGS84 Datum
# of stream miles treated before realignment (0.1 mi.)	2000 - Parmenter Creek original 0.51 mi.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	2000 - Restored Parmenter Creek 1.17 mi.

Start and end lat/long of treated reach (0.1")	2000 - Parmenter Creek Start 604527E 5360155NEnd 605180E 5360922N
# of stream miles treated (0.01 mi.)	2000 - O' Brien Creek (0.047 mi.)
# of structures installed	2000 - O' Brien Creek, installed 8 rock cross vanes.
Start and end lat/long of treated reach (0.1")	2000 - O'Brien Start 583844E 5366826N End 583812E 536677N
# of stream miles treated before realignment (0.1 mi.)	2000 - O'Brien Creek 0.032 mi.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	2000 - Restored Channel O'Brien Creek 0.047 mi.
Start and end lat/long of treated reach (0.1")	2000 - O'Brien Creek Start 583844E 5366826NEnd 583812E 536677N
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	O'Brien Creek domestic water source = 586.39 AF/yr.
Is the screen New or a Replacement? (N/R)	2000 - O'Brien Creek Installed functioning fish screen on water intake. Location 584012E 5366839N
Does the screen meet NOAA/FSOC specs? (Y/N)	N/A There are no anadromous fish in Montana. The screen keeps resident fish from
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	0.81 cfs maximum contingent on inflow.
# of stream miles treated (0.01 mi.)	2000 - Libby Area Office Spring Creek, 700 feet (0.132 mi.)of stream channel.
# of structures installed	2000 - Libby Area Office Spring Creek, Installed 11 debris jam structures to increase habitat complexity
Start and end lat/long of treated reach (0.1")	2000 - Libby Area Office Spring Creek Start 610920E 5351937N End 610916E 5351312N
# of stream miles treated before realignment (0.1 mi.)	2000 - Libby Area Office Spring Creek (0.049 mi.)
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	Restored Spring Creek 700 feet (0.133 mi.)
Start and end lat/long of treated reach (0.1")	2000 - Libby Area Office Spring Creek Start 610920E 5351937NEnd 610916E 5351312N

Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	6515.699 AF/yr (varies with wateryear)
Is the screen New or a Replacement? (N/R)	2000 - Libby Area Office Spring Creek. Installed new fish screen to prevent fish invasion from downstream.
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	3.0 cfs varies with inflow
Remove or Relocate Predaceous Animals	2000 - Chemically removed rainbow and brook trout from Libby Area Office Spring Creek.
# of stream miles treated (0.01 mi.)	2001 - Sinclair Creek restoration (0.095 mi.)
# of structures installed	2001 - Sinclair Creek, Installed 8 rootwads and 3 log cross-vanes for habitat enhancement, bank stabilization and grade control.
Start and end lat/long of treated reach (0.1")	2000 - Sinclaire Creek Start 644137E 5415427N End 644325E 5414644N
# of stream miles treated (0.01 mi.)	2001 - Libby Creek 1,200 feet of stream (0.227 mi.)
# of structures installed	Constructed 1,200 feet of stream channel, 7 rock J-hook vanes, 7 rootwad and log complexes, and numerous channel plugs to fill the old stream channel. This project eliminated a mass wasting hill slope that was contributing an estimated 4,560 cubic yards
Start and end lat/long of treated reach (0.1")	2001 - Libby Creek Phase 1Start 613587E 5343502NEnd 613370E 5343731N
# of stream miles treated (0.01 mi.)	2001 – Grave Creek (Phase 1) 0.159 mi.
# of structures installed	2001 – Grave Creek (Phase 1) Restored 840 feet of stream channel on Grave Creek and installed 2 J-hook vanes and 2 rock vanes, 4 rootwad complexes, and transplanted approximately 6,300 square feet of sod mats and numerous shrub clumps.
Start and end lat/long of treated reach (0.1")	2001 – Grave Creek (Phase 1) Start 654186E 5408390N End 654029E 5408163N
# of stream miles treated before realignment (0.1 mi.)	2001 - Grave Creek (Phase 1) 0.12 mi.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	2001 - Grave Creek (Phase 1) 0.159 mi.

Start and end lat/long of treated reach (0.1")	2001 - Grave Creek (Phase 1) Start 654186E 5408390N End 654029E 5408163N
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	2001 - Grave Creek GLID Irrigation Diversion approx. 14,850 AF (varies with length of irrigation season).
Is the screen New or a Replacement? (N/R)	2001 - Grave Creek. Replacement of Glen Lake Irrigation Diversion (GLID) to allow bull trout passage in core area.
Does the screen meet NOAA/FSOC specs? (Y/N)	N/A
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	2001 - Grave Creek GLID diversion 50 cfs maximum
Develop Pond	2002 – MFWP cooperated with Lincoln County, MT to construct a community fishing pond on the Lincoln County Fair Grounds in Eureka.
Develop Pond	2002 – Montana FWP worked cooperatively with Lincoln County, MT to construct a 0.4 acre community fishing pond on the Lincoln County Fair Grounds in Eureka. Location 642075E 5417422N
# of stream miles treated (0.01 mi.)	2002 - Grave Creek Phase 1 4200 feet (0.8144 mi.)
# of structures installed	2002 - Grave Creek Phase 1, installed several habitat enhancement structures including 12 rootwad composites, 11 debris jams, 8 log J-hook vanes, 4 cobble patches, 3 log cross vanes, 1 rock cross vane, 1 rock J-hook vane, 1 straight log vane, and 2.4 acr
Start and end lat/long of treated reach (0.1")	2002 - Grave Creek Phase 1 Start 654029E 5408163N End 653190E 5407244N
# of stream miles treated before realignment (0.1 mi.)	2001 - Grave Creek phase 1 before work 0.5375 mi.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	2001 - Grave Creek phase 1 Restored 0.8144 mi.
Start and end lat/long of treated reach (0.1")	2001 - Grave Creek phase 1 Start 654029E 5408163N End 653190E 5407244N
# of acres of vegetation planted (0.1 ac.)	Grave Creek revegetation 20.8 acres
# of riparian miles treated (0.01 mi.; count each bank separately)	Grave Creek 1.6 mi.

# of stream miles treated (0.01 mi.)	2002 – Restored upper Libby Creek (Upper Cleveland Restoration Project) 0.6 mi.
# of structures installed	2002 – Upper Libby Creek, installed 11 Cobble grade control structures, 19 rootwad complexes and, 3 rock vanes.
Start and end lat/long of treated reach (0.1")	2002 – Upper Libby Creek Start 608449E 5330783N End 608748E 5331685N
# of acres of vegetation planted (0.1 ac.)	2001- Upper Libby Creek (upper Cleveland) 20.8 acres
# of riparian miles treated (0.01 mi.; count each bank separately)	2001- Upper Libby Creek (upper Cleveland)Planted rooted shrubs along 8,600 feet (1.63 mi.) of stream bank.
# of stream miles treated (0.01 mi.)	2003 – Young Creek State Lands Restoration Project 0.227 mi.
# of structures installed	2003 – Young Creek State Lands Restoration Project, installed 3 J-hook log vanes, 3 log cross-vanes, 1 rock vortex weir, 4 rootwad composite structures and 5 cross-log structures.
Start and end lat/long of treated reach (0.1")	2003 – Young Creek State Lands Restoration Project Start 628306E 5426103N End 628708E 5426085N
# of miles of fence (0.01 mi.)	2002 - Upper Libby Creek (Cleveland) Installed 3,737 feet of riparian fencing (0.71 mi)
# of stream miles treated (0.01 mi.)	2004 – Grave Creek (Phase II Restoration Project) 0.587 mi.
# of structures installed	2004 – Grave Creek (Phase II Restoration Project)installed 1 log cross vane, 1 rock cross vane, 4 rootwad complexes, 6 cobble gradient control patches, 3 log vanes, 4 log J-hook vanes, and 6 debris jams.
Start and end lat/long of treated reach (0.1")	2004 – Grave Creek (Phase II Restoration Project) Start 652996E 5406967N End 653190E 5407244N
# of stream miles treated before realignment (0.1 mi.)	2004 - Grave Creek Phase II Before work 0.3875 mi.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	2004 - Grave Creek Phase II Restored 0.587 mi.
Start and end lat/long of treated reach (0.1")	2004 - Grave Creek Phase II Start 652996E 5406967N End 653190E 5407244N
# of stream miles treated (0.01 mi.)	2005 – Therriault Creek Restoration Project restored 9,300 feet (1.76 mi.)

# of structures installed	2005 – Therriault Creek Restoration Project 2 log cross-vanes, 30 rootwad composites, 8 cobble gradient control patches, single pieces of woody debris.
Start and end lat/long of treated reach (0.1")	2005 – Therriault Creek Restoration Project Start 651394E 5411226N End 650695E 5410534N
# of stream miles treated before realignment (0.1 mi.)	2005 - Therriault Creek Before (channelized) 0.9 mi
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	2005 - Therriault Creek Restored 1.76 mi.
Start and end lat/long of treated reach (0.1")	2005 - Therriault Creek Start 651394E 5411226N End 650695E 5410534N
# of acres of vegetation planted (0.1 ac.)	2005 - Therriault Creek 45 acres
# of riparian miles treated (0.01 mi.; count each bank separately)	2005 - Therriault Creek 3.52 mi.
Create, Restore, and/or Enhance Wetland	Restored 55 acres of wetlands. Start 651394E 5411226N End 650695E 5410534N
Remove or Relocate Predaceous Animals	Removed non-native brook trout and other rough fish species from 11.5 acre Banana Lake.
Develop Pond	2002 – Lincoln County Fair Ground Community Fishing Pond, Eureka, Montana.

Goals

Note: Libby Mitigation follows the state fiscal year (July 1- June 30). We are now negotiating for contract renewal on July 1, 2005, federal FY05.
Fall 2005: Construct the Grave Creek Phase II Restoration Project in order to improve spawning and rearing habitat for native salmonids. This project will restore 1,400 feet of Grave Creek by increasing habitat complexity and improving stream bank stability. The project will install an estimated 1 log cross vane, 1 rock cross vane, 2 rootwad complexes, 3 cobble gradient control patches, 1 log vanes, 2 log J-hook vanes, and 3 debris jams.
Fall 2005: Construct the first phase of the lower Pipe Creek Restoration Project in order to stabilize stream banks, reduce sediment, and improve spawning and rearing habitat for salmonids. This project will reconstruct approximately 3,000 feet of new stream channel in order to increase channel stability and improve rearing habitat for resident and fluvial salmonids. This project will install an estimated 30 flow deflector logs, 6 rock and log cross vanes, and 5 engineered debris jams.
Spring 2006: Plant native plant species along the riparian area of the lower Cleveland's Libby Creek Phase I Restoration Project area. The riparian vegetation is intended to provide long term stability for the stream channel along 3,400 feet of upper Libby Creek. We estimate that approximately 1,600 rooted containerized native shrub species, and 2,000 native willow sprigs.
Fall 2005: Install fish screen on the lower Libby Creek irrigation diversion.
Fall 2005: Enhance spawning habitat in Killbrennan Lake Tributary (Feeder Creek). This project will install approximately 6-10 instream log J-Hook vane structures that will help maintain suitable salmonid spawning habitat in approximately 1000 feet of stream channel.
Spring 2006: Construct a fish barrier/screen structure at the outlet of Killbrennan Lake. The barrier structure will

prevent non-native brook trout and rainbow trout from recolonizing Kilbrennan Lake after chemical removal of the non-native fish scheduled in FY2005

CURRENT Metric / Work Element	Value or description
# of stream miles treated (0.01 mi.)	Grave Creek Phase II 1,400 feet of Grave Creek 0.265 mi.
# of structures installed	Grave Creek Phase II estimated 1 log cross vane, 1 rock cross vane, 2 rootwad complexes, 3 cobble gradient control patches, 1 log vanes, 2 log J-hook vanes, and 3 debris jams.
Start and end lat/long of treated reach (0.1")	Grave Creek Phase II Start 653190E 5407244NEnd 652923E 5406914N
# of stream miles treated before realignment (0.1 mi.)	Grave Creek Phase II Before 0.265 mi.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	Grave Creek Phase II Est. Restored 0.345 mi.
Start and end lat/long of treated reach (0.1")	Grave Creek Phase IIStart 653190E 5407244NEnd 652923E 5406914N
# of stream miles treated (0.01 mi.)	Pipe Creek Phase I 0.568 mi.
# of structures installed	Pipe Creek Phase I, installing an estimated 30 flow deflector logs, 6 rock and log cross vanes, and 5 engineered debris jams.
Start and end lat/long of treated reach (0.1")	Pipe Creek Phase IStart 603894E 5364796NEnd 603117E 5364293N
# of stream miles treated before realignment (0.1 mi.)	Pipe Creek phase I Before 0.568 mi.
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	Pipe Creek phase I Est Restored 0.682 mi
Start and end lat/long of treated reach (0.1")	Pipe Creek phase IStart 603894E 5364796NEnd 603117E 5364293N
# of acres of vegetation planted (0.1 ac.)	Libby Creek (lower Cleveland) 15.5 acres riparian
# of riparian miles treated (0.01 mi.; count each bank separately)	Libby Creek (lower Cleveland) 1.21 mi.
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	Libby Creek diversion TBD
Is the screen New or a Replacement? (N/R)	New functional fish screen on Libby Creek diversion Location 612583E 5342200N
Does the screen meet NOAA/FSOC specs? (Y/N)	N/A

Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	TBD
# of stream miles treated (0.01 mi.)	Restore spawning habitat on Killbrennan Lake Tributary (Feeder Creek).
# of structures installed	Killbrennan Lake Tributary (Feeder Creek) Install approximately 6-10 instream log J-Hook vane structures on 1,000 feet of Feeder Creek.
Start and end lat/long of treated reach (0.1")	Killbrennan Lake Tributary (Feeder Creek) Start 582304E 5382147N End 582717E 5382473N
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Stream table instruction, Aquatic Nuisance Species, Public scoping
Identify and Select Projects	We do this annually
Manage and Administer Projects	This is becomming a larger portion of the project as bureaucratic process increases.
Produce Annual Report	Required of all projects
Produce Inventory or Assessment	We do this routinely on all on-the-ground projects
Coordination	Coordination on dam operation, inter-agency coord on all projects, coordinate with subbasin planners, provincial work groups etc.
BPA Environmental Compliance	NEPA required on all land disturbing projects. This is a major time sucker.
Produce Environmental Compliance Documentation	Required on all on-the-ground projects
# of acres treated (0.1 ac)	Weed control on all revegetation and wetland projects (add them up)
Enhance Floodplain	Routine on all stream projects
Manage/Maintain Database	Manage all project data using computer and software
Produce/Submit Scientific Findings Report	Same as progress report and annual reports (required)
Install Fish Trap/Monitoring Weir	Routine to monitor spawning runs
Develop RM&E Methods and Designs	Routine on all monitoring activities
Collect/Generate/Validate Field and Lab Data	Routine on all monitoring activities
Disseminate Raw & Summary Data	Routine project function

Analyze/Interpret Data	Routine project function

1996-087-02 - Focus Watershed Coordination I (Expense) Kootenai River Network Inc

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

Accomplishments

Completed: Stream Contractors Workshop-50 attendees;Electric Fence Workshop-20 attendees;Montana Tree Farm Tour-100 attendees;Stream Trailer Workshop-25 attendees;US/CA Restoration Tour 2002-80 attendees;KRN International Symposium-125 attendees;Watershed Exchange-24 attendees;US/BC Restoration Tour 2005-13 attendees;Cows and Fish Workshop-15 attendees;BC Rivers Day-150 attendees;Annual Grave Creek Meeting-90 attendees total for 3 meetings;Facilitated Joseph Creek restoration (BC);Developed GIS basin planning and interpretive map; Kootenai River Information System; Developed interpretive signage; Produced quarterly Newsletter - distributed to 200, each quarter; Website-updated and maintained;Produced multi-media production on the Kootenai watershed;Presented Stream Trailer demos-12 annually;Developed Watershed Education Trunks;Developed portable KRN displays;Produced informational handouts; MT Watershed Stewardship Award recipient 2005-presentation and acceptance.

Goals

To facilitate Coordination and Communication of Watershed Activities in the Kootenai Basin through:Facilitating restoration projects in BC and US;Networking;Continuing GIS Basin Planning and Interpretive Map production; Producing and distributing quarterly newsletter-200 each quarter;Maintaining and updating website;Hosting US/BC International Restoration Tour 2006;Presenting Stream Trailer demos-12 annually; Presenting Watershed Education Trunk activities and developing Curriculum Guide; Presenting Multi-media production on watershed; Media releases on topics of interest;Continuing development of Basin Info Package; Development of Natural History Guide and Auto Tour of Restoration sites; Development of Children's Watershed Activity Guide

2000-004-00 - Protect Wigwam R Bull Trout-Ko (Expense) Ministry Of Environment

Description: Access and monitor the status of wild, native stocks of bull trout in tributaries to Lake Koocanusa and the upper Kootenay River and protect these fish from inappropritae reservoir operating regimes and land use practices.

Accomplishments

A total of 71 bull trout were surgically implanted with LOTEK radio transmitters in the upper Kootenay River between April 1, 2000 and September 25, 2001 and then the bull trout's movements were tracked over a two year period and critical spawning and holding habitat were identified.

A fence and trap were operated on Skookumchuck Creek for three years (fall of 2000, 2001 and 2002) to capture down-streaming post spawning bull trout. A total of 834 bull trout were tagged and passed through the fence during the three years of operation and another 127 bull trout were holding in a pool immediately above the fence when it was removed during mid October.

A fence and trap were operated on the White River, near its' confluence with the Kootenay River, in September and October of 2003, to capture down-stream post spawning bull trout. A total of 776 bull trout were tagged and passed through the fence during the first of a three year proposed operation.

A fence and trap were operated on Gold Creek, approximately 2 kilometers upstream from its' confluence with Lake Kookanusa, in September and October of 2004, to capture down-stream post spawning bull trout. A total of 61 bull trout were tagged and passed through the fence.

Nine permanent sampling sites were established in the Wigwam (5 sites) and Skookumchuck (3 sites) river drainages. Three years of data have been collected at each site including juvenile (0+ and 1+ age classes) fish densities and stream habitat condition data (Rosgen Level 2 and Fish Habitat Surveys) were collected over two stream meander wavelengths. The second of three years of data (same data as for the Wigwam & Skook.) have been collected at three sites in the White River.

5 Years of McNeil substrate sampling in the Wigwam, White and Skook. drainages to monitor bull trout spawning substrate condition.

5 Years of bull trout redd counts in the Wigwam, White and Skookumchuck drainages.

Goals

Also, long-term changes to bull trout spawning substrate condition will be monitored in the Wigwam (2 Sites), White (3 Sites) and Skookumchuck (2 Sites) River drainages by continuing McNeil core sampling at permanent sample sites. At each site, four samples will be collected from three transects (12 samples at each site—total of 84 samples)

CURRENT Metric / Work Element	Value or description
Install Fish Trap/Monitoring Weir	Operate (year three of three) an upstream/downstream migration trap on the White River to catch post- spawning bull trout in Sept and Oct. of 2006. The trap will be located near the mouth of the White River near its' confluence with the Kootenay River.
Collect/Generate/Validate Field and Lab Data	Bull trout redd counts in Oct 2006 on the Wigwam River and it's tributaries, Skookumchuck Creek, Blackfoot Creek and White River to assess the metapopulation strength of transboundary (British Columbia and Montana) populations of native bull trout.

Analyze/Interpret Data	All data from the past 5 years of the BPA funded habitat monitoring and bull trout fry and juvenile density programs on the Wigwam, Skook. and White drainages will be entered in a database, statistically analyzed/compared and then a report will be written

2002-002-00 - Enhance White Sturgeon Habitat (Expense) Kootenai Tribe Of Idaho

Description: Construct sediment transport models to assess the feasibility to enhance white sturgeon spawning substrate habitat, Kootenai R., ID. Study temporal/transient changes in sediment type, bedform, and eroision/depostion on spawning substrate.

Accomplishments

Monitored and created animation of sediment transport and bedform movement in sturgeon spawning habitat

Described availability and movement of fluvial sediment through white sturgeon spawning habitat and identified where habitat substrate is currently aggrading, degrading, and stable

Developed sediment-transport models and in cooperation with USFWS white sturgeon recovery team, developed spawning habitat substrate improvement scenarios and assessed the feasibility of habitat enhancement

Developed web site for posting data and project products

Prepared 3 peer review reports for BPA submittal and posted on web page.

Hydrodynamic models developed by the USGS in Phase I of the KTOI/IDFG sturgeon study (BPA 198806400 and 198806500) provide a systematic basis for evaluating the effects of lake regulation, Libby discharge, levee construction, and sediment transport on sturgeon spawning and incubation habitat.

The model can be used to evaluate why spawning distribution has apparently changed, why recent sturgeon flows have failed to restore natural recruitment, and whether alternative operations might be effective.

Goals

Phase II
Objective 1: Rock fill: Determine whether rock introduction might realistically be considered for habitat restoration in current spawning areas using a combination of computer modeling, physical modeling, substrate cores, and pilot rock placement.
The Rock Fill pilot project is not expected to provide conditions of a scale to produce a significant biological response (fish attraction, spawning or natural recruitment) Success of this experiment will be based on physical rather than biological results. If initial evaluations indicate that apparently-suitable conditions are created based on evaluations of physical conditions, then a larger scale effort will be planned (Phase III).

Objective 2: Velocity and Turbulence Eductors: Explore whether mechanical devices can effectively increase local water velocity and turbulence at a scale likely to prove useful in sturgeon habitat restoration by field testing flow eductors under different habitat conditions.
Results of initial field tests will be used to determine if a larger-scale test is appropriate and to design subsequent tests which would also monitor a biological response. If fish appear to cue on eductor treatment areas, eductors might be considered for use in areas upstream from current spawning sites to see if fish are attracted to areas of more suitable substrate.

Objective 3: Hydro Operations: Evaluate the feasibility of using a combination of lake level regulation and Libby Dam discharge to shift the velocity transition zone upstream based on USGS hydrodynamic modeling.

Objective 4: Braided Reach Alternatives: Identify and evaluate alternatives for restoring suitable migration, spawning, and incubation conditions in the braided reach upstream from Bonners Ferry.

Objective 5. Concurrently explore other potential alternatives for restoration of natural recruitment based on further investigations of limiting factors and critical uncertainties (e.g. Riparian Habitat Hypothesis).

2002-008-00 - Reconnect Floodplain Kootenai R (Expense) Kootenai Tribe Of Idaho

Description: Assess the feasibility and options for reconnecting slough habitat that has been isolated from the Kootenai River by dikes.

Accomplishments

Accomplishments since late 2002
Characterization, evaluation and feasibility of six site locations in the Kootenai River Valley for potential river-floodplain connectivity
A)Evaluated sites for ability to mimic the natural river-floodplain connectivity
B)Characterized sites for land and river water elevations within potential flooded zone, and ability/duration of land form to maintained the water when the river level recedes
C)Evaluated sites potential secondary water source

•Coordinated with local communities, agencies, and landowners on access, study design and feasibility
•Site recommendation for river-floodplain connectivity concept, and identification of alternatives to cover the range of potential river-floodplain connection actions
•Identification, evaluation and monitored baseline biological sampling of slough, side channels and wetlands consistent with Biomonitoring protocols established by Kootenai River Resident Fish A project (1994-049-00)
•Researched and created study design, quantification of response and recommended monitoring parameters and protocols
•Utilized topographic data and Digital Terrain Model (DTM) to develop cross sections and longitudinal profiles at key points to facilitate hydraulic modeling
•Compiled and modeled river stage data from three gauging stations and estimated
•potential for floodplain reconnection under the current regime of flow regulation
•Researched, compiled and utilized hydraulic model (MIKE 11) and de Saint Venant equations simulating unsteady flows, conservation of mass, conservation of momentum, and sediment transport in rivers, drainage systems, and channels
•Estimated floodplain volumes, stage-storage-area relationships and areas as a function of the existing topography and a series of water surface elevations represented as flat planes
•Re-evaluate and re-select site location feasibility analysis due to ownership change, and begin new conceptual design for river-floodplain reconnection

Goals

Project activities planned for FY2006

•Complete, assess and utilize orthographic and topographic surveys (LiDAR) for DTM

•Utilize topographic data and Digital Terrain Model (DTM) to develop cross sections and longitudinal profiles at key points to facilitate hydraulic modeling

•Estimate floodplain volumes, stage-storage-area relationships and areas as a function of the existing topography and a series of water surface elevations represented as flat planes

•Characterize soil, depth to groundwater and static groundwater level with monitoring wells

•Continue monitoring baseline biological sampling of slough, side channels and wetlands consistent with Biomonitoring protocols established by Kootenai River Resident Fish A project (1994-049-00)

•Coordinate with local communities, agencies, and landowners on access, study design and feasibility

•Site recommendation for river-floodplain connectivity concept, and identification of alternatives to cover the range

of potential river-floodplain connection actions

•Estimate floodplain volumes, stage-storage-area relationships and areas as a function of the existing topography and a series of water surface elevations represented as flat planes

•Coordinate and oversee technical peer-review process, fieldwork, surveys, biomonitoring, sampling for project completion and QA/QC evaluation process

2002-011-00 - L. Kootenai Floodplain Assess. (Expense) Kootenai Tribe Of Idaho

Description: Pilot project to assess operational losses with long-term mitigation, protection, enhancement, rehabilitation in floodplain ecosystems on the Lower Kootenai River Watershed.

Accomplishments

The project has accomplished the following since early 2003:
•Assessed historical (pre-1900's) and current condition, and literature of floodplain wetlands and compile related operational impact assessment techniques and extensive bibliography
•Assisted in the development of natural resource technical committee (KVRI) for the collaborative approach in focusing on resource issues
•Developed and assembled 17 member Research Design and Review Team (RDRT) which directed criteria development, ranking and selection of potential research projects appropriate for both the Kootenai River Watershed and regionally
•Coordination, oversight and organization of the RDRT meetings and integration of the International Kootenay River Ecosystem Rehabilitation Team (IKERT)
•RDRT development of a framework (Kootenai River Action Plan) and selection of methodologies for a regionally applicable ecologically based operational loss assessment for the Kootenai River Watershed

Kootenai River Action plan
Geomorphology and Hydrologic Assessments
•Physical/hydrologic conceptual model development
•Development of one-dimensional hydrodynamic model
•Analyze hydrologic data before and after the construction of Libby Dam and set up reference scenarios
•Evaluation of hydrologic alteration within the Kootenai Basin below Libby Dam

Aquatic Nutrient and Trophic Level Assessments
•Coordinate with Kootenai River Residential Fish A project (1994-049-00) to assess nutrient and trophic levels and related sampling, database management Biomonitoring

Terrestrial Vegetation and Trophic Level Assessments
•Established, performed and continued to monitor a habitat-based Point-Count for terrestrial bird surveys
•Evaluated habitats and riparian life stages in bird point-count locations
•Evaluated and selected reference habitats and implemented remote sensing analytical tools (NDVI) for terrestrial primary trophic level/vegetation analysis
•Created bird/vegetation database network
•Implemented terrestrial insect surveys (e.g. carabid beetles) for trophic level indicators

Goals

FY 2006 anticipated goals and accomplishments are:
•Continue to assist in the coordination of natural resource technical committee (KVRI) on the comprehensive process for the collaborative approach in focusing on resource issues.
•Coordination, oversight and organization of the RDRT meetings and integration of the International Kootenay River Ecosystem Rehabilitation Team (IKERT)
•Refinement of the operation loss assessment framework (Kootenai River Action Plan) and evaluate methodologies for a regionally applicable operational loss assessment for the Kootenai River ecosystem
•Correlate Geomorphological, hydrological, aquatic and terrestrial assessment factors in determining the final composition of the Index of Ecological Integrity (IEI) development and the operational loss assessment tool
•Initiation of the mitigate methodologies and framework for restoration of the Kootenai River floodplain ecosystem in such a way that it will provide sustainable populations of flora and fauna for tribal sustenance

Kootenai River Action Plan

Geomorphology and Hydrologic Assessments
•Combine pre- and post-dam reference hydrologic scenarios
•Development of two-dimensional (2-D) hydrodynamic (HD) models
•Use digital image and LiDAR technology to model physical processes in floodplain

Aquatic Nutrient and Trophic Level Assessments
•Coordinate with Kootenai River Residential Fish A project (1994-049-00) to assess nutrient and trophic levels and related Biomonitoring program

Terrestrial Vegetation and Trophic Level Assessment
•Perform and continue habitat-based Point-Count bird and terrestrial insect surveys
•Categorize bird/insects into habitat-based response/breeding guilds, avifaunal community composition, habitat structure and related assessment tools.
•Perform and evaluate habitats and riparian life stages in bird point-count locations.
•Perform and evaluate reference habitats and remote sensing analytical tools (NDVI) for terrestrial primary trophic level and riparian/vegetation life stage analysis

1983-350-00 - Nez Perce Tribal Hatchery O&M (Expense) Nez Perce Tribe

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

Accomplishments

2002 – Construction of central incubation and rearing facility at Cherrylane (Site 1705). Construction of 6 satellite facilities – Cedar Flats, Lukes Gulch, Newsome Creek Acclimation Facility, North Lapwai Valley Acclimation Facility, Sweetwater Springs early rearing facility, and Yoosa/Camp Acclimation Facility.

2003 – Construction of central incubation and rearing facility at Cherrylane (Site 1705) and 6 satellite facilities completed.

Fall Chinook
- 619,500 “Green” eggs from Lyons Ferry Hatchery.
- 199,632 sub-yearlings released into the Clearwater River.
- 191,382 sub-yearlings released into Lapwai Creek.

Spring Chinook
- 413,411 “Green” eggs taken.
- 225,430 parr released into Mill Creek/South Fork Clearwater.
- 390,000 parr released into Meadow Creek/Selway River.
- 68,917 pre-smolts released into Newsome Creek.
- 156,310 pre-smolts released into the confluence of Yoosa and Camp creeks.

2004

Fall Chinook
- 169,596 sub-yearlings released into the Clearwater River.
- Transported 793 adults from Lower Granite to Site 1705.
- Trapped 692 adults at Site 1705.
- 1,306,229 “Green” eggs taken.

Spring Chinook
- Trapped 101 adults at Lolo Creek.
- Trapped 76 adults at Newsome Creek.
- Trapped 70 adults at Site 1705.
- Transported 421 adults from IDFG’s Powell AF.
- Transported 149 adults from Clearwater Hatchery.
- 120,960 “Green” eggs - Lolo Creek stock.
- 35,933 “Green” eggs - Newsome Creek stock.
- 794,578 “Green” eggs - Powell/S. Fork Clearwater stock.
- 309,555 spring chinook parr released into Meadow Creek/Selway River.
- 69,137 spring chinook pre-smolts released into Newsome Creek.
- 146,962 spring chinook pre-smolts released into the confluence of Yoosa and Camp creeks.

2005

Fall Chinook
- 869,300 fall chinook sub-yearlings released into the Clearwater River.

Spring Chinook
- 391,920 spring chinook parr released into the Clearwater River.

Goals

- Spring – Acclimate 500,000 BY05 fall chinook at Site 1705 – release into Clearwater River in mid June.
- Spring – Acclimate 500,000 BY05 fall chinook at North Lapwai Valley AF – release into Lapwai Creek in late May.
- Fall – Transport, to Site 1705, up to 880 fall chinook adults trapped at Lower Granite Dam.
- Fall – Trap approximately 720 fall chinook adults at Site 1705.
- Fall/Early Winter – Spawn fall chinook adults, which will yield approximately 1.3 million green eggs.
- Spring – Acclimate 400,000 BY05 spring chinook at 1705 - release into Meadow Creek/Selway River in June.
- Spring – Acclimate 75,000 BY05 spring chinook at Newsome Creek AF facility - release into Newsome Creek in October.
- Spring – Acclimate 150,000 BY05 spring chinook at Yoosa/Camp satellite facility – release into Lolo Creek in October.
- Spring/Early Fall – Trap and hold for spawning, up to 120 spring chinook collected from Lolo Creek.
- Spring/Early Fall – Trap and hold for spawning, up to 60 spring chinook collected from Newsome Creek.
- Summer – Transport and hold for spawning, approximately 550 spring chinook adults trapped at IDF&G's Clearwater and Powell hatcheries.
- Summer/Early Fall – Spawn spring chinook adults, which will yield approximately 950,000 green eggs.

1983-350-03 - Nez Perce Tribal Hatchery M&E (Expense) Nez Perce Tribe

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.

Accomplishments

Performed evaluation of natural and supplementation fish. Estimated juvenile spring chinook production and survival from Lolo Creek, Newsome Creek and Meadow Creek and fall Chinook survival from the lower Clearwater River and releases from the Nez Perce Tribal Hatchery. Monitored Lolo Creek, Newsome Creek and Meadow Creek adult escapement and estimated adult production. Monitored fall Chinook adult returns and hatchery contributions to the lower Clearwater and Nez Perce Tribal Hatchery and assisted in fall Chinook run-reconstruction to the Snake River Basin. Collected tissue samples for DNA analysis, scale samples from juvenile and adult Chinook salmon for age composition and hatchery contributions. Conducted redd, carcass, and prespawning ground surveys for Chinook salmon.

The synthesis of this data enabled the project to look at key performance metrics. Utilizing Work Elements 70, 118, 119, 132, 141, 157, 158, 159, 162, and 165 this project has provided the following performance metrics:
Metric – Abundance.
Abundance Performance Metrics: Chinook salmon adult escapement to Lower Granite Dam and tributaries, redd counts, fish per redd, spawner abundance, hatchery fraction, ocean harvest, tributary harvest, juvenile abundance, hatchery production abundance, smolt equivalents, and run predictions.
Metric – Survival-Productivity:
Survival-Productivity Performance Metrics: Chinook salmon smolt-to-adult return rate, progeny-per-parent ratio, recruit/spawner, pre-spawn mortality, juvenile survival to Lower Granite Dam and other mainstem dams, in-hatchery life stage survival, post-release survival, and relative reproductive success.
Metric – Distribution:
Distribution Performance Metrics: Chinook salmon adult spawner spatial distribution, stray rate, juvenile rearing distribution, and disease frequency.
Metric – Genetic:
Genetic Performance Metrics: Chinook salmon genetic diversity, reproductive success, and effective population size.
Metric – Life History:
Life History Performance Metrics: Chinook salmon age class structure, age at return, age at emigratio

PAST Metric / Work Element	Value or description
Manage and Administer Projects	Prepared Statement of Work and budget for contract year 2002 - 2005 that identified research objectives and tasks. Analyzed data and organized results into tables and figures for use in technical reports and management forums. Attended and presented resu
Coordination	Prepared Statement of Work and budget for contract year 2002-2005 that identified research objectives and tasks. Assisted the Production Department with the development of the NPTH annual operation plan. Attended relevant inter- and intra-agency meeting
Produce Status Report	Developed Summary Reports of population status and supplementation activities that occur on a regular basis that do not have detailed interpretation.

Mark/Tag Animals	Marked hatchery-reared chinook salmon with a unique mark so they can be detected as smolts and adults. PIT tags were used in subsamples of hatchery fish before release and in wild fish captured in treatment streams.
Install Fish Trap/Monitoring Weir	Installed screw traps in NPTH treatment streams to capture emigrating juvenile Chinook salmon. Adult weirs were installed to monitor adult Chinook salmon returns.
Produce Environmental Compliance Documentation	Reported ESA and NMFS 2000FCRPAS Biological Opinion Annual Reports.
Submit/Acquire Data	Uploaded PIT tag data files and coded wire tagging data files.
Collect/Generate/Validate Field and Lab Data	Collected raw data pertaining to NPTH Supplementation activities.
Analyze/Interpret Data	Analyzed data and organize results into tables, figures, and text format for use in technical reports, management forums, Quarterly and Annual Reports.
Produce Annual Report	Annual Reports: Prepared the following Annual Reports that are posted on the BPA website: Fall Chinook Salmon Spawning Ground Surveys in the Snake River Basin Upstream of Lower Granite Dam, 2002 and 2003. Fall Chinook Salmon Redd Counts and Management

Goals

Project Goal: 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.
The project is designed to sample fish populations in the mainstem Clearwater River and its tributaries over the next 15 to 20 years to determine whether desired results are being achieved, and to enable adaptive management. The M&E program examines the performance and status of hatchery and natural fish, species interactions and impacts to non-targeted fish populations, sustainability of harvest, and communication and application of findings. The M&E Action Plan covers multiple aspects of Chinook salmon (Oncorhynchus tshawytcsha) life history in all treatment streams. Treatment streams include Meadow Creek (Selway River), Lolo Creek, and Newsome Creek for spring chinook salmon, the lower reaches of the South Fork Clearwater and Selway rivers for early-fall chinook salmon, and the main-stem Clearwater River below Lolo Creek for fall chinook salmon. Outcomes in these treatment streams will also be compared to those in similar non-treatment (reference) streams and other hatchery programs to help distinguish treatment effects from the effects of environmental variation between years.
Future Accomplishments:
Utilizing Work Elements 70, 118, 119, 132, 141, 157, 158, 159, 162, and 165 this project will provide the following performance metrics:
Metric–Abundance: Chinook salmon adult escapement to Lower Granite Dam and tributaries, fish per redd, redd counts, spawner abundance, hatchery fraction, ocean harvest, tributary harvest, juvenile abundance, hatchery production abundance, smolt equivalents, and run predictions.
Metric-Survival-Productivity: Chinook salmon smolt-to-adult return rate, progeny-per-parent ratio, recruit/spawner, pre-spawn mortality, juvenile survival to Lower Granite Dam, juvenile survival to mainstem dams, in-hatchery life stage survival, post-release survival, and relative reproductive success.
Metric–Distribution: Chinook salmon adult spawner spatial distribution, stray rate, juvenile rearing distribution, and disease frequency.
Metric–Genetic: Chinook salmon genetic diversity, reproductive success, and effective population size.
Metric–Life History: Chinook salmon age class structure, age at return and emigration, size at return and emigration, condition of juveniles at emigration, adult spawner sex ratio, fecundity by age, adult run timing, spawn timing,

juvenile emigration timing, and mainstem survival timing.
Metric-Habitat: physical habitat, insream flow, water temperature, and fish assemblage.

CURRENT Metric / Work Element	Value or description
Provide Technical Review	Maintaining NATURES Design Team will be utilized to guide the evaluation of NATURES rearing techniques. Using the established review process and the expertise of the NATURES Design Team will provide cost-effective independent review of the program act.
Manage and Administer Projects	Prepare a Statement of Work and budget for contract year 2006 that identifies research objectives and tasks. The first draft will be available for technical review by 15 September, 2005, and will be submitted to BPA by 1 October, 2005. Analyze data and
Produce Annual Report	Prepare annual report that documents NPTH Spring Chinook research activities from July 2003 through October 2004. This will include adult return information (spawning surveys) and juvenile production and emigration through spring of 2004. Final drafts wil
Coordination	Prepare a Statement of Work and budget for contract year 2006 that identifies research objectives and tasks. The first draft will be available for technical review by 15 September, 2005, and will be submitted to BPA by 1 October, 2005. Assist the Produ
Produce Status Report	Provide a summary of milestones completed for the project fifteen days after the end of each calendar year quarter using PISCES. Summary reports will provide brief results of population status or supplementation activities that occur on a regular basis.
Mark/Tag Animals	Mark hatchery-reared chinook salmon with a unique mark so they can be detected as smolts and adults. PIT tags will be used in a subsample of hatchery fish before release and in wild fish captured in treatment streams
Install Fish Trap/Monitoring Weir	Install screw traps in NPTH treatment streams to capture emigrating juvenile Chinook salmon. Adult weirs will be installed to monitor adult Chinook salmon returns.
Produce Environmental Compliance Documentation	Mandatory reporting for permits. ESA and NMFS 2000FCRPAS Biological Opinion Annual Reports.
Submit/Acquire Data	Uploading PIT tag data files and coded wire tagging data files
Collect/Generate/Validate Field and Lab Data	Collect raw data pertaining to NPTH Supplementation activities.
Analyze/Interpret Data	Analyze data and organize results into tables, figures, and text format for use in technical reports, management forums, Quarterly and Annual Reports

1987-099-00 - Dworshak Dam Impacts Assess/In (Expense) IDFG

Description: Evaluates the impacts of drawdowns and routine dam operations on resident fish populations. Also, determines ways to minimize entrainment losses of fish into Dworshak Dam.

Accomplishments

PAST Metric / Work Element	Value or description
Develop RM&E Methods and Designs	2001-2004: Performed experimental effectiveness testing of underwater strobe lights at deterring fish entrainment through discharging turbine intakes and reservoir outlets.
Develop RM&E Methods and Designs	2002-2004: Performed fixed-site hydroacoustic sampling in front of dam intakes to determine fish detection rates as a measure of potential entrainment through discharging turbine intakes and reservoir outlets.
Collect/Generate/Validate Field and Lab Data	2001-2004: Conducted annual hydroacoustic kokanee population estimate surveys, kokanee trawl sampling to determine age and growth, kokanee spawner counts, forebay density surveys, and a limnological survey.
Analyze/Interpret Data	2001-2004: Completed statiscal significance tests of strobe light test data.
Produce Status Report	2001-2004: Produced succinct and informative quarterly reports summarizing project efforts and findings submitted to COTR as hardcopy and electronic documents and also made available to the public on the internet.
Produce Annual Report	2001-2004: Produced Annual Reports
Manage and Administer Projects	2001-2004: Performed administrative tasks such as financial reporting, training meetings, and development of SOW packages.

Goals

CURRENT Metric / Work Element	Value or description
Produce Plan	Write an implementation plan for installation of underwater strobe lights on Dworshak Dam as a means to reduce fish entrainment through the turbine intakes.
Produce Design and/or Specifications	Prepare engineering and technical drawings, specifications, and budgets for the construction and installation of underwater strobe light system.
Develop RM&E Methods and Designs	2005-2006: Collect fixed-site hydroacoustic data immediately upstream of discharging turbines and reservoir outlets to assess fish entrainment potential and estimate entrainment rates with newly installed transducer in intake.
Collect/Generate/Validate Field and Lab Data	2005-2006: Conduct annual hydroacoustic kokanee population estimate surveys and kokanee spawner counts.
Analyze/Interpret Data	2006: Complete statiscal significance tests of 2005 strobe light test data.

Mountain Snake		Clearwater
Produce Annual Report	2005-2006: Produce Annual Report for 2004 and 2005 respectively.	
Produce Status Report	2005-2006: Produce succinct and informative quarterly reports summarizing project efforts and findings and submit to COTR as PDF and also made available to the public on the internet.	
Manage and Administer Projects	2005-2006: Perform administrative tasks such as financial reporting, training meetings, and development of SOW package.	

1989-098-01 - Salmon Studies Id Rvrs Usfws (Expense) USFWS

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.

Accomplishments

2003,2004:
1. Conducted multiple redd counts on Clear creek and Pete King Creek between mid-August and mid-October. Recorded location of redds, number of live fish observed and origin of fish.
2. Conducted carcass surveys on Clear Creek and Pete King Creek. Collected DNA, scale and dorsal fin samples, recorded percent spawn, examined for fin clips, coded-wire tags and radio tags.
3. Inventoried migrating adults at the permanent wier established in Clear Creek. Recorded fork length, age group, marks, tags and gender on all Chinook salmon. A one to one ratio of supplementation and natural fish were transported above the weir and released to spawn naturally.
4. Completed data analysis of adult production parameters i.e redd counts, adult returns to wier and carcass data to estimate adult escapement, straying and redd production attributable to ISS and strays.
5. Operated juvenile emigration screwtrap in Clear Creek from March through July to estimate juvenile Chinook production. PIT-tagged emigrating juvenile Chinook salmon smolts to estimate screwtrapping efficiency, smolt abundance, survival and migration time to downstream dams and other life history characteristics. Operated a juvenile collection net during October through November to collect and sample pre-smolts.
6. Snorkeled segments of Clear Creek and Pete King Creek to estimated parr abundance.
7. Differentially marked ISS smolts from general production smolts with ventral fin clips (50,053 right ventral fin clips in 2003 and 50,969 left ventral fin in 2004) prior to release. An additional 750 smolts from each release group were PIT-tagged for survival estimates to downstream dams.
8. PIT-tag files from screwtrapping and pre-release activities were submitted to the PTAGIS database.
9. Prepared and submitted quarterly reports to BPA. Completed and submitted Annual Report for 2001 field activities.
10. Participated in Cooperators meetings to plan upcoming activities and work on Brood Year reports.

Goals

Prepare a cooperative Statement of Work for contract year 2006.
Prepare a cooperative annual report that documents ISS research activities associated with Chinook salmon Brood Year 2002.
Install screw trap on Clear Creek and monitor adult weir on Clear Creek and Pete King Creek to estimate juvenile production and adult escapement to these streams.
Conduct redd counts and carcass surveys on Clear Creek and Pete King Creek.
Intensify carcass surveys beyond multiple pass redd counts, remove various structures from carcasses for aging, collect length, sex, DNA, egg retention information, and examine for the presence of fin clips, coded wire tags, radio tags, VI tags, and other tags. Remove snouts from carcasses containing coded wire for laboratory analysis.
Use existing weirs and other escapement monitoring techniques to identify, collect, mark, and enumerate adults escaping into ISS study streams.
Collect tissue samples for DNA analysis from all adult Chinook salmon released to spawn naturally upstream of weirs.
Operate juvenile screw traps in Clear Creek to estimate the number of out-migrating Chinook salmon parr, pre-smolt, and smolts.Record data on fork length, weight, number of juveniles captured, and marked fish recaptured to estimate brood year production.
Upload all juvenile Chinook salmon PIT tag release files to PTAGIS.
Mark juvenile and adult Chinook salmon with PIT tags and/or fin clips to estimate survival of juveniles and/or determine origin of naturally spawning adults.
Complete data analysis of adult production evaluation points collected in 2003.
Complete data analysis of brood year 2003 juvenile production by estimating outmigration of naturally produced

Chinook salmon collected in 2004 and 2005.
Synthesize and interpret field data to provide estimates of juvenile Chinook salmon production in Clear Creek and Pete King Creek.
Collect juvenile population data and transfer data to IDFG GPM project. Obtain density data from GPM database.

1990-055-00 - Id Steelhead M&E Studies (Expense) IDFG

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.

Accomplishments

1) continued yearly snorkel surveys to document juvenile steelhead densities and distribution (2) made yearly wild steelhead escapement counts at Fish Creek weir (3) estimate yearly juvenile steelhead outmigration in Fish Creek (4) PIT-tagged over 29,000 juvenile steelhead for smolt migration timing, inriver survival, and smolt-to-adult survival estimates (5) aged 7,200 juvenile steelhead from 10 streams and 1,240 adult steelhead from Fish Creek and Rapid River. (6) completed the genetic analysis of juvenile steelhead from 74 wild and 5 hatchery populations. (7) record stream temperatures in 40 streams. (8) began trapping and PIT-tagging steelhead in Rapid River and the SF Salmon drainage (8) completed the Annual Reports for 2002, 2003, and 2004.

Goals

We plan to continue our long-term monitoring of the wild steelhead population in Fish Creek using an adult weir, screw trap, and snorkel surveys. Summer snorkel surveys to estimate fish densities will continue in the Lochsa, Selway, and SF Salmon drainages. We will operate other screw traps, placed to primarily target wild steelhead, in Rapid River, Lick Creek (SF Salmon drainage), and the Secesh River. We plan to investigate temporal genetic changes, using microsatellites, in a subset of the wild steelhead streams that were surveyed in 2000. We will continue to participate with other regional genetic labs to standardize microsatellite steelhead markers. The subbasin plans identified the MF Salmon and Selway drainages as data poor. If time and budgets are adequate we would like to expand our summer snorkel surveys in the Selway and MF Salmon drainages to assess steelhead abundance and distribution. Data collected during the history of this project is being incorporated into several web-based IDFG databases. We are planning to submit articles to professional fisheries journal(s) for publication next year. Topics include (1) productivity of the Fish Creek steelhead stock; (2) genetic structure of steelhead populations in Idaho; (3) age and growth of steelhead parr and smolts in the Clearwater and Salmon drainages.

1993-035-01 - Red River Restoration (Expense) IDFG

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.

Accomplishments

The Lower Red River Meadow Restoration Project began implementation activities in 1996, under the sponsorship of the Idaho County Soil and Water Conservation District. The overall project goal was to restore the physical and biological processes and functions of the Lower Red River Meadow ecosystem to provide high quality habitat for chinook salmon (Oncorhynchus tshawytscha), steelhead trout (Oncorhynchus mykiss), bull trout (Salvelinus confluentus), and other fish and wildlife species. Restoration of 1.5 miles of stream on the property was divided into four phases, and included reconnecting historic meanders, constructing new meanders, reshaping channel cross sections, and installing rock grade control structures. Over 100,000 native riparian shrubs were planted to accelerate the establishment of native communities, provide bank stabilization, and improve fish (overhanging vegetation, undercut banks, reduced water temperatures, and sources of nutrients and instream woody debris) and wildlife habitat. Restoration activities increased channel length by 5,045 feet (from 1.5 miles to 2.4 miles) increased sinuosity by 60 percent, and decreased channel slope by 40 percent. Resulting decreases in water velocities and increases in water depth significantly increased habitat for fish and other aquatic organisms.

In 2005, Idaho Department of Fish and Game assumed sponsorship of the Red River Restoration Project. Project goals in 2005 include maintenance of past riparian plantings in addition to establishment of an additional 15000 native trees and shrubs on approximately 0.5 miles of stream. Plantings are in progress during spring 2005.

PAST Metric / Work Element	Value or description
# of stream miles treated, including off-channels, after realignment (0.1 mi.)	Restoration of 2.4 miles of stream. Reconnecting historic meanders and constructing new meanders increased channel length by 5,045 feet, increased sinuosity by 60 percent, and decreased channel slope by 40 percent.
# of riparian miles treated (0.01 mi.; count each bank separately)	Planted over 100,000 native riparin and wetland plants, including a variety of woody shrubs and herbaceous seedings, enhancing approximately 1.5 miles of stream.

Goals

Anticipated FY 2006 accomplishments include the continued maintenance of existing riparian shrub plantings and the establishment of an additional 15,000 shrubs along 0.5 miles of stream. New sites will include vegetative plantings along small perennial streams entering the Red River Wildlife Management Area property. Shrub densities will also be increased along Red River. Goal is to provide habitat connectivity and travel corridors from initial plantings into forested areas and to increase survival and densities of existing shrub communities. Maintenance techniques will include vegetation removal around existing shrubs, construction of 10 enclosures to prevent big game damage, and the maintenance of existing fences, cages, and tree tubes. Approximately 15 acres of noxious weeds will be controlled.

CURRENT Metric / Work Element	Value or description
# of riparian miles treated (0.01 mi.; count each bank separately)	Plant 15,000 native trees and shrubs on approximately 0.5 miles of stream. Maintain existing plantings on 2.4 miles of stream.

1995-013-00 - Nez Perce Trout Ponds (Expense) Nez Perce Tribe

Description: Repair 2 existing trout ponds, conduct site inventory, design, construction, management of up to 12 more fish ponds to provide consumptive resident fisheries to compensate for losses caused by Dworshak Dam.

Accomplishments

The Resident Fish Substitution Program in its current O&M mode maintained important fishery opportunities during 2003 and 2004 to the present on the Nez Perce Reservation. The trout fisheries managed by the project at three ponds serve as partial mitigation for the lost anadromous fisheries that resulted from the construction of Dworshak Dam on the North Fork Clearwater River. The project continued routine activities of stocking fish to maintain the fishery, monitoring water quality, fish health, and harvest, and site maintenance work including access road repair and site facility maintenance, cattle exclusionary fence inspection and repair, as well as equipment maintenance.

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	Provide NEPA information to BPA.
Collect/Generate/Validate Field and Lab Data	Monitor pond habitat and fish condition at Mud Springs and Talmaks Reservoirs, and at Tunnel Pond.
Collect/Generate/Validate Field and Lab Data	Nitrogen and coliform bacteria testing.
Collect/Generate/Validate Field and Lab Data	Harvest Monitoring at three pond sites
Maintain Fish Health	Monitor fish growth and condition.
Maintain Hatchery	Maintain and operate three fisheries.
Analyze/Interpret Data	Harvest Data Analysis
Produce Status Report	Quarterly reports or Pisces formatted data in “stoplight” format.
Produce Annual Report	Annual Report
Coordination	Project Coordination
Manage and Administer Projects	Management, Coordination and Communication

Goals

The FY 2006 project goals are to maintain the three trout pond fisheries on the Nez Perce Reservation and thereby provide quality harvest opportunities for tribal members.
Goals include accomplishing activities that maximize fishery harvest including stocking fish to maintain the fisheries, monitoring water quality, fish health, and harvest, and site maintenance work including access road repair and site facility maintenance, cattle exclusionary fence inspection and repair, as well as equipment maintenance.

CURRENT Metric / Work Element	Value or description
BPA Environmental Compliance	Provide NEPA information to BPA.
Collect/Generate/Validate Field and Lab Data	Monitor pond habitat and fish condition at Mud Springs and Talmaks Reservoirs, and at Tunnel Pond.
Collect/Generate/Validate Field and Lab Data	Nitrogen and coliform bacteria testing.
Collect/Generate/Validate Field and Lab Data	Harvest Monitoring at three pond sites

Mountain Snake	Clearwater
Maintain Fish Health	Monitor fish growth and condition.
Maintain Hatchery	Maintain and operate three fisheries.
Analyze/Interpret Data	Harvest Data Analysis
Produce Status Report	Quarterly reports or Pisces formatted data in “stoplight” format.
Produce Annual Report	Annual Report
Coordination	Project Coordination
Manage and Administer Projects	Management, Coordination and Communication

1996-077-02 - Lolo Creek Watershed (Expense) Nez Perce Tribe

Description: PROTECTING AND RESTORING THE LOLO CREEK WATERSHED WITHIN THE CLEARWATER SUBBASIN IS THE OVERALL GOAL OF THIS PROJECT. WE WILL ACHIEVE THIS WORKING WITHIN AN OVERALL WATERSHED APPROACH, COMPLETING FIVE OBJECTIVES IN MANY AREAS OF THE WATERSHED.

Accomplishments

The Lolo Creek Watershed restoration project began in 1996 through the Early Action Watershed Program to enhance fish habitat, reduce sediment delivery, and protect riparian areas from excessive grazing. Since 2002, the Nez Perce Tribal Fisheries/Watershed Program, in cooperation with the Clearwater National Forest, has obliterated over 5 miles of road. Obliteration included restoring natural drainage patterns, erosion control, re-vegetation, and fertilization. About fifteen miles of fence were constructed within the Lolo Creek watershed in 1998 and 1999, to protect riparian and culturally significant areas from negative impacts from cattle grazing. Operation and maintenance of this fence is completed on an annual basis. Riparian planting, in excess of 8,000 native trees, have been planted along the stream banks of the tributaries of Lolo Creek, which will increase shade, reduce temperature and sediment input, and increase large woody debris recruitment. Five culverts have been removed/replaced to accommodate fish passage. Natural stream simulation is incorporated into the design of new culverts. Where culverts were removed, the natural floodplain is restored. On all habitat improvement project, monitoring has been completed. In addition watershed trend monitoring is bein completed on an on-going basis.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	NEPA for this project has been completed in multiple ways. For projects on USFS lands, NEPA has beeen completed by them. For projects on private lands, we have worked through the BPA NEPA process - watershed checklist.
Produce Environmental Compliance Documentation	Cultural Resource surveys have been completed by the Nez Perce Tribe and clearance has been approved through Idaho State Historic Preservation Office. ESA consultation was completed by the NPT on private lands and the USFS on public lands.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Five miles of full recontour decommissionning were completed in the Lolo Creek drainage in 2004.
# of road miles decommissioned (0.01 mi.)	Five miles of full recontour decommissionning were completed in the Lolo Creek drainage in 2004.
# of riparian miles treated (0.01 mi.; count each bank separately)	4 miles of stream along riparian areas have been planted with10,000 native vegetation including willow, hawthorn, and alder trees in the years 2002, 2003, 2004, & 2005.
Produce Plan	All road/stream crossings within the Lolo Creek drainage have been inventoried and assessed for fish passage during the years 2002, 2003, and 2004. A document has been created in 2005 to detail the results and prioritize fish passage improvements.
Coordination	The Nez Perce Tribe has been partners with both Potlatch Corporation and the CNF have been partners in watershed restoration since 1996, which includes sharing funds and resources to complete projects. Each year, projects specifics are spelled out in an

Manage and Administer Projects	Project management includes coordinating project activities, attending meetings, seeking additional funding, preparing statements of work, managing budgets, and completing reports.
Produce Annual Report	Annual reports are completed and submitted to BPA on an annual basis.
Collect/Generate/Validate Field and Lab Data	The Clearwater National Forest and the NPT have developed a monitoring plan for road decommissioning. Several sites have been established to monitor road decommissioning effectiveness within the Lolo Creek drainage.
Collect/Generate/Validate Field and Lab Data	Data was collected on macro-invertebrates, temperature, sediment composition, channel morphology, Wolman Pebble counts, cobble embeddedness, bank stability, and riparian condition.
Does the structure remove or replace a fish passage barrier? (Y/N)	A round pipe was replaced with an arch pipe on Cedar Creek.
# of miles of habitat accessed (0.1 mi.)	2 miles of habitat was accessed because of the replaced culvert on Cedar Creek
Was barrier Full or Partial? (F/P)	A full barrier was replaced on Cedar Creek.
Maintain Terrestrial Structure	Approximately 15 miles of fence have been constructed to protect riparian areas within the Lolo Creek drainage. This fence is maintained on an annual basis by walking all fences and repairing dilapidated sections of fence.
# of stream miles treated (0.01 mi.)	0.25 miles of streambank have been stabilized using bioengineering techniques. Two sections of stream have been stabilized in 2003 and 2004 using brush mattresses, tree revetements, and pole plantings.
Does the structure remove or replace a fish passage barrier? (Y/N)	Yes, two barrier culverts were removed and one barrier culvert replaced on the Burnt Creek tributary to Jim Brown Creek.
# of miles of habitat accessed (0.1 mi.)	2 miles of habitat were accessed as a result of three barrier culvert replacement/removals on Burnt Creek.
Was barrier Full or Partial? (F/P)	Three full barriers on Burnt Creek were removed. Two of the sites were restored to natural floodplain, and at one site, a arch pipe culvert was installed to accomodate fish passage.
Replace/Maintain Instream Structure	On Bat Creek, a tributary to Jim Brown Creek, a section of stream was eroding excessively where a road crossed the stream. To restore the area, a ford was created at the location, which involved stabilizing the streambanks up and downstream of the ford.

Goals

Accomplishments from 2006 funding will include replacement of four culverts: Lolo Creek, Belle Creek, upper Weaver Creek, and lower Weaver Creek. Eight miles of road will be decommissionned and two miles of stream riparian area will be planted.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	A biological assessment will be written for ESA consultation, cultural resource surveys will be contracted to the Nez Perce Tribe Cultural Resource Dept, a permit will be filed with Army Corps of Engineers, and the NEPA Checklist will be submitted to BPA.
Manage and Administer Projects	Project management includes coordinating project activities, attending meetings, seeking additional funding, preparing statements of work, managing budgets, and completing reports.
Coordination	The Nez Perce Tribe has been partners with both Potlatch Corporation and the CNF have been partners in watershed restoration since 1996, which includes sharing funds and resources to complete projects. Each year, projects specifics are spelled out in
Produce Design and/or Specifications	Designs for culvert replacement are a cooperative effort between the NPT and both Potlatch Corporation the CNF. For designs on Forest Service lands, the Forest Service generally takes the lead, and the Nez Perce Tribe reviews and approves all designs bef
Produce Annual Report	Annual reports summarize yearly activities.
Produce Status Report	Quarterly reports will track project work element completion.
Does the structure remove or replace a fish passage barrier? (Y/N)	Yes, a round pipe will be replaced with an arch pipe within the headwaters of Lolo Creek.
Was barrier Full or Partial? (F/P)	A full barrier within the headwaters of Lolo Creek will be replaced.
Does the structure remove or replace a fish passage barrier? (Y/N)	A round pipe on Belle Creek will be replaced with an arch pipe and will simulate natural stream function within the culvert.
Was barrier Full or Partial? (F/P)	A full barrier will be replaced on Belle Creek, within the Lolo Creek drainage.
Does the structure remove or replace a fish passage barrier? (Y/N)	A round pipe will be replaced with an arch pipe on upper Weaver Creek.
Was barrier Full or Partial? (F/P)	A full barrier culvert will be replaced on upper Weaver Creek with an arch pipe and will simulate stream function though the culvert.
Does the structure remove or replace a fish passage barrier? (Y/N)	Yes, a round pipe will be replaced on lower Weaver Creek with an arch pipe. The culvert will simulate natureal stream function within the culvert.
Was barrier Full or Partial? (F/P)	A full barrier culvert on lower Weaver Creek will be replaced with an arch pipe structure.

Mountain Snake	Clearwater
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Full recontour road decommissioning will be completed on 8 miles of road within the Lolo Creek draiange.
# of road miles decommissioned (0.01 mi.)	Eight miles of road will be decommissioned within the Lolo Creek drainage.
# of riparian miles treated (0.01 mi.; count each bank separately)	2 stream miles will be planted with 2,000 native woody stem trees.

1996-077-03 - Restore Fishing To Bear Creek (Expense) Nez Perce Tribe

Description: PROTECTING AND RESTORING THE SQUAW AND PAPOOSE CREEK WATERSHEDS IS THE OVERALL GOAL OF THIS PROJECT. WE WILL ACHIEVE THIS WORKING WITHIN AN OVERALL WATERSHED APPROACH, COMPLETING FOUR OBJECTIVES IN MANY AREAS OF THE WATERSHED.

Accomplishments

The implementation work under this project focuses on reducing management related impacts to stream habitat quality and aquatic resources. The primary management impacts are extraordinarily high road densities associated with timber management. With the roads comes increased sedimentation from failures, surface erosion, and conversions of areas to noxious weeds. In addition, the roads and barrier drainage structures result in a loss of habitat connectivity. All non-implmentation work elements are aimed at preparing for, developing, securing funds for, and coordinating implementation. Target species are spring chinook, steelhead, bull trout, and west slope cutthroat trout.

PAST Metric / Work Element	Value or description
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Roads in the Analysis Area are generally recontoured to prevent of sedimentation through slope failure and surface erosion.
# of road miles decommissioned (0.01 mi.)	101 miles total
Start and end lat/long of each treated road segment (0.1")	Well over 600 roads were treated, most were unclassified, abandnonned logging roads. Given the large number of roads, it would be impossible to report metrics as lat/long for beginning and ending of each road and stay within allowed characters.
# of acres of vegetation planted (0.1 ac.)	1. Planted 15 culvert sites and adjacent riparian areas with rooted stock and seed. A total of approximately 8 acres.2. Seeded 100 miles (16,500 acres) of reclaimed road with native grasses and forbs as well as transplanted native vegetation.
# of acres treated (0.1 ac)	Removed over 300 failing drainage structures (300 acres), mostly log culverts, in order to open tributary channel habitat and reduce risk of road failure.
Does the structure remove or replace a fish passage barrier? (Y/N)	Y
# of miles of habitat accessed (0.1 mi.)	Since 2002, under this contract, we have replaced 5 culverts, opening up 8 miles of habitat.
Was barrier Full or Partial? (F/P)	F
Produce Inventory or Assessment	Roads, culverts, and weed inventories to direct future implementation have been completed since 2002.
Manage and Administer Projects	The Project Sponsor's activities included under this metric include managing staff, writing annual contracts, reviewing contractor's bids, providing information to BPA including reporting, SOW, and other information as needed.

Coordination	Planning and implementation of road and culvert work are coordinated inter- and intra-agency. Partners include Clearwater National Forest and Plum Creek Timber Company. Activities are also coordinated with NOAA Fisheries, USFWS, and IDFG.
BPA Environmental Compliance	The project sponsor has worked with the Clearwater National Forest as a member of the NEPA ID team to complete NEPA for all implementation work. The project sponsor provides NEPA and other permitting information to BPA.

Goals

There doesn't appear to be a work element just for project monitoring. All projects will be monitored as a part of implementation following established protocols for road obliteration monitoring, culvert replacement, and noxious weed treatment monitoring.

CURRENT Metric / Work Element	Value or description
BPA Environmental Compliance	The project sponsor will work with the Clearwater National Forest to complete all NEPA required for implementation as well as associated permits. The project sponsor will provide BPA with completed NEPA and permit information.
Produce Environmental Compliance Documentation	The project sponsor will work with the Clearwater National Forest to write all NEPA and secure associated permits. The project sponsor will provide this documentation to BPA.
Produce Inventory or Assessment	Complete noxious weed assessment on decommissioned roads and adjacent disturbed land. Continue inventories of roads identified as candidates for decommissioning.
Coordination	Inter- and intra- agencey coordination. Coordinate work with USFS, NPT, IDFG, NOAA Fisheries, and other partners.
Manage and Administer Projects	The Project Sponsor's activities included under this metric include writing annual contracts, reviewing contractor's bids, providing information to BPA including reporting, SOW, and other information as needed.
Produce Plan	Use road and culvert risk assessment to develop a comphrensive Transportation Plan, to identify roads that are candidates for decommissioning, and to design/prioritize road improvement.
Produce Design and/or Specifications	Design culvert replacement projects and road improvement work.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Recontour.
# of road miles decommissioned (0.01 mi.)	20 miles.
Start and end lat/long of each treated road segment (0.1")	Roads are located in Badger Creek and Parachute Creek. Not enough charachters allowed for the scale of road decom. in this project.

# of acres of vegetation planted (0.1 ac.)	Plant vegetation on reclaimed roads and replaced culverts. 3,316 acres.
# of acres treated (0.1 ac)	Remove at least 40 drainage structures on roads that if left in place would result in road failure. Approximately 40 acres.
# of acres treated (0.1 ac)	Treat 100 acres that is currently nearly 100% converted to knapweed, resulting in direct sedimentation into streams.
# of road miles improved, upgraded, or restored	Provide fixes to reduce erosion and sedimentation to approximately 5 miles of road.
Does the structure remove or replace a fish passage barrier? (Y/N)	y
# of miles of habitat accessed (0.1 mi.)	2 miles
Was barrier Full or Partial? (F/P)	F
Submit/Acquire Data	Take field data and prepare GIS maps, plans, and transfer data to partners and interested agencies. Upgrade computers in order to handle current GIS software.
Manage/Maintain Database	Design new databases to store project data for culvert inventories, road inventory, and weed inventory.
Disseminate Raw & Summary Data	Share monitoring data with interested parties. Data will be available in GIS maps, databases, or in report form.

1996-077-05 - Restore Mccomas Meadows (Expense) Nez Perce Tribe

Description: RESTORING THE MEADOW CREEK (MCCOMAS MEADOWS) WITHIN THE CLEARWATER SUBBASIN IS THE OVERALL GOAL OF THIS PROJECT. WE WILL ACHIEVE THIS WORKING WITHIN AN OVERALL WATERSHED APPROACH, COMPLETING FOUR OBJECTIVES WITHIN THE MEADOW.

Accomplishments

McComas Meadows is approximately 650 acres in size and is located within the middle of the Meadow Creek watershed. The mainstem of Meadow Creek runs through the meadow. Five tributaries,Covert Creek, Farris Creek, Whitman Creek, Orchard Creek, and Swede Creek, enter Meadow Creek within the meadow as well. Along the mainstem of Meadow Creek and its five tributaries, approximately 11,500 native riparian trees, between 2002 and 2005, have been planted to help decrease stream temperatures within Meadow Creek. During the summer months, stream temperatures reach over 25 degrees Celsius. 20 miles of road have been decommissionned using the full recontour method. The five miles of fence that were constructed in 1997 are maintained on annual basis. Three designs were completed for culvert replacements that will be implemented in 2005. Monitoring of all restoration projects, as well as watershed trend monitoring, is occurring annually.

PAST Metric / Work Element	Value or description
# of riparian miles treated (0.01 mi.; count each bank separately)	6 miles of riparian miles were planted, within McComas Meadows on the main stream of Meadow Creek and its tributaries. This includes approcimately 11,500 riparian trees planted from 2002 to 2005, which are native to this watershed.
Maintain Terrestrial Structure	Five miles of fence has been constructed within this watershed to protect riparian areas. This fence was maintained on an annual basis (2002, 2003, 2004, 2005) by walking the entire fence line and repairing dilapidated sections of fence.
Produce Environmental Compliance Documentation	NEPA was completed by the USFS under the Meadow Face FEIS, which includes all aspects of this project, including ESA consultation. The NPT, through this BPA project, has completed cultral resource surveys. BPAs NEPA checklist are up-to-date.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	20 miles of road were recontoured to natural topography including restoring stream crossings to natural grade.
# of road miles decommissioned (0.01 mi.)	20 miles of road were decommissionned in the Meadow Creek watershed during the years 2003 and 2004.
Produce Annual Report	Annual reports have been completed for each contract year. This report details the goals, objectives, and accomplishments.
Coordination	Activities include coordinating logistics of the project with the Nez Perce National Forest. An agreement details responsibilites and financial contributions of each entity.
Produce Design and/or Specifications	Designs for three culvert replacements were completed in 2004. Two culverts are under contract to be replaced in 2005 and one additional culvert will be contracted in 2005.
Collect/Generate/Validate Field and Lab Data	Monitoring data has been collected each year (2002, 2003, 2004, 2005) including stream flows, temperature, substrate composition, riparian canopy cover, stream morphology, macroinvertebrate samples, and fish presence.

Collect/Generate/Validate Field and Lab Data	Six monitoring stations were implemented within the 20 miles of road that were decommissionned. The stations were set up in 2003 and repeated in 2004. Monitoring parameters include cross sections, longitudinal profiles, vegetation surveys, photopoints.
Manage and Administer Projects	Coordinated project activities, and on-going communication with BPA, CBFWA, NPPC, and other agencies. Funding was sought to support activities of this project. Funding from the Idaho Office of Species Conservation was received for culvert replacements.
Produce Plan	In 2003, Wildlife Habitat Institute was contracted to write a report titled An Analysis of Soils, Vegetation, and Revegetation Options at McComas Meadows. The findings will guide meadow restoration and weed control for McComas Meadows.
Produce Design and/or Specifications	In 2003, Terra Graphics was contracted to produce a design for restoration of several sections of the ditch within McComas Meadows that are negatively impacting hydrology within the system.

Goals

Winter 2005-06- Complete environmental compliance documentation.
Spring 2006 - plant trees within riparian areas of 1 mile of stream.
Spring 2006- complete agreement with Nez Perce National Forest for cooperative projects.
Spring 2006- solicite for contractors for installing new culverts and decommissionning roads.
Summer 2006- install three new culverts (Rock, Covert, and upper Doe Creeks)
Summer 2006- Decommission 15 miles of roads.
Summer 2006- Monitor road decommissionning projects, culvert replacements, and stream habitat (including biological, chemical, and physical attributes)
Fall 2006- Summarize and complile data into a scientific report of monitoring activities.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	NEPA, including ESA consultation, has been completed by the US Forest Service for these projects, although a watershed NEPA checklist will be submitted to BPA. Cultural resource surveys and were completed by the Nez Perce Tribe.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	15 miles of road will be decommissioned using the practice of recountouring.
# of road miles decommissioned (0.01 mi.)	15 miles of road will be decommissionned in the Orchard Creek drainage of Meadow Creek.
Does the structure remove or replace a fish passage barrier? (Y/N)	Yes- the upper Doe Creek passage barrier (round culvert) will be replaced with a bottomless arch pipe using natural stream simulation through the culvert. The new pipe will gain access to 1 mile of suitable salmonid habitat.
# of miles of habitat accessed (0.1 mi.)	The new pipe will gain access to 1 mile of suitable salmonid habitat.
Was barrier Full or Partial? (F/P)	A full barrier will be replaced on Covert Creek.

Does the structure remove or replace a fish passage barrier? (Y/N)	Yes - The old round pipe will be removed and replaced with a bottomless arch pipe on Rock Creek.
# of miles of habitat accessed (0.1 mi.)	One-half mile of suitable salmonid habitat will be accessed within Rock Creek.
Was barrier Full or Partial? (F/P)	The full barrier on Rock Creek will be replaced.
Does the structure remove or replace a fish passage barrier? (Y/N)	Yes - The round pipe structure on Covert Creek will be replaced with a bottomless arch pipe culvert.
# of miles of habitat accessed (0.1 mi.)	One half mile of suitable salmonid habitat will be gained by replacing the culvert on Covert Creek.
Was barrier Full or Partial? (F/P)	A partial barrier will be replaced on Covert Creek.
Manage and Administer Projects	Project management includes coordinating project activities, attending meetings, seeking additional funding, preparing statements of work, managing budgets, and completing reports. Communications will include e-mail, telephone, compressed video conferenc
Coordination	The Nez Perce Tribe has been partners with NPNF in watershed restoration since 1996, which includes sharing funds and resources to complete projects. Each year, projects specifics are spelled out in an agreement signed by both parties.
Collect/Generate/Validate Field and Lab Data	A monitoring plan has been developed to gauge the success of culvert replacements. Data is collected at one, three, and five-year intervals to determine successes and changes that are occurring with culvert replacements and removals.
Collect/Generate/Validate Field and Lab Data	Evaluation of approx 20 miles of obliterated roads. Data collected for Road Obliteration Monitoring and Evaluation includes the following 1. Locate and evaluate new mass failures 2. Record and evaluate points of surface erosion 3. Evaluate re-vegetation
Collect/Generate/Validate Field and Lab Data	Collect biological, chemical, and physical habitat parameter data in the Meadow Creek drainage at three locations. Information will be collected on macro-invertebrates, flow, temperature, sediment composition, and habitat parameters to include channel mo
Analyze/Interpret Data	After data is collected on biological, chemical, physical habitat, and fish presence, abundance and distribution, it will be analyzed and compiled into a report.
Produce Status Report	Quarterly reports will track project work element completion.
Produce Annual Report	Annual Report describes all pertinent yearly activities, successes, problems, and opportunities encountered to include photos as needed. Summarize data generated by the project, as well as discussions with StreamNet; identify appropriate data format(s) (

Mountain Snake		Clearwater
Maintain Terrestrial Structure	Fence was constructed in 1997 of wooden posts and a combination of rails and four-strand barbed wire. Due to heavy snow loads, annual maintenance is required to maintain a properly functioning fence that protects riparian and stream habitat.	
Maintain Vegetation	A huge investment has been made in planting the riparian zone within McComas Meadows. Some deer browse is occurring. Protecting these trees will be important to their success. Additionally, noxious weeds will be treated.	
# of riparian miles treated (0.01 mi.; count each bank separately)	2 miles of stream riparian areas will be planted with native trees such as willow, alder, hawthorn, and dogwood.	

1996-086-00 - Clearwater Focus Program-Idscc (Expense) Idaho Soil and Water

Description: Develop and implement a comprehensive system to coordinate multip jurisdictions, agencies and private landowners in their effort to protect, restore, enhance anadromous fisheries habitat.

Accomplishments

FY02-04 rpt, FY05 begins 7/1/05. PRODUCE INVENTORY/ASSESSMENT: With Clearwater Policy Advisory Comm., Technical Subcomm.,& consultant, completed assessment & inventory, submitted to NPCC Nov 2002 for ISRP review. Evaluated ISRP review, prepared responses, resubmitted. PRODUCE PLAN: Completed Clearwater Plan, to NPCC Nov 2002, See above. Resubmitted plan to NPCC Nov 2003 for second ISRP review. Evaluated 2nd ISRP review. Developed adoption supplement, submitted to Pdx May 2004. Final supplement submitted to NPCC Dec 2004, adopted Feb 2005. Assisted Nez Perce SWCD develop Management Policy. COORDINATION: Prepare documents, design agenda, meeting organization, & recordkeeping. 19 PAC, 15 Tech, 5 NOAA; and 5 policy meetings. Twice briefed ID Congressional staff on subbasin planning. 4 coordination meetings with sponsors to prepare for FY06 solicitation. Distributed info on regional project selection process and budget development. Compiled pieces from subbasin plan for sponsors to use with proposals. Coordinated NEPA/ESA training with BPA for subbasin sponsors. OUTREACH AND EDUCATION: 11 public meetings for review and comment on the subbasin plan; 5 news releases; briefed Soil Conservation Commission (SCC). 6 conservation districts and SCC meetings. PROVIDE TECHNICAL REVIEW: Evaluated cost-sharing opportunities for project work, distributed info. Coordinated & participated in the Snake River Basin Adjudication process for minimum instream flows; Coordinated and participated with the Idaho DEQ to examine water temperature criteria for salmonid spawning & rearing using fish and temperature data in Lochsa River. Provided technical assistance with survey and monitoring for Potlatch River project; Prepared 10 applications, 6 awarded (not BPA) MANAGE AND ADMIN PROJECTS: Assisted SWCDs with SOWs, contracts & MOUs, Focus same + financial rpts. ENVIRONMENTAL COMPLIANCE:Assist SWCDs with permits, checklists, surveys, assessments. RPTs: Focus quarterlies & annual.

Goals

INVENTORY/ASSESSMENT: Update subbasin inventory and analysis. Assist SWCDs & others with habitat, etc surveys as requested.

PLAN: Assist SWCDs & others develop implementation plans.

COORDINATION: Coordinate and provide administrative structure for Clearwater Policy Advisory Committee and, linkage with the NOAA recovery planning process and USDA Forest Planning. Coordinate and participate with provincial roll-up process. Coordinate BiOp obligations, TMDL plans, etc. with other agencies, landowners, and local governments.

OUTREACH AND EDUCATION: Provide outreach and education programs for regional and subbasin programs to the general public, local governments, and subbasin agencies, and organizations. Provide Focus Program updates quarterly to the SCC.

PROVIDE TECHNICAL REVIEW: Evaluate cost-sharing opportunities for project work, distribute info and prepare and/or assist with proposals for project funding.

MANAGE AND ADMINISTER PROJECTS: Assisted SWCDs & others complete FY07 project solicitation process, responses to ISRP, & SOWs. Assist SWCDs design watershed programs. Coordinate project development with SRBA and PCSRF program funding. Complete solicitation process, contracting, and financial reporting for the Focus Program

ENVIRONMENTAL COMPLIANCE: Assist SWCDs & others with permits, checklists, surveys, assessments, and public involvement activities as requested.

PRODUCE STATUS AND ANNUAL REPORTS: 3 quarterly and one annual report for the Focus Program contract.

1997-060-00 - Clearwater Focus Watershed Np (Expense) Nez Perce Tribe

Description: DEVELOP AND IMPLEMENT A COMPREHENSIVE SYSTEM TO COORDINATE MULTIPLE JURISDICTIONS, MULTIPLE AGENCIES, AND MULTIPLE PRIVATE LANDOWNERS IN THEIR EFFORTS TO PROTECT, RESTORE, AND ENHANCE ANADROMOUS FISHERIES HABITAT.

Accomplishments

The Clearwater Policy Advisory Committee (PAC) is a group that was organized by the Clearwater Focus coordinators to act as an advisory committee over issues regarding the Clearwater River basin. This committee meets periodically throughout the year. The PAC was especially involved in the subbasin planning process. Subbasin assessment and planning is occurring throughout the Nez Perce Tribe's treaty territory, which is encompassed within the Columbia River Subbasin. The Nez Perce Tribe is the lead for four sub-basin assessments and plans, including Clearwater River, Lower Salmon River, Imnaha River, and Snake Hells Canyon subbasin. The Nez Perce Tribe is also the co-lead on three subbasin plans including, Asotin Creek, Tucannon River, and Lower Snake Subbasin.

Coordination and project planning within the Clearwater River subbasin is an on-going effort. Several meetings and field tours were held to discuss future and on-going projects within the basin. In addition to the Clearwater basin, this project coordinates watershed activities throughout the Nez Perce Treaty Territory, including northeast Oregon and southeast Washington.

In order to continue on-the-ground implementation of watershed restoration activities, seeking funding is a continual process. Several sources of funding were sought out, and proposals were submitted. Additional funding was received from the North Central Idaho Resource Advisory Committee, Idaho Office of Species Conservation, Columbia River Inter Tribal Fish Commission, NOAA, US Fish & Wildlife Service, US Forest Service, National Forest Foundation.

PAST Metric / Work Element	Value or description
Manage and Administer Projects	Project management included coordinating project activities, attending meetings, seeking additional funding, preparing statements of work, managing budgets, and completing reports. Communications included e-mail, telephone, compressed video conferenc
Produce Annual Report	Annual Reports have been completed to describe all pertinent yearly activities, including meetings attended, successes, problems, and opportunities encountered during coordination activities.
Coordination	The Nez Perce Tribe has multiple partners including federal, state, and local government agencies and private landowners. Projects are coordinated cooperatively with project 1996-086-00, Idaho Soil Conservation Commission Focus Program.

Goals

Coordination of watershed projects is critical to the success of the restoration of the sub-basin. Coordination activities includes: inter and intra-department coordination, sub-basin assessment and planning, involving government and private organizations, and treaty area coordination. Management activities, by various landowners, have affected aquatic processes within this drainage. Some of the key objectives of the Nez Perce Tribe and this position are to overcome fragmentation by managing communications within the sub-basin, providing an overall framework and process for coordinated fisheries restoration, and managing the planning, assessment, implementation and monitoring and evaluation process.

CURRENT Metric / Work Element	Value or description
Coordination	The Nez Perce Tribe has several partners including federal, state, local government agencies, and private landowners. Projects are coordinated throughout the entire Nez Perce Treaty Territory
Manage and Administer Projects	Project management includes coordinating project activities, attending meetings, seeking additional funding, preparing statements of work, managing budgets, and completing reports. Communications will include e-mail, telephone, compressed video conferenc
Produce Annual Report	Annual Report describes all pertinent yearly activities, including meetings attended, successes, problems, and opportunities encountered during coordination activities.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Coordinate workshops about watershed restoration opportunities including information about cultural history and how Native Americans such at the Nez Perce view natural resources. Workshops will target the public (200) and students(500).

1999-014-00 - Little Canyon Creek Habitat (Expense) Nez Perce Tribe

Description: Restore steelhead trout habitat in Little Canyon Creek subwatershed that are affected by upland agricultural land uses by implementing agricultural best management practices and coordinating ISCC, NRCS, and BPA funding sources.

Accomplishments

No-till implemented in the year 2004 was 2,935 acres; 2003:1,515 acres; 2002:3,559 acres; 2001:2,474; 2000:1,388 acres; 1999:1,176 acres.
Conservation Tillage Systems implemented: 2004:1,471 acres; 2003:2,458 acres
Grass Seeding: 17.2 acres in 2002; 275 acres in 2000.
Sediment Basins: installed 2 basins in 2002; 2 in 2001; 9 in 2000; and 2 in 1999.
Grade stabilization structures: installed 3 in 2004; 6 in 2003; 12 in 2002; 4 in 2001; 2 in 2000; 1 in 1999.
Grassed waterways: installed 6 in 2000; 5 in 1999.
Culvert outlets: installed 1 in 2002; 10 in 2001; 2 in 2000; and 6 in 1999.
Water and Sediment Control Structures: 3 in 2001; 9 in 2000.
Chaff spreaders/chopers: cost shared 4 units.
Off-site watering facilities: installed 2 in 2004; 2 in 2003; 1 in 2001; 2 in 2000.

Goals

With another year of funding we expect to:
Construct 2 grade stabilization structures; implement 4,500 acres of fall direct seeding (no-till); 2,850 acres of spring direct seeding (no-till); cost share 3 chaff chopper/spreader units; and plant 3,500 trees and shrubs in riparian areas.

1999-015-00 - Big Canyon Fish Habitat (Expense) Nez Perce Tribe

Description: Restore steelhead trout habitat in the Nichols Canyon subwatershed affected by upland agricultural land uses by implementing agricultural best management practices and coordinating ISCC, NRCS, and BPA funding sources.

Accomplishments

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	Completed environmental compliance documentation for 2002, 2003, and 2004.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Distributed 18 newsletters reaching over 500 participants per newsletter. Most participants are general public.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Completed 3 fact sheets for fish habitat education within the watershed.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Completed 3 bio-control workshops for yellow starthistle and spotted knapweed. Estimated participation from 4 teachers, 3 students, and 20 general publics.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Completed outreach activities at the Nez Perce County Fair in 2002, 2003, and 2004. Total estimated participation is 10,000 people per fair for a total estimated outreach of 50 teachers, 10,000 students, and 20,000 general public.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Completed one-on-one meetings with 20 project participants in the watershed. All participants are considered general public.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Completed a project information and fish habitat display at the Idaho Assocition of Soil Conservation Districts Convention in 2004. Estimated 120 general public attended.
Identify and Select Projects	Accepted 15 applications from landowners/managers for participation in the project.
Identify and Select Projects	Completed 8 site reviews to collect preliminary resource data to determine if a specific project will benefit fish limiting factors identified for the watershed.
Produce Annual Report	Completed annual reports.
Produce Status Report	Completed quarterly reports.
Produce Inventory or Assessment	Completed noxious weed invenentory along public roads located within the watershed.
Coordination	Conducted 2 public meetings for coordinating project activities and supplying general information. Estimated 40 general public participants.

Coordination	Conducted 2 interagency coordination meetings with the Nez Perce Tribe, IDaho Fish and Game, Nez Perce County, Lewis Soil Conservation District, USDA-Natural REsources Conservation Service, Idaho Department of Water Quality.
Produce Plan	Completed 6 habitat plans identifying site specific BMPs for installation.
Produce Design and/or Specifications	Completed 8 designs for vegetation plantings, alternative water developments, livestock waste systems, waterways, water and sediment control structures.
Develop Alternative Water Source	Installed 4 alternative water systems.
# of miles of fence (0.01 mi.)	Installed 2 miles of fence.
# of acres of vegetation planted (0.1 ac.)	Planted 20 acres of vegetation to reduce noxious weeds, improve native habitat, and reduce erosion.
# of riparian miles treated (0.01 mi.; count each bank separately)	Treated 1 mile of riparian habitat.
# of acres treated (0.1 ac)	Treated 200 acres.
# of acres treated (0.1 ac)	Completed 500 acres.
Disseminate Raw & Summary Data	Distributed 2002-2004 stream temperature data to STreamnet
Manage/Maintain Database	Updated GIS database with project locations installed in 2004

Goals

CURRENT Metric / Work Element	Value or description
BPA Environmental Compliance	Winter 2005 to spring 2006: Complete NEPA analysis, HIP BiOP form 1, Watershed SA checklist with BPA NEPA group
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Winter 2005-Fall 2006: Distribute 4 newsletters to 300 watershed residents. People reached estimated at 3 teachers, 10 students, and 300 general public.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Summer 2006: Conduct a bio-control workshop for yellow starthistle. Estimate reaching 15 general public.
Identify and Select Projects	Winter 2005- Summer 2006: Identify and select projects for installation in FY2007
Coordination	Winter 2005-Fall 2006: Coordinate project activities with the Nez perce Tribe, Idaho Fish and Game, Idaho Soil Conservation Commission and USDA-NRCS
Coordination	Winter 2005-Fall 2006: Attend meetings related to BPA proposal submissions and other possible meetings related to project submissions

Coordination	Winter 2005: Conduct an interagency coordination meeting to share information, coordinate monitoring, reduce duplication, reduce costs, and to review subbasin plan.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Spring 2006: Develop a marketing plan for implementating fish habitat improvements in the watershed.
Manage and Administer Projects	WInter 2005-Fall 2006: manage and administer projects including processing payments to subcontractors, development of land management contracts, metric reporting, accrual estimates, invoicing, preparation of statement of work, equipment inventory
Produce Plan	Winter 2005 - Fall 2006: produce maintenance plans for projects installed in 2005.
Produce Plan	Winter 2005-Fall 2006: Develop 4 habitat improvement plans for installation in 2007.
Produce Design and/or Specifications	WInter 2005-Fall 2006: Complete 6 designs for vegetation planting, erosion control structures, alternative water developments, and fencing
Produce Annual Report	Fall 2006 : Produce annual report
Produce Status Report	winter 2005-Fall 2006: complete quarterly reports
Develop Alternative Water Source	Spring 2006-Fall 2006: Install 2 alternative water developments
# of miles of fence (0.01 mi.)	Winter 2005-Fall 2006: INstall 0.5 miles of fence.
# of acres of vegetation planted (0.1 ac.)	Winter 2005-Fall 2006: Plant 20 acres.
# of riparian miles treated (0.01 mi.; count each bank separately)	Winter 2005-Fall 2006: Plant 0.5 miles.
# of acres treated (0.1 ac)	Winter 2005-Fall 2006: 3 acres treated.
# of acres treated (0.1 ac)	Spring 2006-Fall 2006: Treat 25 acres.
Disseminate Raw & Summary Data	Fall 2006: Disseminate stream temperature data to StreamNet.
Collect/Generate/Validate Field and Lab Data	Winter 2005-Fall 2006: Collect stream temperature data at 6 sites.
Manage/Maintain Database	Winter 2005: update GIS database with projects installed in 2005

1999-016-00 - Protect/Restore Big Canyon Cr. (Expense) Nez Perce Tribe

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

Accomplishments

Past accomplishments: There is more accomplishments, but because unsure of desired amount, limited it to the above response. If more is needed or greater detail, please contact the project manager or refer to the annual reports. In addition, the 2005 contract year just began in March, therefore there will be 2005 accomplishments that are not listed but follow similar to past years (please refer to 2005 SOW).

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	2002 - Completed 2 cultural surveys for restoration work
Produce Inventory or Assessment	2002 - Surveyed 199 road crossings (culverts, bridges, fords) for fish passage; 2002 - Surveyed 217.7 miles of roads using the WEPP methodology for transportation planning
# of miles of fence (0.01 mi.)	2002 - 2 miles of fence on tribal property on a tributary to Big Canyon Creek
# of acres of vegetation planted (0.1 ac.)	2002 - 10 acres (800 native plants)
# of riparian miles treated (0.01 mi.; count each bank separately)	2002 - 1/2 mile of stream
Produce Annual Report	2002 - Completed CY2002 annual report; 2003 - Completed CY2003 annual report; 2004 - Completed CY2004 annual report
Coordination	2002 - Completed 2 public meeting and 2 letters for the conservation district newsletters
Produce Plan	2002 - Completed M&E plan, Protocols for Inventory and Monitoring and Evaluation of Streams within Lapwai Creek and Big Canyon Creek Watersheds
Collect/Generate/Validate Field and Lab Data	2002 - Electrofishing data collected from 36 sites on 2 streams; 2002/2004 - Biological, chemical, and physical data collected at 4 sites on Big and Little Canyon Creeks for a total of 8 sites each year; 2004- electro-fished Little Canyon Creek
Coordination	2002/2003/2004 - Coordination with multiple agencies to include; Nez Perce Water and Soil Conservation District and Road Department, Idaho Fish and Game, Idaho Department of Transportation,Nez Perce Tribe Water Resource, Land Management, and Forestry, Ida
Produce Plan	2003- Completed “Fish Passage Assessment: Lapwai Creek Watershed” report; 2004- Completed Lapwai Creek Road Erosion Final Report
Disseminate Raw & Summary Data	2003 - analyzed 2002 fish presence, abandance and distribution data; 2003 - analyzed 2002 biological, chemical and physical habitat data collected; 2004 - put monitoring data into database
Maintain Terrestrial Structure	2004- Fence maintenance on 2 miles previously constructed

Goals

The proposed restoration and protection of the Big Canyon Creek watershed follows the watershed restoration approach mandated by the Fisheries and Watershed Program. Nez Perce Tribal Fisheries/Watershed Program vision focuses on protecting, restoring, and enhancing watersheds and treaty resources within the ceded territory of the Nez Perce Tribe under the Treaty of 1855 with the United States Federal Government. The program uses a holistic approach, which encompasses entire watersheds, ridge top to ridge top, emphasizing all cultural aspects. We strive toward maximizing historic ecosystem productive health, for the restoration of anadromous and resident fish populations.

The ultimate goal of this project is to work within a holistic approach to protect and restore the ecological and biological functions of the Big Canyon Creek watershed, to assist in the recovery of anadromous and resident fish species.

CURRENT Metric / Work Element	Value or description
Coordination	1- Research and write grants for cost-sharing funds relating to fish passage , fencing, off-site watering, planting and weed control.
Coordination	2- Coordinate with agencies involved in land management activities to include the ones mentioned above in past accomplishments.
Manage and Administer Projects	3- Provide any information needed by BPA such as accrual estimates. Write grant for next provencial review and provide any information or presentations related to the review. Provide logistics for multiple projects under this grant. Oversee budget.
Produce Plan	4- Complete assessments on 3 individual tribal properties or allotments using our Natural Resource Assessment and Management Protocol to determine restoration activities. Choosen properties or allotments will be based on critical areas for fish.
Produce Design and/or Specifications	5- Design 2 fish passage barriers for replacement. Barriers to be designed will be determined by the barrier assessment or priority opportunities that give the most amount of stream miles returned.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	6- Recontoured
# of road miles decommissioned (0.01 mi.)	6a- 5 miles
Start and end lat/long of each treated road segment (0.1")	6b- Specific roads to be identified during transportation planning this year.
Maintain Terrestrial Structure	7- Mantain 3 miles of constructed fence.
Collect/Generate/Validate Field and Lab Data	8- Collect abundance and distribution for fish species through electo-fishing on Long Hollow and Holes Creeks.

Collect/Generate/Validate Field and Lab Data	9- Collect habitat data at established sites on 4 sites on Big and Little Canyon Creeks each. Parameters to collect include; macroinvert, periphyton, flow, temp, sus solids, water chemistry, and habtiat parameters. Follows our M&E protocal.
Analyze/Interpret Data	10- Analyze electro-fishing and habitat data and put into report form.

1999-017-00 - Rehabilitate Lapwai Creek (Expense) Nez Perce Tribe

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

Accomplishments

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	2002 - Completed 2 cultural surveys for restoration work
Identify and Select Projects	2002 - Completed 3 conservation land management plans
Produce Inventory or Assessment	2002 - Surveyed 199 road crossings (culverts, bridges, fords) for fish passage; 2002 - Surveyed 217.7 miles of roads using the WEPP methodology for transportation planning
Coordination	2002 - Completed 2 public meeting and 2 letters for the conservation district newsletters
Produce Plan	2002 - Completed M&E plan, Protocols for Inventory and Monitoring and Evaluation of Streams within Lapwai Creek and Big Canyon Creek Watersheds; 2003 - Completed weed control plan for 25-acre restoration site on Lapwai Creek
Produce Annual Report	2002 - Completed CY2002 annual report; 2003 - Completed CY2003 annual report; 2004 - Completed CY2004 annual report
# of miles of fence (0.01 mi.)	2002 - 3.5 miles
# of acres of vegetation planted (0.1 ac.)	2002 - 10 acres; 2003 - 1,650 plants were planted in a 2-acre area along mainstem Lapwai Creek
Collect/Generate/Validate Field and Lab Data	2002 - Electrofishing data collected from 91 sites on 4 streams; 2002/2004 - Biological, chemical, and physical data collected at 4 sites on 4 streams for a total of 16 sites each year; 2004 - Electrofishing data collected on Webb Creek
Disseminate Raw & Summary Data	2003 - analyzed 2002 fish presence, abandance and distribution data; 2003 - analyzed 2002 biological, chemical and physical habitat data collected; 2004 - put monitoring data into database; 2004 - developed partnership with USGS to collect flow data
# of miles of fence (0.01 mi.)	2004 - 4 miles
Manage and Administer Projects	2002/2003/2004 - Multiple tasks for the entire timeperiod to include multiple project coordination, hiring of seasonals and engineer, budgeting, accural estimates to BPA, development of SOW's, etc.
Coordination	2002/2003/2004 - Coordination with multiple agencies to include; Nez Perce Water and Soil Conservation District and Road Department, Idaho Fish and Game, Idaho Department of Transportation, Bureau of Reclamation, Lewistion Orchards Irrigation District

Coordination	con't - NOAA, Nez Perce Tribe Water Resource, Land Management, and Forestry, Idaho Depart of Lands, Lewis County Soil and Water Conservation District
Produce Plan	2002 - Completed fish passage analysis report for Lapwai Creek; 2004- Completed road erosion report
Produce Plan	2002- Completed fish passage assessment and prioritization report; 2003- Completed road erosion survey report

Goals

The proposed restoration and protection of the Lapwai Creek watershed follows the watershed restoration approach mandated by the Fisheries and Watershed Program. Nez Perce Tribal Fisheries/Watershed Program vision focuses on protecting, restoring, and enhancing watersheds and treaty resources within the ceded territory of the Nez Perce Tribe under the Treaty of 1855 with the United States Federal Government. The program uses a holistic approach, which encompasses entire watersheds, ridge top to ridge top, emphasizing all cultural aspects. We strive toward maximizing historic ecosystem productive health, for the restoration of anadromous and resident fish populations.

The ultimate goal of this project is to work within a holistic approach to protect and restore the ecological and biological functions of the Lapwai Creek watershed, to assist in the recovery of anadromous and resident fish species.

CURRENT Metric / Work Element	Value or description
Produce Design and/or Specifications	5- Design 2 fish passage barriers for replacement. Barriers to be designed will be determined by the barrier assessment or priority opportunities that give the most amount of stream miles returned.
Does the structure remove or replace a fish passage barrier? (Y/N)	10- Y
# of miles of habitat accessed (0.1 mi.)	10a- 7.9 miles
Was barrier Full or Partial? (F/P)	10b- Full for juveniles
Coordination	1- Research and write grants for cost-sharing funds relating to fish passage , fencing, off-site watering, planting and weed control.
Produce Plan	4- Complete assessments on 5 individual tribal properties or allotments using our Natural Resource Assessment and Management Protocol to determine restoration activities. Choosen properties or allotments will be based on critical areas for fish.
Maintain Terrestrial Structure	9- Mantain 14 miles of constructed fence.
# of miles of fence (0.01 mi.)	7- Construct 4 miles of riparian/wetland protection fence.
# of acres treated (0.1 ac)	8- Treat 50 acres of noxious/exotic plant species by mechanical (pulling, mowing) and chemical means.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	6- Recontoured

# of road miles decommissioned (0.01 mi.)	6a- 5 miles
Start and end lat/long of each treated road segment (0.1")	6b- Specific roads to be identified during transportation planning this year.
Collect/Generate/Validate Field and Lab Data	11- Collect abundance and distribution for fish species through electo-fishing on Tom Beall, Mill, and E. and W. Fork Sweetwater Creeks.
Collect/Generate/Validate Field and Lab Data	12-Collect habitat data at established sites on 4 sites on Lapwai, Sweetwater, Mission and Webb Creek each. Parameters to collect include; macroinvert, periphyton, flow, temp, sus solids, water chemistry, and habtiat parameters. Follows our M&E protocal.
Manage and Administer Projects	3- Provide any information needed by BPA such as accrual estimates. Write grant for next provencial review and provide any information or presentations related to the review. Provide logistics for multiple projects under this grant. Oversee budget.
Coordination	2- Coordinate with agencies involved in land management activities to include the ones mentioned above in past accomplishments.
Produce Environmental Compliance Documentation	Complete cultural compliance, NEPA and ESA through BPA and permits for fencing, weed control, barrier replacement, and road decommissioning.

2000-028-00 - Eval Pacific Lamprey In Clearw (Expense) IDFG/IOSC

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.

Accomplishments

I. Baseline Information Obtained in the Clearwater, Salmon, and Snake River subbasins:
A.Life History- S.F. Clearwater 2000-2004 Lochsa R. subbasin, Selway R. subbasin, remainder of Clearwater R. 2002-04.
B. Habitat Utilization- determined Pacific lamprey habitat utilization and preference, S.F. Clearwater River drainage, 2000-02. Utilized random methodology incorporating numerical scientific analysis. Continued to develop precision of habitat preferences throughout the Clearwater River drainage,2002-04.
C. Distribution-S.F. Clearwater River subbasin 2000-03; Lochsa, Selway, Potlatch R. subbasins 2002-04.
Salmon R. 2004 (initial sampling) L. Salmon R., S.F. Salmon R., Lower mainstem.
D.Status-Currently developing Clearwater River Basin Pacific Lamprey status assessment based on 2000-04 findings.
II. Columbia River Basin Pacific Lamprey Conservation Contributions:
A. CRBLTW (Columbia River Basin Lamprey Technical Workgroup)-Worked providing Clearwater Project information through discussions and formal presentations.
-March 2004, CRBLTW open forum, Vancouver, WA
-October 2004, Lamprey Summit, Portland, OR
-Contributed to development of Columbia River Basin Pacific Lamprey Critical Concerns/Conservation Strategy document.
B.Presentations:
1.Idaho Chapter AFS Annual Meeting 2003
2.Oregon Chapter AFS Annual Meeting 2003
3.Western Division AFS Annual Meeting 2004
C.Interagency Coordination/Information Exchange
1.IDFG/USFS Clearwater National Forest annual coordination meetings 2000-05.
2.Provided BLM with annual reviews 2002-05.
3.Information exchange with WDFW lower Snake River personnel.
4.Information exchange with USFWS.
D.Developed internal outlines guiding recovery strategies in Columbia River, lower Snake Rier and Hells Canyon reach of Snake River. Analysis and documentation of accumulated knowledge is incorporated into annual and management reports illuminating the ecological interconnectivity with other important fish species.

Goals

Coordination of ongoing, past and future research with various federal, tribal, and state entities that are involved in Pacific lamprey studies. These include but are not limited to Bonneville Power Administration, U.S. Fish and Wildlife Service, Bureau of Land Management, U.S. Army Corps of Engineers, the State of Idaho, the State of Oregon, the State of Washington, Nez Perce Tribe, Umatilla Tribe, Columbia River Intertribal Fish Commission.

Collection of critical life history, habitat utilization, and distribution information in the Clearwater River, Salmon River and lower Snake River drainages.

Collect standard tissues samples for genetic analysis to provide baseline genetics in the event artificial propagation or adult translocation procedures are necessitated for population recovery or restoration.

Disseminate field data and subsequent analysis to interested parties via quarterly, annual and professional scientific reports, and oral presentations.

Develop conservation plan for Pacific lamprey population in Clearwater River drainage.

Mountain Snake **Clearwater**

Maintain database of previously collected data by incorporating into existing Excel and GIS databases.

2000-034-00 - Protect N Lochsa Face Analysis (Expense) Nez Perce Tribe

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.

Accomplishments

Past work focused on project planning, coordination with partnering agencies, road surveys, and preparing project logistics.

Goals

Target species: steelhead, spring chinook, bull trout, and westslope cutthroat trout.

CURRENT Metric / Work Element	Value or description
Produce Inventory or Assessment	Complete road survey of roads proposed for decommissioning.
Coordination	Inter- and Intra-agency coordination of all project work. All implementation will be completed in cooperation with the Clearwater National Forest.
Produce Plan	Use data collected during road survey to develop a plan for road decommissioning.
Manage and Administer Projects	Includes all tasks related to securing and reporting for BPA contract, training employees, managing field logistics, and letting contracts for work.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Recontour
# of road miles decommissioned (0.01 mi.)	20 miles per year.
# of acres of vegetation planted (0.1 ac.)	Revegetate reclaimed roads with native grasses, forbs, and transplanted rooted vegetation. 20 miles of reclaimed road is equivalent to about 3,300 acres of plantings.
# of acres treated (0.1 ac)	Remove failing drainage structures on 20 miles of road. Approximately 20 acres.
Submit/Acquire Data	Prepare data from monitoring work in databases and GIS layers. Data will also be available in report form.

2000-035-00 - Rehabilitate Newsome Creek - S (Expense) Nez Perce Tribe

Description: Protect and enhance Newsome Creek Watershed for the benefit of both resident and anadromous fish using an overall watershed approach. This project is a cooperative project between the Nez Perce Tribe and the Nez Perce National Forest.

Accomplishments

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	2001 - Completed NEPA (EA) for Road Decommissioning Phase I (using Forest Service protocol).
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	2002 - 2003; 6 miles of road recontoured.
# of road miles decommissioned (0.01 mi.)	2002 - 2003; 6 miles of road decommissioned.
# of acres treated (0.1 ac)	2002 - 2003; 1 acre (6 miles) seeded and slash placed on decommissioned roads and stream crossings.
Produce Inventory or Assessment	2000 - 2002; Conducted Road surveys of entire watershed (approx. 220 miles), and culvert surveys of all high priority culverts within the watershed using Forest Service National Protocol. Also main agency in developing the Newsome Watershed Asssessment.
Produce Plan	2003 - 2004; Feasibility study was conducted on 4 miles of mainstem Newsome Creek to evaluate restoration alternatives for the rehabiliation of this section of stream that has been highly impacted by past mining activities.
Produce Environmental Compliance Documentation	2004 - ongoing; NEPA for the Newsome Creek Watershed Rehabilitation Project EIS. This NEPA effort will cover the 4 miles of stream rehabiliation, 52 miles of road decommissioning and improvements as well as 2 culvert replacements.
Coordination	2000 - ongoing; All work specified in this project has been coordinated with the Nez Perce National Forest. We have been cost-sharing partners on this project since the project's inception.
Manage and Administer Projects	2001 - ongoing; The project leader has been administering this project since the last provincial review.
Collect/Generate/Validate Field and Lab Data	2003 - ongoing; Monitor and evaluate road decommmissioning activities. Also collection of baseline data for culvert replacements, and stream channel rehabiliation.
Produce Status Report	2001 - ongoing; Project personnel submit project progress reports on a quarterly basis.
Produce Annual Report	2001 - ongoing; Project personnel produce annual reports of project's progress including findings through monitoring and evaluation.

Goals

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Verify that all environmental compliance (NEPA) has been completed for the Newsome Creek Watershed Rehabiliation Project.
Manage and Administer Projects	SOWs, budgets, BiOp reporting, and other reporting as requested by BPA will be done under this work element.
Coordination	Activities include meetings, phone calls, grant writing, creating MOUs/MOAs and other communication tasks with partners and cooperators.
# of miles of habitat accessed (0.1 mi.)	Replace FS Road 1826 Culvert #2. This work element will return fish passage to approx. 3 miles of stream by replacing the existing culvert with a culvert designed for aquatic species passage.
# of road miles improved, upgraded, or restored	Improve approximately 9 miles of road to reduce chronic sediment input into streams.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Approximately 5 miles recontoured.
# of road miles decommissioned (0.01 mi.)	Approximately 5 miles.
# of acres treated (0.1 ac)	Approximately 1 acre (5 miles) of certified weed free straw and slash to be placed on decommissioned roads.
# of acres of vegetation planted (0.1 ac.)	Approximately 1 acre (5 miles) of seed to be planted on decommissioned roads.
# of riparian miles treated (0.01 mi.; count each bank separately)	Approximately 0.1 miles of stream bank to be seeded after road crossing pulled.
Collect/Generate/Validate Field and Lab Data	Collect data on decommissioned roads (16 miles), culvert replacements(2), and stream rehabilitation (8-12 sites).
Analyze/Interpret Data	Assess condition/health of Newsome Creek using physical habitat paramenters and biological data (fish counts, etc).
Produce Status Report	Quarterly reports or Pisces formatted data in "stoplight" format. Dates will be based on fiscal year.
Produce Annual Report	Annual report will describe all pertinent yearly activities, successes, problems, and opportunities encountered, photos included as well.

2000-036-00 - Protect And Restore Mill Creek (Expense) Nez Perce Tribe

Description: Enhance critical riparian areas thru re-vegetation and maintaining the cattle exclusion fence, and replacing/repairing culverts which pose a fish/aquatic barrier to restore quality habitat for chinook salmon, steelhead trout, bull trout and resident fish.

Accomplishments

2002- Completed inventory of all road/stream crossing structures (culverts)
2002, 2003, 2004, 2005 - Planted approx 2,000 riparian plants annually
2002, 2003, 2004, 2005 - performed maintenance on existing riparian protection fence.
2003- completed NEPA, ESA consultation, cultural resouce surveys, and designs for culvert replacements
2004 - replaced Corral Creek culvert
2004, 2005 - completed prioritization for culvert replacement within the Mill Creek watershed.

PAST Metric / Work Element	Value or description
Coordination	The Nez Perce Tribe and the NPNF have been partners in watershed restoration since 1996, which includes sharing funds and resources to complete projects. Each year, projects specifics are spelled out in an agreement signed by both parties.
Manage and Administer Projects	Project management includes coordinating project activities, attending meetings, seeking additional funding, preparing statements of work, managing budgets, and completing reports.
Produce Plan	A document was completed in May 2005 that prioritizes culvert upgrades for future BPA contracts.
Produce Design and/or Specifications	Designs for culvert replacement are a cooperative effort between the NPT and the NPNF. Two designs were completed for Corral and Camp Creek Culverts.
Produce Annual Report	Annual reports summarize yearly activities.
Does the structure remove or replace a fish passage barrier? (Y/N)	Yes, the round pipe culvert at Corral Creek was replaced with an arch pipe that was sunken and installed using stream simulation methods.
# of miles of habitat accessed (0.1 mi.)	Three miles of habitat was accessed by replacing the Corral Creek culvert.
Was barrier Full or Partial? (F/P)	The barrier was a partial barrier to salmonid species.
# of riparian miles treated (0.01 mi.; count each bank separately)	5.0 miles of stream along riparian areas was planted with native vegetation, including alder and willow species. Approximately 8,000 trees were planted between 2002 and 2005.
Produce Environmental Compliance Documentation	NEPA for culvert replacement projects was completed under sub-contract. ESA consultation and cultural resource surveys were completed by the Nez Perce Tribe.
Maintain Terrestrial Structure	Three miles of fence have been constructed within the Mill Creek draiange, and annual maintenance is completed under this project.
Collect/Generate/Validate Field and Lab Data	Collected biological, chemical, and physical habitat parameter data in the Mill Creek drainage, including data on culvert replacements.

Goals

Fall 2005- Complete design for culvert replacement on Hepner Creek
Spring 2006 - Solicite for contract to replace culvert
Spring 2006 - Plant riparian vegetation
Spring 2006 - Maintain five miles of fence
Summer 2006 - Replace Hepner Creek culvert
Summer 2006 - Complete monitoring of restoration activities and watershed trend monitoring.

CURRENT Metric / Work Element	Value or description
Coordination	The Nez Perce Tribe and the NPNF have been partners in watershed restoration since 1996, which includes sharing funds and resources to complete projects. Each year, projects specifics are spelled out in an agreement signed by both parties.
Manage and Administer Projects	Project management includes coordinating project activities, attending meetings, seeking additional funding, preparing statements of work, managing budgets, and completing reports.
Produce Design and/or Specifications	Designs for culvert replacement are a cooperative effort between the NPT and the NPNF. The Forest Service generally takes the lead, and the Nez Perce Tribe reviews and approves all designs before being solicited for bids on construction projects.
Produce Annual Report	Stream habitat and temperature data has been collected within Mill Creek, and this data will be summarized into a monitoring report, showing trends of conditions as a result of watershed restoration activities.
Produce Environmental Compliance Documentation	Complete NEPA Checklist and other NEPA documents.
# of riparian miles treated (0.01 mi.; count each bank separately)	2 miles of stream along riparian area will be planted with native trees.
Maintain Terrestrial Structure	Five miles of fence were constructed between the years of 2000 & 2001 to protect critical meadow habitat. Fence consists of post and rail and post and four-strand barbed wire.
Does the structure remove or replace a fish passage barrier? (Y/N)	Yes, a fish passage barrier will be replaced at Hepner Creek.
# of miles of habitat accessed (0.1 mi.)	4 miles of habitat will be accessed with the replacement of Hepner Creek culvert.
Was barrier Full or Partial? (F/P)	Full barrier is present on Hepner Creek
Collect/Generate/Validate Field and Lab Data	Stream habitat and temperature data will be collected within Mill Creek, and this data will be summarized into a monitoring report, showing trends of conditions as a result of watershed restoration activities.
Collect/Generate/Validate Field and Lab Data	A monitoring protocol for culvert replacements will track the status of habitat within and around the culvert and the stream channels reaction to the newly installed culvert.

2002-060-00 - Nez Perce Harvest Monitoring (Expense) Nez Perce Tribe

Description: The objective is to develop and implement a comprehensive, biologically-sound monitoring program for the Nez Perce Tribe for the Columbia River Basin and tributaries.

Accomplishments

This project is a Phase III rescheduled project that is currently in its first year of implementation. Implementation of the initial contract is progressing, but reporting of past accomplishments is not applicable.

Goals

The goals for FY 2006 are described in terms of appropriate metrics. Because FY 2005 was the initial year of the Harvest Monitoring Project, it is anticipated that the FY 2006 efforts will be modified and refined based on knowledge from 2005 implementation.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Biological Assessments to be submitted to NOAA through BIA for spring summer chinook fisheries in the Mainstem Snake River, Clearwater Subbasin and Salmon Subbasin (one document), with target date approximately May 30, 2006.
Produce Environmental Compliance Documentation	Through 12/31/06, assist CRITFC in preparing Biological Assessments for Columbia River Zone 6 fisheries for spring, summer , fall chinook, steelhead and sockeye.
Produce Environmental Compliance Documentation	Tribal Management Plans (TMP's) for "direct take" fisheries under ESA for the Tucannon, Grande Ronde and Imnaha Rivers due May 30, 2006. "Direct take" fisheries for Snake River basin steelhead and Snake River fall chinook also need TMPs.
Develop RM&E Methods and Designs	Develop and refine harvest monitoring methodology for Columbia River Zone 6 and Snake River tributaries, based on estimated run sizes and through coordination and technical assistance from CRITFC. Produce a report of harvest monitoring methodology.
Disseminate Raw & Summary Data	Implement harvest monitoring strategy, obtain technical review by CRITFC and disseminate harvest monitoring results.
Produce Status Report	Provide quarterly reports describing progress for milestones.
Produce Annual Report	Produce annual report.
Manage and Administer Projects	Report on metrics as requested and submit draft scope of work for FY 07.

2002-061-00 - Restore Potlatch R Watershed (Expense) Latah SWCD

Description: To restore ecosystem functions, restore degraded habitat and protect natural habitat within the Potlatch River watershed in Idaho thereby improving water quality and quantity throughout the drainage.

Accomplishments

PAST Metric / Work Element	Value or description
Coordination	Coordinate of technical advisory group to assist with the assessment work within the Potlatch River watershed. (FY02-FY05)
Produce Inventory or Assessment	Install and maintain nine stream flow monitoring stations throughout the Potlatch River watershed. (FY02-FY05)
Produce Inventory or Assessment	Undertake habitat surveys using Stream Visual Assessment Protocol on 7-8 subwatersheds within Potlatch River to determine current condition and limiting factors. (FY02-FY05)
Identify and Select Projects	Undertake habitat surveys using Stream Visual Assessment Protocol on 7-8 subwatersheds within Potlatch River watershed. Surveys used as basis for determining future restoration projects. (FY02-FY05)
Produce Plan	Initiate draft of the Potlatch River Watershed Implementation Plan based on past assessment work within the watershed. Incorporate new assessment data, as available. (FY02-FY05)
Manage and Administer Projects	Develop BPA contracts and undertake required reporting. (FY02-FY05)
Identify and Select Projects	Coordinate technical and financial resources (non-BPA) for future implementation projects within the Potlatch River watershed. Coordination with approximately 12 different agencies for technical and/or financial resources has taken place. (FY02-FY05)
Produce Inventory or Assessment	Complete fish inventory on 12 subwatersheds within Potlatch River basin. (FY02-FY03)

Goals

CURRENT Metric / Work Element	Value or description
Identify and Select Projects	Undertake habitat surveys using the Stream Visual Assessment Protocol within 4-5 subwatersheds. This survey information will identify potential restoration projects.
Identify and Select Projects	Coordinate with approximately 4 different agencies for additional technical and financial resources (non-BPA) for future implementation projects within the Potlatch River watershed.
Produce Inventory or Assessment	Maintain nine stream flow monitoring stations throughout the Potlatch River watershed.

Mountain Snake		Clearwater
Produce Inventory or Assessment	Undertake habitat surveys using Stream Visual Assessment Protocol on 4-5 subwatersheds within Potlatch River to determine current condition and limiting factors.	
Coordination	Coordinate technical advisory group to critique existing and newly acquired assessment data and provide peer critique of draft Potlatch River Plan.	
Produce Plan	Submit draft Potlatch River Watershed Implementation Plan for public and peer review. Finalize plan.	
Produce Inventory or Assessment	Incorporate Idaho Department of Environmental Quality's TMDL assessment information for the Potlatch River watershed.	
Manage and Administer Projects	Manage BPA contract per established workplan.	

2002-068-00 - Evaluate Nez Pt Stream Habitat (Expense) Nez Perce Tribe

Description: WME will implement habitat surveys and fish snorkel stations in order to characterize quantity and quality of available spawning and rearing habitat and will evaluate stream response to watershed restoration and/or management activity.

Accomplishments

Since 2002, the Nez Perce Tribe has received 12 months of funding. During that time we subcontracted the existing watershed monitoring plan in order that a statistical design could be applied to our data collection. Our plan was reviewed by NOAA Fisheries, BPA, Northwest Power Conservation Council, and ISRP. With the exception of BPA, reviewers recognized the need to begin implementing work to collect baseline whilst continuing to refine the monitoring plan design and framework. Currently, BPA is not willing to fund any implementation and has also requested certain coordination and planning tasks be completed prior to the receipt of contract, i.e., coordinating exact locations of monitoring work. However, the Tribe has no funding to provide personnel to do this kind of coordination without the receipt of the contract; consequently, we are caught in the proverbial Catch-22.

PAST Metric / Work Element	Value or description
Produce Plan	Developed monitoring plan to evaluate effectiveness of habitat restoration actions. Plan reviewed by ISRP, NOAA, NWPCC, and BPA. Recommended for implementation by Counsel.

Goals

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Project sponsor will provide BPA with all relevant NEPA and permitting documentation.
Identify and Select Projects	Project Leader will work with NPT-DFRM-Watershed Project Leaders to review plans of work for the next several years and prioritize and identify areas to begin and/or continue project monitoring and collection of baseline data.
Coordination	Protocol refinement will occur by two primary mechanisms: 1. feedback from initial implementation of monitoring and 2. Direct communication with other monitoring project sponsors. Direct communication will require travel to meetings, phone calls, and dat
Manage and Administer Projects	Provide information on metrics, programmatic review, and financial reporting as needed by BPA. Manage monitoring work through field work, site visits, crew training, and subcontracting.
Develop RM&E Methods and Designs	Refine NPT Watershed Monitoring Plan through trial and error and coordination with other agencies developing regional scale watershed monitoring including NOAA, EPA, and the PNMAP plans.
Collect/Generate/Validate Field and Lab Data	Collect data on restoration project effectiveness including road decommissioning, culvert replacement, riparian restoration, mine reclaimation, and road improvement projects. Data collection will occur in all locations where NPT-Watershed has projects.

Submit/Acquire Data	Enter field data into GIS reference database. May require computer upgrades and additional database and GIS training.
Manage/Maintain Database	Develop, maintain, and manage database in order that data might be readily accesible to fellow management agencies through internet queries.
Analyze/Interpret Data	Analyze data to begin evaluating restoration project effectiveness.

2002-070-00 - Lapwai Cr Anadromous Habitat (Expense) Nez Perce Soil and Water

Description: The project will implement BMPs on agricultural lands to reduce sediment, nutrients, and stream temperature. In addition, the project will improve low summer flows by installing BMPs for water retention in the uplands.

Accomplishments

PAST Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Generated a GIS based land ownership coverage for the watershed.
Collect/Generate/Validate Field and Lab Data	Completed GIS road layer for private and farm field roads and initial assessment of condition
Collect/Generate/Validate Field and Lab Data	Developed GIS layer for land management installations installed through other programs
Collect/Generate/Validate Field and Lab Data	Collected stream flow data on Lapwai Creek. Collection began 2002 and is on-going.
Collect/Generate/Validate Field and Lab Data	Collected 145 miles of stream assessment/inventory data.
Collect/Generate/Validate Field and Lab Data	Collected stream temperature data at 6 sites from 2002 to present. This is a coordinated task with the Nez Perce Tribe Water Resources and Fisheries Departments.
Disseminate Raw & Summary Data	Submitted 2002-2004 stream temperature data to StreamNet for posting on Website and to provide data sharing for other users.
Coordination	Completed public meetings for coordinating project activities. Meetings included 3 public meetings with over 50 participants.
Coordination	Organized two interagency coordination meetings for Nez Perce Tribe, Idaho Department of Fish and Game, Nez Perce County, City of Lapwai, City of Culdesac, NOAA, Idaho Soil Conservation commission, USDA-Natural Resources Conservation Service, Pheasants
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Conducted alternative water development workshop for landowners. An estimated 20 people participated.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Completed 11 newsletters reaching over 700 participants per newsletter.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Completed 8 fact sheets for fish habitat education within the watershed.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Distributed mass mailing to landowners for stream inventory process education and permissions. Estimated contacting 3 teaches, 8 students, and 200 general public.

# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Conducted 3 bio-control workshops for yellow starthistle and spotted knapweed. Estimated participation from 4 teachers, 3 students, and 50 general public.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Completed a field tour to demonstrate techniques used in the watershed for fish habitat restoration. Attended by 8 general public.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Completed outreach activities at the Nez Perce County Fair in 2002, 2003 and 2004. Total estimated participation is 10,000 people per fair for a total estimated outreach of 50 teachers, 10000 students and 20000 general public
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Completed one-on-one meetings with 30 project participants in the watershed. All participants are considered general public.
Identify and Select Projects	Accepted 40 applications from landowerners/managers for participation in the project.
Identify and Select Projects	Completed 25 initial site reviews to collect prelimary resource data to determine if a specific project will benefit fish habitat.
Produce Plan	Produced 15 habitat plans for project installation.
Produce Inventory or Assessment	Completed a noxious weed inventory along all public roads within the Lapwai Creek watershed.
Produce Design and/or Specifications	Completed 20 designs for project installation. Projects vary from vegetation restoration to off-site water developments.
BPA Environmental Compliance	Completed environmental compliance documenation for 2002, 2003 and 2004.
Develop Alternative Water Source	Developed and installed 12 alternative water systems to remove livestock from accessing streams for water.
# of acres of vegetation planted (0.1 ac.)	669.25 acres vegetation planted to restore native habitat and provide erosion control.
# of riparian miles treated (0.01 mi.; count each bank separately)	10.4 miles riparian vegetation planted to restore native habitat, provide erosion control, recruit woody debris, reduce stream temperature, and provide roughness recruitment.
# of miles of fence (0.01 mi.)	2.65 miles fence installed.
# of road miles improved, upgraded, or restored	0.72 miles road improved to reduce sediment delivery and control erosion.
# of acres treated (0.1 ac)	119.25 acres of weed removal through biological, chemical, and mechanical means.
# of acres treated (0.1 ac)	134.6 acres treated with water and sediment control structures, water bards, sediment basins, grade stabilization structures, diversions, and waste ponds.
Produce Status Report	Completed quarterly reports.

Develop RM&E Methods and Designs	developed two weed control field trials for Japanese Knotweed and White bryony to evaluate various treatment methods for control.

Goals

CURRENT Metric / Work Element	Value or description
Coordination	Winter 2005 to Fall 2006 - coordinate project activities with Nez Perce Tribe, Nez Perce County, Idaho Fish and Game.
Coordination	Winter 2005- Fall 2006: Attend meetings related to BPA proposal submissions and other possible meetings related to project submissions
Provide Technical Review	Winter 2005 : Provide technical review of riparian and stream assessment protocol jointly used by Nez Perce Tribe and Nez Perce Soil and Water Conservation District.
Manage and Administer Projects	Winter 2005- Fall 2006 - manage and administer projects including processing payments to subcontractors, development of land management contracts, metric reporting, accrual estimates, invoicing, preparation of statement of work, equipment inventory
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Winter 2005 - Fall 2006: Distribute 4 newsletters to 500 watershed residents. People reached estimated at 5 teachers, 100 students, and 500 general public.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Spring 2006 - distribute mass mailing to landowners in the Lapwai Creek Watershed. Distribute informational materials regarding the stream inventory process that will be conducted the summer of 2006.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Summer 2006 - conduct a bio-control workshop reaching 50 general public.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Winter 2005: Conduct a bio-engineering workshop reaching 20 general public
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Winter 2005 - Fall 2006: Implement education items in the Lapwai Creek Fish Habitat Improvement marketing plan. Items include tours, displays, public events.
Identify and Select Projects	Spring 2006 - Identify and select projects for installation in FY2007
Coordination	Winter 2005 - Conduct an interagency coordination meeting to share information, coordinate monitoring, reduce duplication, reduce costs, and to review subbasin plan.
Produce Annual Report	Fall 2006 - produce annual project report.
Produce Plan	Winter 2005 - produce maintenance plans for alternative water developments, vegetation plantings, fencing, upland erosion control structures installed in 2005.

Produce Plan	Spring 2006 - develop weed control plans for sites identified in 2005 for treatment.
Produce Plan	Winter 2005 - Complete habitat plans for Rock Creek, Garden Gulch, Lapwai Creek and Tom Beall Creek.
Produce Design and/or Specifications	Winter 2005 - complete 4 designs for road improvement, vegetation planting, erosion controlSpring 2006 - Complete 8 designs for vegetation planting, passage barriers,water developmentsFall 2006 - Complete 6 designs for vegetation, fence, passage barri
BPA Environmental Compliance	Winter 2005 to Spring 2006: complete NEPA analysis, HIP BiOP form 1, Watershed SA checklist with BPA NEPA group
Develop Alternative Water Source	Winter 2005 - install two alternative water developments to reduce livestock impacts on riaprian areas, in-stream cover, nutrients, and sediment.Fall 2006 - Install two alternative water developments
# of acres of vegetation planted (0.1 ac.)	Winter 2005-Fall 2006: plant 200 acres of vegetation to control erosion, improve native habitat, restore riparian areas, and control weeds
# of riparian miles treated (0.01 mi.; count each bank separately)	Winter 2005 -Fall 2006: Plant 2 miles of riparian vegetation for erosion control, weed control, roughness recruitment, native habitat restoration, and in-stream complexity improvement.
# of acres treated (0.1 ac)	Winter 2005 - Fall 2006: Complete 100 acres of weed control through a combination of biological, chemical and mechanical means.
Remove Debris	WInter 2005 - SUmmer 2006: Remove debris (cars, metal) from land near Lapwai Creek.
Analyze/Interpret Data	Winter 2005: Assessment of Lapwai Creek Stream inventory data collected in 2005
Disseminate Raw & Summary Data	Fall 2006: Submit stream temperature data to StreamNet
Manage/Maintain Database	Winter 2005: Update GIS database with locations of projects installed
Collect/Generate/Validate Field and Lab Data	Summer 2006: Collect data for hydrological analysis
Collect/Generate/Validate Field and Lab Data	Winter 2005 - Fall 2006: collect stream temperature data at 6 sites within the watershed
Collect/Generate/Validate Field and Lab Data	spring 2006 - Summer 2006: Collect stream inventory data on 90 miles
Collect/Generate/Validate Field and Lab Data	winter 2005 - fall 2006: collect stream flow data
Develop RM&E Methods and Designs	Winter 2005 - Complete japanese knotweed and white bryony control field trials
Maintain Vegetation	Spring 2006 - Fall 2006: Maintain vegetation installed in 2005

Replace/Maintain Instream Structure	Spring 2006-Fall 2006: Maintain structures installed in 2005
# of miles of fence (0.01 mi.)	Winter 2005-Fall 2006: Install 1 mile of fence
# of road miles improved, upgraded, or restored	WInter 2005-Fall 2006: Improve 1 mile of road to reduce sediment delivery, reduce erosion
Does the structure remove or replace a fish passage barrier? (Y/N)	y
# of miles of habitat accessed (0.1 mi.)	WInter 2005-Fall 2006: 10 miles
Was barrier Full or Partial? (F/P)	P
Produce/Submit Scientific Findings Report	Spring 2006: Prepare a report summarizing the long term evaluation of bio-engineering projects installed in 1997
Produce/Submit Scientific Findings Report	Spring 2006: Prepare a stream habitat survey report using data collected in 2005 field season. Report summarizes data, prioritizes reaches for treatment, and lists alternatives for treatment.
Create, Restore, and/or Enhance Wetland	Winter 2005-Fall 2006: Install wetland enhancement projects. INcludes creation of shallow water areas, vegetation plantings, fencing
# of acres treated (0.1 ac)	Winter 2005-Fall 2006: Install 30 erosion control projects
# of stream miles treated (0.01 mi.)	Winter 2005-Fall 2006: Treat 1 mile of stream
# of structures installed	Winter 2005-Fall 2006: install 7 instream habitat structures.
# of acres treated (0.1 ac)	WInter 2005-Fall 2006: Treat 30 acres
Create, Restore, and/or Enhance Wetland	Winter 2005-Fall 2006: INstall wetland enhancement projects. Includes creation of shall water areas, vegetation plantings, fencing
# of acres treated (0.1 ac)	Spring 2006: complete japanese knotweed, white bryony, and reeds canarygrass demonstration sites - estimate 3 acres of treated area.
# of acres treated (0.1 ac)	Spring 2006: Complete japanse knotweed, white bryony, and reeds canarygrass demonstration projects. Estimate 3 acres treatment.

2002-072-00 - Protect & Restore Red River Ws (Expense) Nez Perce Tribe

Description: Restore and protect the Red River Watershed for the benefit of both resident and anadromous fish using an overall watershed approach. Restoration and protection efforts will be done cooperatively with the Nez Perce National Forest.

Accomplishments

PAST Metric / Work Element	Value or description
Produce Inventory or Assessment	2002 - 2003; Road condition surveys (approx. 250 miles) and culvert surveys (approx. 400)were conducted throughout the Red River Watershed.
Produce Inventory or Assessment	2004 - Sensitive plant and archeology/cultural surveys were conducted for the Upper Red River Watershed Restoration Project.
Produce Inventory or Assessment	2003 - Project personnel participated in the review of the Red River Watershed Assessment.
Manage and Administer Projects	2001 - ongoing; SOWs, budget, BiOp reporting, and other reporting as requested by BPA will be done under this work element.
Coordination	Activities included meetings, phone calls, grant writing, creating MOUs/MOAs and other communication tasks with partners and cooperators.
Produce Environmental Compliance Documentation	2004 - 2005; NEPA and ESA consultation for the Upper Red River Watershed Restoration Project. An EA and BA was prepared for NEPA compliance and consultation with regulatory agencies was completed.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	2005 (field season) - 3 miles of roads to be recontoured.
# of road miles decommissioned (0.01 mi.)	2005 (field season) - 3 miles of roads to be decommissioned.
Produce Design and/or Specifications	2005 (field season) - Engineering survey and design of culvert 1709.
Produce Design and/or Specifications	2004 - Engineering designs and road marking for the 3 miles of roads to be decommissioned during field season 2005.
# of acres treated (0.1 ac)	2005 field season - Implement erosion control project on the Bridge Creek Campground.

Goals

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Verify that all environmental compliance (NEPA) has been completed for restoration projects.
Coordination	Activities will include meetings, phone calls, grant writing, creating MOUs/MOAs and other communication tasks with partners and cooperators.

Manage and Administer Projects	SOWs, budgets, BiOp reporting, and other reporting as requested by BPA will be done under this work element.
Produce Annual Report	Annual report will describe all pertinent yearly activities, successes, problems, and opportunities encountered, photos included as well.
Produce Status Report	Quarterly reports or Pisces formatted data in "stoplight" format. Dates will be based on fiscal year.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	2 miles of roads recontoured.
# of road miles decommissioned (0.01 mi.)	2 miles of roads decommissioned.
# of road miles improved, upgraded, or restored	Improve approximately 11 miles of road to reduce chronic sediment input into streams.
# of acres of vegetation planted (0.1 ac.)	Approximately .5 acres (2 miles) of seed to be planted on decommissioned roads.
# of riparian miles treated (0.01 mi.; count each bank separately)	Approximately 0.05 miles of stream bank to be seeded after road crossings are pulled.
# of acres treated (0.1 ac)	Approximately 0.5 acres (2 miles) of certified weed free straw and slash to be placed on decommissioned roads.
Collect/Generate/Validate Field and Lab Data	Collect data on decommissioned roads (12 miles), culvert replacement (1), and road and campground improvements.
Analyze/Interpret Data	Assess condition/health of Red River using physical habitat parameters and biological data (fish counts, etc.).
# of miles of habitat accessed (0.1 mi.)	Replace culvert 1709 with a bridge or box culvert. This work element will return fish passage to approximately 9 miles of stream by replacing the existing culvert with a bridge or box culvert designed for aquatic species passage.

2002-074-00 - Restore Crooked Fork Creek (Expense) Nez Perce Tribe

Description: This project will protect, restore, and return critical spawning and rearing habitat using a holistic approach beginning with a comprehensive watershed assessment, which will target restoration projects. Projects coordinated with USFS and PCTC.

Accomplishments

The implementation work under this project focuses on reducing management related impacts to stream habitat quality and aquatic resources. The primary management impacts are extraordinarily high road densities associated with timber management. With the roads comes increased sedimentation from failures, surface erosion, and conversions of areas to noxious weeds. In addition, the roads and barrier drainage structures result in a loss of habitat connectivity. All non-implementation work elements are aimed at preparing for, developing, securing funds for, and coordinating implementation. Target species are spring chinook, steelhead, bull trout, and west slope cutthroat trout.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	The project sponsor worked with the Clearwater National Forest to write all NEPA for implementation work. The project sponsor will provide BPA with NEPA and related permits.
Produce Inventory or Assessment	Three types of inventories to direct future implementation have been completed since 2002.
Coordination	Planning and implementation of road and culvert work are coordinated inter- and intra-agency. Partners include Clearwater National Forest and Plum Creek Timber Company. Activities are also coordinated with NOAA Fisheries, USFWS, and IDFG.
Manage and Administer Projects	The Project Sponsor's activities included under this metric include writing annual contracts, reviewing contractor's bids, providing information to BPA including reporting, SOW, and other information as needed.
Produce Design and/or Specifications	Engineering designs for 5 fish passage replacement structures have been completed.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Recontour.
# of road miles decommissioned (0.01 mi.)	10 miles.
Start and end lat/long of each treated road segment (0.1")	Crooked Fork Drainage:– 114 40 53.99 W
# of acres of vegetation planted (0.1 ac.)	Planted transplanted native vegetation and seeded grasses and forbs along reclaimed road. Approximately 1,650 acres.
Produce Inventory or Assessment	Completed comphrehensive watershed scale assessments and riparian inventories to prioritize areas of project work.
# of acres treated (0.1 ac)	Removed 12 failing drainage structures to prevent road failure. Approximately 12 acres.

Does the structure remove or replace a fish passage barrier? (Y/N)	Y
# of miles of habitat accessed (0.1 mi.)	1 mile
Was barrier Full or Partial? (F/P)	Full
Submit/Acquire Data	Transfer field data from inventory projects including roads, weed, and riparian inventories into databases and GIS layers.
Manage/Maintain Database	Developed and refined databases for weed inventory and riparian inventory.
Produce Plan	Developed plan and protocols for riparian condition inventory and noxious weed inventory.
Manage/Maintain Database	Developed database to store and transfer riparian condition data. Worked with USFS to revise and develop databases for weed inventory data.

Goals

There doesn't appear to be a straight forward metric just for project monitoring. In areas of proposed project work we are collecting baseline data. In areas of completed road decommissioning and culvert replacements we are monitoring efficacy of work.

CURRENT Metric / Work Element	Value or description
Produce Inventory or Assessment	Complete weed inventories and road surveys to identify and prioritize needs.
Produce Plan	Work with the Clearwater National Forest to develop comprehensive transportation plan using completed Road and Culvert Risk Assessment.
Coordination	Planning and implementation of restoration work will be coordinated inter- and intra-agency. Partners include Clearwater National Forest and Plum Creek Timber Company. Activities are also coordinated with NOAA Fisheries, USFWS, and IDFG.
Manage and Administer Projects	The Project Sponsor's activities included under this metric include all work with employees and logistics, writing annual contracts, reviewing contractor's bids, providing information to BPA including reporting, SOW, and other information as needed.
Produce Environmental Compliance Documentation	The project sponsor will work as member on the Clearwater Naitonal Forest's NEPA team and provide all required NEPA and related permits to BPA as they are completed.
Type of decommissioning (B/S/R): (Blocked, Scarified/Ripped, Recontoured)	Recontour
# of road miles decommissioned (0.01 mi.)	20 miles.

# of acres of vegetation planted (0.1 ac.)	Transplant native vegetation on reclaimed road. Seed disturbed areas with grasses and forbs. Approximately 3,300 acres.
# of acres treated (0.1 ac)	Remove up to 40 failing drainage structures, treating approximately 40 acres.
# of road miles improved, upgraded, or restored	Upto 10 miles.
# of acres treated (0.1 ac)	Treat approximately 200 acres of invasive plant species.
Does the structure remove or replace a fish passage barrier? (Y/N)	y (4 culverts)
# of miles of habitat accessed (0.1 mi.)	8
Was barrier Full or Partial? (F/P)	2 culverts are barriers only to juveniles.
Submit/Acquire Data	Transfer field data from field sheets into databases and GIS layers. Field data includes road and weed inventory as well as project monitoring data.
Manage/Maintain Database	Update databasses as needed. Make sure data is easily geo-referenced. Update hardware and software into to ensure data can be easily transfered to partners and other interested agencies.
Disseminate Raw & Summary Data	Provide data as needed to interested agencies as requested by the public.

2003-018-00 - Nez Perce R Terrestrial (Capital) Nez Perce Tribe - Lapwai

Description: Protect, enhance, and restore native canyon grassland, and associated riparian habitats within the Lower Salmon and Little Salmon River Watersheds, along with high elevation wet meadows which are the headwaters and water storage systems for the same.

Accomplishments

None. Project has not received funding to date.

Goals

2003-030-00 - Lwr Clearwater Hab Enhance Pro (Capital) Nez Perce Tribe - Lapwai

Description: Acquire, protect, enhance and restore a total of 10,000 acres of wildlife habitat on the Lower Clearwater River empahsizing habitats that will enhance recovery opportunities for listed fish stocks and/or NPTH Hatchery restoration efforts.

Accomplishments

Not Applicable. Project has not received funding from BPA yet.

Goals

1989-098-00 - Salmon Studies Id Rvrs Idfc (Expense) IDFG

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.

Accomplishments

2002 The last groups of adults were collected for ISS broodstocks. Broodstock creation was extended through 2002 to increase the number of streams receiving "full" treatment levels.

2002 Continued supplementation of treatment streams and monitoring of control streams, continued monitoring of juvenile survival and abundance, and monitoring of adult returns.

2003 Published a response to the ISRP Issue 10 Programmatic Review entitled Evaluation and Statistical Review of Idaho Supplementation Studies. The report was authored by ISS cooperators and an independent statistician.

2003 Published Idaho Supplementation Studies Annual Progress Report for calendar years 1997 – 2001.

2003 Continued supplementation of treatment streams and monitoring of control streams, continued monitoring of juvenile survival and abundance, and monitoring of adult returns.

2003 Released the last ISS pre-smolt supplementation groups into treatment streams. These juvenile groups were produced from adult collections in 2002.

2004 Continued supplementation of treatment streams and monitoring of control streams, continued monitoring of juvenile survival and abundance, and monitoring of adult returns.

2004 Released the last ISS smolt supplementation groups into treatment streams. These juvenile groups were produced from adult collections in 2002.

2005 Produced a joint annual report that covers all program activities relative to brood year 2002 Chinook salmon. This report was authored by and covers activities performed by all four ISS cooperating agencies.

2005 Produced a joint annual report covering the interim period between the calendar year 1997 – 2001 report and the brood year 2002 report. This report covers activities for this time period performed by the IDFG and SBT.

2005 Published another response to the ISRP 10 Programmatic Review entitled An Updated Study Design and Statistical Analysis of Idaho Supplementation Studies.

Goals

2006 Produce a joint annual report that covers all program activities relative to brood year 2003 Chinook salmon. This report to be authored by and cover activities performed by all four ISS cooperating agencies.
2006 A special annual report for the FCRPS Biological Opinion Annual Progress Report.
2006 Cooperate with BPA environmental personnel to ensure continued ESA compliance documentation are being completed.
2006 Attend relevant meetings, workshops, training as required to coordinate program activities. Coordinate activities and share project information through participation in professional meetings and meetings with other supplementation programs.
2006 Continued (adult) supplementation of treatment streams and monitoring of control streams, continued monitoring of juvenile survival and abundance, and monitoring of adult returns.
2006 Collect tissue samples for DNA analysis from all adult Chinook salmon passed upstream of weirs. DNA samples will be used to quantify production and productivity estimates for wild/natural and supplementation adults.

We will begin the ISRP recommended parentage analysis if the necessary funding is obtained.
2006 Collect tissue samples for DNA analysis from juvenile Chinook salmon emigrating from above the Pahsimeroi and Sawtooth hatchery weirs. Juvenile DNA will be analyzed for various parental analysis and reproductive contribution of natural and supplementation adults. We will begin the ISRP recommended parentage analysis if the necessary funding is obtained.

1989-098-02 - Salmon Studies Id Rvrs Npt (Expense) Nez Perce Tribe - Lapwai

Description: Evaluates hatchery supplementation as a recovery - restoration tool for spring and summer chinook salmon. Quantifies key population status and performance varibles, including early-life history and smolt- toadult survival rates.

Accomplishments

Performed monitoring and evaluation of natural and supplementation fish populations in five streams. Estimated juvenile production and survival of Lake Creek, Secesh River, Slate Creek, Legendary Bear Creek, and Fishing Creek chinook salmon. Monitored and evaluated Lake Creek, Secesh River, Legendary Bear Creek, Fishing Creek, and Slate Creek adult escapement and estimated adult production. Collected and analyzed biological and morphological samples from juvenile and adult Chinook salmon. Collected DNA samples from juvenile and adult Chinook salmon. Conducted snorkel, redd, carcass, and pre-spawning surveys.
Conducted an evaluation and statistical review of the project study design (Lutch et al BPA DOE/BP-00006630-2). Completed Progress Report 2000-2001 (Beasley et al DOE/BP-00004127-4). Completed final draft Brood Year 2002 Cooperative Report (Venditti et al 2005). Completed final draft – An Updated Study Design and Statistical Analysis of Idaho Salmon Supplementation Studies (Lutch et al 2005). Completed Phase II of the project and have moved into Phase III.
The synthesis of this data enabled the project to look at key performance metrics. Utilizing Work Elements 70, 99, 118, 119, 122, 132, 141, 156, 157, 158, 159, 160, 161, 162, 165, 182, and 183 this project provided the following performance metrics:
Metric – Abundance.
Abundance Performance Metrics: adult escapement to Snake Basin and tributaries, fish per redd, redd counts, spawner abundance, spawn timing, hatchery fraction, juvenile abundance, smolt equivalents, and run prediction.
Metric – Survival-Productivity:
Survival-Productivity Performance Metrics: smolt-to-adult return rate, progeny-per-parent ratio, recruit/spawner, pre-spawn mortality, juvenile survival to Lower Granite Dam, juvenile survival to mainstem dams, and relative reproductive success.
Metric – Distribution:
Distribution Performance Metrics: adult spawner spatial distribution, stray rate, juvenile rearing distribution, and disease frequency.
Metric – Genetic:
Genetic Performance Metrics: collected samples for genetic evaluations of genetic diversity, reproductive success, and effective population size that require additional funding. Additional funding is requested for evaluating reproductive success of hatchery origin and natural origin spring and summer chinook salmon for the Salmon Supplementation in Idaho Rivers project at $454,826 annually.
Metric – Life History:
Life History Performance Metrics: age class structure, age at return, age at migration, size at return, size at migration, condition of juveniles at migration, condition of juveniles at migration, adult spawner sex ratio, fecundity by age, adult run timing, spawn timing, juvenile migration timing, and mainstem arrival timing.
Metric – Habitat:
Habitat Performance Metrics: physical habitat, stream network, instream flow, water temperature, and fish assemblage.
Provided data for other basin wide programs which include CSMEP, ISAB review of supplementation, StreamNet, GPM, and other on-line databases.

Goals

Project Goal: Evaluate the use of artificial propagation to help build self-sustaining and harvestable populations of chinook salmon in the Salmon and Clearwater River Sub-basins without adversely impacting existing wild and natural populations. Research Goal 1: Assess the use of hatchery chinook salmon to increase natural populations of spring/summer chinook salmon in the Salmon and Clearwater River Sub-basins. Research Goal 2: Evaluate the genetic and ecological impacts of hatchery chinook salmon on naturally reproducing chinook populations.

Future Accomplishments:
Utilizing Work Elements 70, 99, 118, 119, 122, 132, 141, 156, 157, 158, 159, 160, 161, 162, 165, 182, and 183 this project will provide the following performance metrics:
Metric–Abundance: adult escapement to Snake Basin and tributary, fish per redd, redd counts, spawner abundance, hatchery fraction, juvenile abundance, hatchery production abundance, smolt equivalents, and run prediction.
Metric-Survival-Productivity: smolt-to-adult return rate, progeny-per-parent ratio, recruit/spawner, pre-spawn mortality, juvenile survival to Lower Granite Dam, juvenile survival to mainstem dams, and relative reproductive success.
Metric–Distribution: adult spawner spatial distribution, stray rate, juvenile rearing distribution, and disease frequency.
Metric–Genetic: genetic diversity, reproductive success, and effective population size if additional funding is received.
Metric–Life History: age class structure, age at return and migration, size at return and migration, condition of juveniles at migration, adult spawner sex ratio, fecundity by age, adult run timing, spawn timing, juvenile migration timing, and mainstem arrival timing.
Metric-Habitat: physical habitat, instream flow, water temperature, and fish assemblage.

1989-098-03 - Salmon Studies Id Rvrs Sbt (Expense) Shoshone Bannock Tribe

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.

Accomplishments

Since the inception of this project we have accomplished the following in order to further the goals outlined below.
Annual snorkel surveys to estimate juvenile abundance in the East Fork Salmon River, Herd Creek, West Fork Yankee Fork, Valley Creek, and Bear Valley Creek.
Operated screw traps on East Fork Salmon River and West Fork Yankee Fork to estimate abundance of chinook salmon at the fry, parr, pre-smolt and smolt stages.
Conduct redd surveys on East Fork Salmon River, West Fork Yankee Fork, Valley Creek, and Bear Valley Creek. Pertinent biological information (length, sex, DNA, retained eggs, marks/tags) will be collected from all Chinook salmon carcasses encountered.
Beginning in 2003, we intensified carcass surveys beyond multiple pass redd counts, to remove various structures from carcasses for aging, collect length, sex, DNA, egg retention information, and examine for the presence of fin clips, coded wire tags, radio tags, VI tags, and other tags. Remove snouts from carcasses containing coded wire for laboratory analysis.

Goals

The goal of the Idaho Supplementation Studies Project is to evaluate the usefulness of supplementation as a recovery/restoration strategy for depressed stocks of spring and summer Chinook salmon in Idaho. The project is a multi-agency effort that encompasses 30 streams throughout the Salmon and Clearwater River basins. Benefits of the ISS study will include helping to define the potential role of Chinook salmon supplementation in managing Idaho's natural spring and summer Chinook salmon populations, and identifying genetic and ecological impacts to existing natural populations. The ISS experimental design is split into three main approaches: (1) large-scale population production and productivity studies designed to provide Snake River basin-wide inferences, (2) using study streams to evaluate specific supplementation programs, and (3) small-scale studies designed to evaluate specific hypotheses. Approaches (1) and (2) measure population responses to supplementation and are long-term studies. Approach (3) utilizes short-term studies conducted in "controlled" environments to determine specific effects of supplementation, such as competition, dispersal, and behavior. We expect this research to demonstrate the best methods for supplementing existing natural populations of Chinook salmon and re-establishing natural populations in streams where Chinook salmon have become extirpated. The supplementation effects will be monitored and evaluated by comparing juvenile production and survival, fecundity, age structure, and genetic structure and variability in treatment and control streams having similar ecological parameters.

1991-028-00 - Pit Tagging Wild Chinook (Expense) NOAA Fisheries

Description: Collect time series information to examine migrational characteristics of wild ESA-listed Snake River spring/summer chinook salmon stocks. Mark wild spring/summer chinook salmon parr with PIT-tags annually; intercept and decode tagged smolts as they pass

Accomplishments

From 2002 to 2004, collected, PIT tagged, and released from 14,290 to 19,871 wild spring/summer Chinook salmon parr from 15 to 16 streams of the Salmon River basin of Idaho. Subsequently, we monitored these fish (2003 and 2004) annually at juvenile migrant traps, in-stream PIT-tag monitoring sites (Valley Creek), and dams. We characterized the parr-to-smolt survival and movements of these fish from natal rearing areas to Lower Granite Dam. We collected water quality information at five locations in conjunction with fish monitoring sites in natal rearing areas and collected parr-to-smolt growth information on a sample of these wild fish each spring at Little Goose Dam. All this yearly information have been reported in annual reports. The PIT-tag detection information on these fish is used annually by regional fish managers for monitoring of ESA-listed fish to guide decisions on operations of the FCRPS to better protect these fish.

Goals

Continue the PIT tagging and monitoring efforts on these ESA-listed fish stated in the past accomplishments. Continue the development of in-stream PIT-tag monitoring by expanding this work to Big Creek in the middle fork of the Salmon River drainage. This stream is within a pristine wilderness, with no influence from hatchery plants. Begin to examine the relationships between fish movement/survival, and environmental conditions within streams, and weather and climate data. The ultimate goal were are working toward is to generate a large enough dataset so we can accurately predict fish movements and survival given a set of environmental conditions and thus use this information to recover these listed stocks.

1991-071-00 - Sockeye Salmon Hab & Limnologi (Expense) Shoshone Bannock Tribe

Description: Increase carrying capacities of Snake River sockeye salmon rearing lakes (Redfish, Pettit, and Alturas). Evaluate the effects of nutrient additions and fish stocking on the lake's ecosystems.

Accomplishments

Due to the length of this project, no actual results are listed here. Please refer to any annual report on the BPA website for specific values.
Nutrient Enhancement-
We added nutrients to increase lake productivity for juvenile sockeye salmon in Redfish Lake - 1995,1997,1998,2001,2002
Pettit Lake-1997,1998,1999,2004
Alturas Lake-1997,1998,1999
We have monitored sockeye salmon smolt migrations from Alturas Lake since 1994 and Pettit Lake since 1995. Survival and growth rates were estimated from time of release the previous year. Smolts were measured, weighed, and a portion were PIT tagged.
Limnological parameters including temperature, dissolved oxygen, conductivity, secchi depth, light compensation depth, water chemistry, chlorophyll a, primary productivity, heterotrophic bacteria, autotrophic picoplankton, phytoplankton, and zooplankton assemblage characteristics (species composition and densities) were sampled at least monthly (weekly during nutrient enhancement) at Redfish, Pettit, Alturas, and Stanley lakes during January-March and May-November.
Monitoring of spawning residual and anadromous sockeye populations in Redfish Lake has occurred since 1993. Trends in these populations are evaluated with monitoring data collected by weekly snorkel surveys.
Hydroacoustics were used to estimate entire lake O. nerka populations annually since 1993.
Stream spawner counts were used to monitor adult kokanee escapement to inlet streams on Redfish, Alturas, and Stanley lakes annually since 1993.
During years following high densities of O. nerka based on hydroacoustics, a weir was installed on Fishhook Creek kokanee to allow no more than 1,200 spawning females to pass above the weir.

Goals

Using the results from a variety of sampling techniques listed above, we will make reccomendations to the Technical Oversight Committee on stocking rates for juvenile sockeye salmon reared in the captive broodstock program for each nursery lake. We will continue monitoring biological and limnological attributes associated with with succesful juvenile sockeye salmon survival to smolt. We anticipate nutrient enhancement in Pettit and Alturas lakes, as well as reducing competition (kokanee) in Redfish and Alturas lakes.

1991-072-00 - Redfish Lake Sockeye Salmon Ca (Expense) IDFG

Description: Establish captive broodstocks of Redfish Lake sockeye salmon. Spawn adults to produce future broodstocks, eggs, juveniles, and adults for supplementation.

Accomplishments

FY05

Production (Releases):
Eyed-eggs: 49,134
Pre-smolts: 130,716
Smolts: 78,000
Adults: 241

Incubation: 140,823 eyed-eggs produced at EFH for BY04.
12/31/04 Eyed-egg/Fry Inventories
SFH: 152,517
OFH: 49,723
EFH: 507

Rearing:
12/31/04 Juvenile Rearing Inventories:
SFH: 39,912
OFH: 39,681
EFH: 400 BY03; 320 BY02; 20 BY01; and 4 BY00

Broodstock collection:
Anadromous: 24 trapped (12 male/12 female)incorporated in spawning plan
Captive: 100 females and 90 males spawned at EFH in 2004.

FY04:

Production (Releases):
Eyed-eggs: 199,666
Pre-smolts: 76,788
Smolts: 96
Adults: 315

Incubation: 303,983 eyed-eggs produced at EFH for BY03.
12/31/03 Eyed-egg/Fry Inventories:
SFH: 197,965
EFH: 42,235
EFH: 418

Rearing:
12/31/03 Juvenile Rearing Inventories:
SFH: 199
EFH: 339 BY02; 235 BY01; and 5 BY00

Broodstock collection:
Anadromous: 2 trapped (2 females) incorporated in spawning plan
Captive: 207 females and 148 males spawned at EFH in 2003.

FY03:

Production (Releases):
Eyed-eggs: 30,924
Pre-smolts: 140,410
Smolts: 0
Adults: 190

Incubation: 65,838 eyed-eggs produced at EFH for BY02.
12/31/02 Eyed-egg/Fry Inventory:
SFH: 94,483
EFH: 420

Rearing:
12/31/02 Juvenile Rearing Inventory:
EFH: 323 BY01; 343 BY00; and 8 BY99

Broodstock collection:
Anadromous: 15 returns (12 released, 3 mortalities).
Captive: 89 females and 115 males spawned at EFH in 2002.

FY02

Production (Releases):
Eyed-eggs: 0
Pre-smolts: 103168
Smolts: 38,672
Adults: 0

Incubation: 118,121 eyed-eggs produced at EFH for BY01.
12/31/01 Eyed-egg/Fry Inventory:
SFH: 116,600
Bonneville (BFH): 90,222
EFH: 435

Rearing:
12/31/01 Juvenile Rearing Inventory:
SFH: 38,851
BFH: 67,936
EFH: 472 BY00; 271 BY99; and 23 BY98

Broodstock collection:
Anadromous: 23 returns (14 released, 9 spawned at EFH).
Captive: 131 females and 72 males spawned at EFH in 2001.

PAST Metric / Work Element	Value or description
Production: # fish released from program, by life stage and species	Sockeye salmon: Eyed-eggs up to 50,000; Pre-smolts up to 120,000; smolts up to 80,000; adults up to 250.

Incubation: # fertilized eggs into incubation program, by species	Sockeye salmon: Incubate up to 200,000 eyed-eggs for distribution.
Incubation: # fry (button-up) produced, by species	Sockeye salmon: Hatch and rear up to 500 fry per brood year.
Rearing: # fish into program (fish ponded), by life stage and species	Sockeye salmon: Rear up to 475 age 1; 450 age 2; 400 age 3; 50 age 4; and 20 age 5.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Sockeye salmon: Captive broodstock up to 400 (200 female / 200 males); Anadromous trap all returning adults. Disposition will be determined by TOC members.
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Spawn up to 200 females / 200 males(combination of Captive and Anadromous). Captive broodstock spawners is made up of age 2, 3, 4, and 5 year old fish (3 year old fish dominate); Anadromous returns include age 3, 4 and 5 year old fish (4 year old fish do
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation
# of fish into program, by life stage	Sockeye eyed-eggs are transported to Sawtooth FH to incubate, hatch and rear to the pre-smolt and smolt stages of development. Up to 100,000 pre-smolts released to Sawtooth Valley lakes. Up to 50,000 smolts released to Salmon R and Redfish Lake Cr.
# of fish into program, by life stage	Sockeye eyed-eggs are transported to Oxbow FH to incubate, hatch, and rear to the smolt stage. Up to 50,000 smolts are transported back to Idaho for release to Salmon River and Redfish Lake Creek.

Goals

FY 2006:

Produce hatchery fish:
Produce up to 300K eyed-eggs for distribution
Release: Up to 50K eyde-eggs
Transport: Up to 250K eyed-eggs
Incubate: Up to 1000 eyed-eggs.
Rear: Up to 1000 eyed-eggs through maturity.
Trap and enumerate all returning anadromous adults. Disposition will be determined by TOC members.

Maintain Hatchery:
Maintain current hatchery grounds, equipment, and buildings to ensure good culture environment. Provide herbicide

use and equipment inventory documents to BPA.

Produce Environmental Compliance Documentation:
Produce NOAA permit annual reports.

Install Fish traps and weirs in project area:
Install and operate smolt trap on Redfish Lake Cr.
Install adult sockeye trap on Redfish L.

Collect, generate, and evaluate field data:
Monitor smolt out-migration from Redfish L.
Conduct kokanee creel survey in Redfish L.
Conduct midwater trawling in three lakes.
Conduct predator trend surveys in two tributaries to nursery lakes.

Mark and tag fish:
Mark juvenile production fish with adipose and other visible fin clips.
Tag a portion of release juveniles with PIT and CWT tags.

Submit and Acquire data:
Upload PIT and CWT files to regional databases.
Analyze and interpret data:
Estimate sockeye out-migration (by strategy).
Estimate kokanee and sockeye harvest in Redfish Lake sport fishery.
Estimate sockeye and kokanee abundance and density in nursery lakes.
Estimate bull trout trend spawning presence in tributaries of nursery lakes.

Facility:
Make improvements as funded to address facility needs (current and UPA-related).

Reporting:
Submit AR to BPA.

Rear Fish:
Rear up to 120,000 pre-smolts and 50,000 smolts at Sawtooth FH for release in Sawtooth Valley waters.
Rear up to 150,000 smolts at Oxbow FH for release in Sawtooth Valley waters.

CURRENT Metric / Work Element	Value or description
Production: # fish released from program, by life stage and species	Sockeye salmon: Eyed-eggs up to 50,000; Pre-smolts up to 120,000; smolts up to 100,000; and adults up to 250.
Incubation: # fertilized eggs into incubation program, by species	Sockeye salmon: Incubate up to 200,000 eyed-eggs for distribution.
Incubation: # fry (button-up) produced, by species	Sockeye salmon: Incubate, hatch, and rear up to 1000 fry per Brood Year.
Rearing: # fish into program (fish ponded), by life stage and species	Sockeye salmon: Rear up to 950 age 1, 450 age 2, 400 age 3, 50 age 4, and 20 age 5.

Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementaion
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Sockeye salmon: Captive Broodstock up to 400 (200 female/200 male); collect all anadromous returning adults. Disposition of anadromous returning adults will be determined by SBSTOC members.
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Spawn up to 200 females / 200 males (combination of Captive and Anadromous). Captive broodstock spawners are a combination of 2, 3, 4, and 5 year old fish. Anadromous returns include age 3, 4, and 5 year old fish.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementaion
# of fish into program, by life stage	Rear up to 120,000 pre-smolts and up to 50,000 smolts at Sawtooth FH for release in Sawtooth Valley waters.
# of fish into program, by life stage	Incubate, hatch and rear up to 150,000 smolts. Smolts are transported to Idaho for release to Salmon River and Redfish Lake Creek.

1991-073-00 - Idaho Natural Production Monit (Expense) IDFG

Description: The INPMEP collects, manages, and analyzes data describing the status and survival of spring/summer chinook salmon and steelhead populations in Idaho. The INPMEP provides long-term monitoring information necessary to evaluate recovery efforts.

Accomplishments

1) Maintained and extended the General Parr Monitoring data base, showing trends in juvenile salmonid densities in Idaho 1985-2004.
2) Produced a stock-recruit model describing the freshwater productivity of the Snake River spring/summer Chinook salmon ESU.
3) Developed techniques to more accurately age adult returns (>97% accuracy). Aging database includes 1998-2004 return years. Estimated smolt-adult return rates for the ESU aggregate with these data.
4) Assembled an archive of tissue samples from wild Chinook carcasses for genetic analysis. Sample coverage includes most populations from the Salmon and Clearwater basins, as well as two from northeast Oregon.
5) Placed PIT tags in juvenile steelhead from remote locations in Idaho not accessible by conventional sampling. Over 16k tags placed since 2002.

Although not a project accomplishment per se, it is worthy of note that GPM data have been used in recent ESA reviews for bull trout and westslope cutthroat trout. This is an example of how INPMEP integrates with other projects and meets management needs on a regional level.

Goals

1) Refine GPM methodology to incorporate probabilistic sampling while retaining key trend sites. Describe population-level and regional trends in juvenile abundance with existing data.
2) Investigate population-level contributions to freshwater productivity of the Snake River sp/su Chinook ESU. Identify potential causes of observed density-dependence.
3) Describe population differences in growth, using age data.
4) Initiate genetic analysis of the tissue archive. Initial focus will be a comparison among the major population groups within the Snake River sp/su Chinook ESU.
5) Continue to place PIT tags in steelhead juveniles from selected areas in the Salmon River drainage. Focus will be on potential production areas in headwaters of the Lemhi River watershed.

1992-026-03 - Model Watershed Studies - Lemh (Expense) ISCC/IOSC

Description: Provide local coordination and guidance for implementation of on-the-ground projects that improve and enhance anadromous and resident fish habitat.

Accomplishments

The USBWP has worked with multiple entities to assist with implementation of the following projects:
2003 ---Installed 4.75 miles of riparian fence on the main-stem Salmon River; Installed .83 miles of riparian fence on the Pahsimeroi River; Installed .65 miles of riparian fence on the East Fork Salmon River; Installed .14 miles of riparian fence on a tributary of the Lemhi River; Eliminated 2 diversions and conserved 3 cfs of water on the Salmon River; Modified 3 diversions and eliminated 1 diversion on the East Fork Salmon River; Modified 1 diversion on the Pahsimeroi River; Modified 2 diversion on the Lemhi River; Installed 2 water control structures on the Pahsimeroi River
2004 ---Installed 2.75 miles of riparian fence on the Pahsimeroi River; Installed .3 miles of riparian fence on the East Fork Salmon River; Installed 5.45 miles of riparian fence on the main-stem Salmon River; Installed 1.5 miles of riparian fence on the Lemhi River; Modified 1 diversion on the Lemhi River; Modified 1 diversion on the Pahsimeroi River and conserved 7 cfs of water
2005 ---Installed .33 miles of riparian fence on the Lemhi River and 1 mile on the Salmon River; Eliminated or modified 3 diversions on Lemhi and Salmon Rivers.
Planning and Coordination Work Elements Include:
Outreach and education; identify and select projects; coordination; manage and administer projects; provide technical review; produce design or specifications; produce annual and status reports.

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	The USBWP staff assists with education projects through the Soil and Water Conservation Districts and other agencies requested. This includes Natural Resource Awareness Day, Envirothon, 4th Grade Watershed Studies, Water Quality Field Days, and tours.
Identify and Select Projects	The USBWP utilizes the Soil and Water Conservation Districts, an Advisory Committee and a Technical Team to review proposed habitat and passage improvement projects. The Technical Team meets on the first Wednesday of each month.
Coordination	The USBWP coordinates with landowners, Soil and Water Conservation Districts, irrigation districts, tribes, federal and state government personnel, and communities to assist with implementation of fish habitat and passage projects.
Manage and Administer Projects	The USBWP provides technical assistance as requested by Soil and Water Conservation District's and landowners to assist with implementation of on-the-ground fish habitat or passage projects.
Provide Technical Review	The USBWP Technical Team meets on the first Wednesday of each month. The purpose of quarterly meetings is to review and rank proposed projects for biological and technical merit.

Produce Plan	The USBWP's "Model Watershed Plan, 1995" is used extensively during the project ranking process to ensure proposed projects are in areas of concern. Current work involves developing and implementation plan for tributary reconnections.
Produce Design and/or Specifications	The USBWP utilizes various government agencies for assistance with engineering requirements. All projects follow Natural Resources Conservation Service design specifications. USBWP staff assists landowners with survey and other needs.
Produce Annual Report	The USBWP produces a brief annual report each year of work completed.
Produce Status Report	The USBWP produces quarterly reports that respond to the status of milestones as designated in our Statement of Work.

Goals

The USBWP Goals are consistent with addressing the limiting factors as listed in Table 23 of the Salmon Subbasin Summary, and include:

- Provide for the safe and timely passage of migrating fish through critical reaches of the watershed.
- Protect spawning areas by ensuring that spawning gravels are managed to prevent habitat losses.
- Protect and manage juvenile fish rearing areas.
- Protect and enhance water quality to ensure maximum survival of juvenile fish.
- Protect and enhance instream and riparian environments to maximize fish production and escapement.
- Minimize losses of migrating fish caused by irrigation diversions.
- Ensure that any resources invested achieve maximum returns in terms of multiple-use benefits.
- Coordinate all salmon recovery activities to minimize duplication of efforts and maximize use of limited resources.
- Achieve measurable progress towards a holistic resource management approach that addresses water management, water conservation, fish habitat protection, and fish migration.
- Develop an effective and responsive resource management program for the watershed.
- Develop or adapt a holistic watershed management approach for fish habitat protection, enhancement, and restoration.

CURRENT Metric / Work Element	Value or description
Identify and Select Projects	Projects in various stages of proposal, design, or implementation include: 7 riparian protection fencing projects; 8 water delivery modification projects; and 4 tributary reconnection projects.
Manage and Administer Projects	The USBWP provides technical assistance as requested by Soil and Water Conservation District's and landowners to assist with implementation of on-the-ground fish habitat or passage projects. Specific items are listed in the Custer or Lemhi SWCD responses.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Planning for the coming year includes working with the Lemhi Extension Service to develop a small landowner workshop with focus on streams and riparian areas. There will be a renewed effort to issue quarterly newsletters.
Produce Annual Report	In FY2006, a larger and improved annual report will be produced in an effort to report more thoroughly on our accomplishments.

1992-040-00 - Redfish Lake Sockeye Broodstoc (Expense) NOAA Fisheries

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.

Accomplishments

The cooperative IDFG-NOAA captive broodstock program has provided the safety net preventing the extinction of Snake River sockeye salmon listed as Endangered under the U. S. Endangered Species Act. The NOAA sponsored component has provided more than one million eyed eggs, 159,000 smolts, and six hundred prespawning adults for use in restoration activities. These restoration efforts, coupled with IDFG's production, has resulted in the return of over 320 sea run adults to the Stanley Basin Lakes over the last decade. The steep downward trend toward extinction of the early 1990's has been reversed and the five year average of ocean returns has been increased by over an order of magnitude. It is NOAA-Fisheries opinion that continuation of the cooperative IDFG-NOAA captive broodstock program is essential to prevent extinction and to provide the needed production of Snake River sockeye for future recovery efforts as habitat issues are addressed.

PAST Metric / Work Element	Value or description
Production: # fish released from program, by life stage and species	Eyed Eggs FY05 =135,700; FY04=140,000; FY03=60,500; FY02=90,222. Adult Release: FY 05=241(est) FY04=278, FY03=131, FY02=68.
Incubation: # fertilized eggs into incubation program, by species	Eggs for broodstock: FY05=414, FY04=419, FY03=421, FY02=435. Eggs for Adult release program: FY05=518, FY04=498, FY03=400, FY02=500.
Rearing: # fish into program (fish ponded), by life stage and species	Fry for broodstock: FY05=396, FY04=396, FY03=382, FY02=361. Fry for Adult release program: FY05=477, FY04=477, FY03=394, FY02=169.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	ESA recovery (S)
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Captive broodstock-no fish collected from wild
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Captive broodstock spawners: FY05 f=4 age4+126 age3, m=1 age4+115 age3+4age2. FY04 F=129 age3, m=3 age 4+104 age3+21 age2. FY03 f=63 age3, m=7 age3+95 age2. FY02 f=9 age4+89 age3+7 age2, m=9 age4+a78 age2.

Goals

The project's primary goal is to provide a safety net captive broodstock population that can be used to sustain Snake River sockeye salmon (Oncorhynchus nerka). The program's secondary goal is to generate fish for use in restoration efforts to speed the rebuilding of this population listed as Endangered under the U. S. Endangered Species Act.

CURRENT Metric / Work Element	Value or description
Production: # fish released from program, by life stage and species	Produce up to 200,000 fertilized eggs for use in egg box release, fry release, and smolt release programs and up to 500 maturing adults for captive broodstock and captive rearing programs

Incubation: # fertilized eggs into incubation program, by species	Incubate up to 900 fertilized eggs for captive broodstock and captive rearing programs
Incubation: # fry (button-up) produced, by species	Pond up to 900 swimup fry into captive broodstock and captive rearing programs
Rearing: # fish into program (fish ponded), by life stage and species	Pond up to 900 swimup fry into captive broodstock and captive rearing programs
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	ESA recovery (S)
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	This captive Broodstock program does not collect adults
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Spawn up to 250 adults with an estimated 50:50 male:female ratio that are mostly age 3 and 4.

1994-015-00 - Idaho Fish Screening Improveme (Expense) IDFG

Description: Enhance passage of juvenile and adult fish in Idaho's anadromous fish corridors by consolidation and elimination of irrigation diversions. Minimize impact of irrigation diversion dams, screen pump intakes and loss of fish to irrigation canals.

Accomplishments

FY 2003- Four ditches were consolidated into two. Five fish screens were installed, three were replacements. One diversion was eliminated by conversion to a well and installing additional sprinkler system components. One sprinkler system was installed with a pump from an adjacent ditch to allow the elimination of one diversion. Another diversion was eliminated by purchasing and retiring the water rights. The fourth diversion was replaced with a fish friendly diversion with step pools. A ditch measuring flume was installed on a large canal. Nearly 6,500 feet total of pipe was installed on two projects for water conservation. Three velocity barriers were installed on ditch tail water channels.
FY 2004- A consolidation of two ditches included removal of one diversion, a reconnection of a spring and stream increasing the availability of approximately ½ mile of habitat. The consolidation also eliminated nearly one mile of ditch and it's corresponding conveyance losses. Three modular fish screens were installed on previously unscreened diversions. The largest unscreened canal on Challis Creek was screened and its associated diversion dam was removed and replaced with a new structure utilizing a fishway. A diversion was eliminated by adding additional mainline to an existing pump and sprinkler system. Four project sites, two completed in previous contracts, were rehabilitated by planting trees, shrubs, sedges, and native plants. Native willows were planted at all four sites where the fish bypass pipes penetrate the stream bank.
FY 2005- Installed 11 individual fish screens. One pump diversion dam was removed from the Salmon River and replaced with a well. One measuring flume was installed on a large canal. A new control structure was constructed as part of a multiple year sprinkler installation/consolidation project.
Detailed information on these projects can be found in Upper Salmon River Anadromous Fish Passage Project Annual Reports.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Completed NEPA documentation for 22 individual projects, COE 404 permits for five projects, ESA Section 7 Consultations for 11 projects, completed cultural surveys for 22 projects, held 7 public meetings for tributary based projects.
Identify and Select Projects	Seventeen stream surveys were assessed, stakeholders and affected groups met, concerns were identified, preliminary plans and proposals were reviewed with stakeholders, and then 22 projects were prioritized and selected in accordance with SHIPUSS.
Produce Inventory or Assessment	Seventeen stream surveys were conducted to identify species absence/presence, distributions, densities, solicit landowner cooperation, map irrigation systems, measure streams, evaluate fish passage, and identify water conservation potential.
Coordination	All 22 individual projects were coordinated with multiple state, federal, and tribal agencies including BoR, BLM, COE, IDEQ, IDWR, ISHPO, NOAA, USFS, USFWS, Sho-Bans, and water districts.

Manage and Administer Projects	Prepared SOWs and budgets; coordinated surveys, design work, and regulatory compliance; and coordinated work by contractors, consultants, and other agencies for the benefit of the 22 individual projects completed in the past three fiscal years.
Provide Technical Review	Staff reviewed 38 project plans submitted by program engineers, consultants, and other agencies for projects completed during the past three years or that would affect future projects. Plans included ISHPO monitoring, drawings, ESA plans, and others.
Produce Design and/or Specifications	Surveyed 33 proposed work sites. Developed topographic drawings for fish screens, head gates, diversions, pipelines, and property boundaries. Performed comprehensive engineering design for 37 fish screens and 14 diversion fish passage projects.
Produce Annual Report	Three annual reports were delivered. All three were final reports for three individual contracts.
Produce Status Report	Nine quarterly progress reports were delivered during the past three fiscal years. Three final reports were delivered in lieu of quarterly reports.
Produce/Submit Scientific Findings Report	Twelve stream fisheries investigation reports were compiled and submitted during the past three years. Reports covered diversion inventories, fisheries electro-shocking results, and other data. The information was captured for M&E work.
Is the screen New or a Replacement? (N/R)	17 fish screens installed. 3 were replacements.
Does the screen meet NOAA/FSOC specs? (Y/N)	Yes, all fish screens installed in compliance with NOAA Fish Screen and Passage Criteria.
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	170.33 cfs
# of miles of habitat accessed (0.1 mi.)	26 miles of stream was accessed that had been partially blocked during season low flows. 5.5 miles were opened by removing complete passage barrier.
Develop RM&E Methods and Designs	Staff procured and setup PIT interrogation equipment, applicable software, and acoustic doppler velocity meters in preparation of M&E work.
Collect/Generate/Validate Field and Lab Data	Staff inspected 80 fish screens with ADV equipment, underwater video, and PIT equipment. All data was collected and transferred to computer for later analysis. Electro-shocking was performed on 11 streams and data was recorded.
Estimated # of miles of primary stream reach improvement	There was 1/4 mile of diversion removed to improve downstream passage at a two pump diversions.
Estimated # of miles of total stream reach improvement	1/4 mile.

Amount of unprotected water flow returned to the stream by conservation (cfs)	Existing pumps had been unscreened, but actual pumping cfs remained the same following the project. Partial diversion barriers were removed.
Amount of unprotected water flow returned to the stream by conservation (acre-feet)	Existing pumps had been unscreened, but actual pumping cfs remained the same following the project. Partial diversion barriers were removed.
Is the measuring device portable or fixed (P/F)?	Five flow measuring devices were installed. Two were concrete structures. The other three were small metal units. None were portable.
Estimated # of miles of total stream reach improvement	2 miles of stream were improved on three separate streams.
Amount of unprotected water flow returned to the stream by conservation (cfs)	8 cfs total water was saved through conveyance losses in three separate streams.
Estimated # of miles of primary stream reach improvement	2 miles.
Estimated # of miles of total stream reach improvement	Three miles of stream.
Amount of unprotected water flow returned to the stream by conservation (cfs)	Three projects returned 12 cfs to streams.
Estimated # of miles of primary stream reach improvement	1 mile.
Develop and Negotiate Water Right Transaction	Eleven individual water rights were transferred as a result of ditch consolidation and elimination activities or by transfer to a well.

Goals

All work is a result of intensive coordination between multiple agencies to ensure there is not duplication of effort. Prior to final project improvements, every effort is made to reduce water consumption, modify irrigation distribution, reduce conveyance losses, and produce other measures to improve stream quality.
Diversions: For FY2006, our project will improve fish passage at 12 diversions. Plans call for complete removal of three diversions that are barriers to fish passage. Two of the three will be eliminated by consolidating ditches. We will improve fish passage at nine additional diversions by modifying the existing rock structures to concentrate stream flows and stream depth to improve fish passage during seasonal low stream flow.
Screens: This project will complete installation of 15 new fish screens on currently unscreened diversions, and 1 existing non NOAA criteria fish screen will be replaced. Two irrigation ditches and their corresponding conveyance losses will be eliminated by consolidation.
M&E: In order to establish baseline data, this project will perform fisheries investigations in project areas to identify species absence or presence, distributions, densities, and habitat inventory. This work includes determination of landowner willingness to participate in future year fisheries improvement projects, mapping irrigation systems, and documentation of seasonal in stream flows, fish passage, and identifying water conservation potential. Following project implementation, monitoring is performed to quantify the project benefits and ensure the goals of the project were met. Some work includes filling in gaps in known data.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Work includes preparation of 5 Biological Assessments and ESA Consultations, performing 27 cultural surveys, preparing 24 NEPA checklists, 2 CWA Section 404 permits, 5 Special Use Permits, 3 construction permits, and other submittals.
Identify and Select Projects	Six stream surveys will be assessed, stakeholders and affected groups will meet, concerns identified, preliminary plans and proposals reviewed with stakeholders, and then projects will be prioritized and selected in accordance with SHIPUSS.
Manage and Administer Projects	Prepare SOW and budget; coordinate surveys, design work, and regulatory compliance; and coordinate work by contractors, consultants, and other agencies for the benefit of the 24 individual projects proposed for FY2006.
Provide Technical Review	Staff will review project plans submitted by program engineers, consultants, and other agencies for proposed projects that will effect future work.
Produce Design and/or Specifications	Surveys and topographic drawings for 30 proposed work sites will be performed as well as comprehensive engineering design for 17 fish screens and 12 diversion fish passage projects.
Produce Annual Report	An anuual or final report will be produced and submitted within 30 days following completion of the proposed project.
Produce Status Report	Quarterly status reports will be submitted within 30 days following the end of each quarter ending in September, December, and March. A final report will be submitted in lieu of a quarterly report for June.
Quantity of water protected by screening, as determined by what is stated in the water right or calculated based on flow rate (0.1 acre-feet/year)	66 cfs.
Is the screen New or a Replacement? (N/R)	Fifteen fish screens will be installed on unscreened diversions. One screen will replace a non NOAA criteria screen.
Does the screen meet NOAA/FSOC specs? (Y/N)	All screens will meet NOAA Fish Screen Criteria.
Flow rate at the screen diversion allowed by the water right. (0.1 cfs)	61 cfs.
# of miles of habitat accessed (0.1 mi.)	14 miles
Develop RM&E Methods and Designs	Staff will setup PIT interrogation equipment, applicable software, and acoustic doppler velocity meters in preparation for M&E work. Includes having equipment calibrated.

Collect/Generate/Validate Field and Lab Data	Staff will perform inspections on fish screens with ADV equipment, underwater video, and PIT equipment. All data will be collected and transferred to computer for later analysis. Electro-shocking is planned for six streams and data will be recorded.

1994-017-00 - Idaho Model Watershed Habitat (Expense) Lemhi/Custer Soil & Water/IOSC

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

Accomplishments

Custer Soil and Water Conservation Projects 2001 to present. Install Fence (WE#40) Pahsimeroi 2 projects and approximately 16,700 feet of fence. East Fork- 3 projects and approximately 35,000 feet of fence. Upper Salmon - 7 projects and approximately 52,000 feet of fence. One fence project in progress approx. 10,000 feet of fence. Plant Vegetation (WE#22) one proejct. Replace/Maintain Diversions:(WE#19) One project complete, four in progres. Develop Alternative Water Sources (WE# 34) Two projects complete, one in progress. Remove/Modify Dams (WE# 84)Four diversion removals. Install Siphon (WE#80)One project complete. Manage and Administer Proejcts (WE#119) Annual Reports (WE#132)Coordination (WE#118) and Environmental Compliance are also completed within the accomplishments of this contract.(Above information provided by Custer SWCD)

Goals

Custer SWCD and Lemhi SWCD's anticipate completing 7 riparian fencing projects (Install Fence WE# 40) approximately 42,626 feet of fence and Replace/Maintain Diversions (WE#19) 9 projects have been identified. Projects identified in the FY06 Budget are consistant with the orginal goals and objectives of the Model Watershed Habitat Project and the Sub-Basin Plan.

1994-017-00 - Idaho Model Watershed Habitat (Expense) Lemhi/Custer Soil & Water/IOSC

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

Accomplishments

Manage and Administer projects, annual reports, coordination, and environmental compliance are also completed within the accomplishments of this contract. (Above information provided by the Lemhi SWCD)

PAST Metric / Work Element	Value or description
# of stream miles treated (0.01 mi.)	Installed 200' of streambank protection and 3 large woody debris structures.
Develop Alternative Water Source	installed 9 troughs, 1 spring development, and 7,500 feet of stockwater pipeline.
# of road miles improved, upgraded, or restored	Removed instream crossing and installed bridge over spawning area.
# of miles of fence (0.01 mi.)	9.17 miles of fence
# of miles of habitat accessed (0.1 mi.)	6 miles of habitat accessed by diversion elimination 45 miles of improved access with diversion modifications
# of miles of habitat accessed (0.1 mi.)	7 miles of habitat accessed
Amount of unprotected water flow returned to the stream by conservation (cfs)	9 cfs of unprotected water flow returned to the stream by conservation

Goals

Please refer to comments on this project provided by the Custer Soil and Water Conservation District.

1994-050-00 - Salmon River Habitat Enhance (Expense) Shoshone Bannock Tribe

Description: Maintain habitat improvements, evaluate benefits; coordinate evaluation of land/water stewardship activities, planning, implementation, monitoring, evaluation of new improvements; monitor populations of Salmon River Basin anadromous fish.

Accomplishments

These metrics are accomplished though coordination with USDA Forest Service, US Fish and Wildlife Service, Environmental Protection Agency, State of Idaho Departments – Fish and Game, Transportation, Water Resources, and Environmental Quality, Lemhi and Custer County, USDA Soil and Water Conservation Districts, Trout Unlimited, The Nature Conservancy, and local officials, private consultants, and landowners. Much of the work on irrigation improvements and tributary reconnection is accomplished through participation in the Upper Salmon River Basin Watershed Project and Technical Team.

Metrics are also accomplished though the ongoing monitoring and evaluation and habitat enhancement projects located in Bear Valley Creek, Yankee Fork Salmon River, Herd Creek, Big Boulder Creek, and Panther Creek. Physical and biological data is collected to evaluate habitat enhancement and impacts from disturbance for the focal fish species' on the floodplain function, channel complexity, habitat complexity (physical and biological), hydrology (discharge, flow patterns), temperature, water quality, barriers, sediment, shade/cover complexity, streambed stability, and monitoring of macroinvertebrate and fish densities.

Livestock exclusion fencing and willow planting is accomplished in Herd Creek on private property.

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Assemble, gather, acquire, or prepare documents in support of obtaining environmental compliance from BPA
# of acres of vegetation planted (0.1 ac.)	.2
# of riparian miles treated (0.01 mi.; count each bank separately)	.3
Manage and Administer Projects	Managed on the ground efforts and administrative work in support of on the ground efforts and in support of BPA's programmatic requirements such as metric reporting, financial reporting, and development of an SOW package
Coordination	Landowner and regional coordination with other parties involved in fish and wildlife work.
Produce Annual Report	Produced technical report with summary and analysis of data gathered
Produce Status Report	Produced quarterly status reports
Produce/Submit Scientific Findings Report	Winter 2005 - produced manuscript submitted for publication in a scientific journal
Develop RM&E Methods and Designs	Developed and tested conceptual, quantitative, and technological tools for application in research, monitoring, and/or evaluation.
Collect/Generate/Validate Field and Lab Data	Worked to collect, create, generate, or capture field data. Collected samples for later analysis. Entered data into a computer spreadsheet/database.

Submit/Acquire Data	Transferred data to shared databases where they will be maintained and accessible.
Disseminate Raw & Summary Data	Distributed data for users.
Analyze/Interpret Data	Statistically analyzed data and made resource recommendations based on the results.
Identify and Select Projects	Worked with Upper Salmon Basin Watershed Project Technical Team to identify, prioritize, asses, and ultimately select projects.

Goals

These metrics will be accomplished though coordination with USDA Forest Service, US Fish and Wildlife Service, Environmental Protection Agency, State of Idaho Departments – Fish and Game, Transportation, Water Resources, and Environmental Quality, Lemhi and Custer County, USDA Soil and Water Conservation Districts, Trout Unlimited, The Nature Conservancy, and local officials, private consultants, and landowners. Much of the work on irrigation improvements and tributary reconnection is and will continue to be accomplished through participation in the Upper Salmon River Basin Watershed Project and Technical Team.

Metrics will also be accomplished though the ongoing monitoring and evaluation and habitat enhancement projects located in Bear Valley Creek, Yankee Fork Salmon River, Herd Creek, Big Boulder Creek, and Panther Creek. Physical and biological data is collected to evaluate habitat enhancement and impacts from disturbance for the focal fish species' on the floodplain function, channel complexity, habitat complexity (physical and biological), hydrology (discharge, flow patterns), temperature, water quality, barriers, sediment, shade/cover complexity, streambed stability, and monitoring of macroinvertebrate and fish densities.

Livestock exclusion fencing and willow planting will continue to be accomplished in Herd Creek on private property and other areas as need/availablility arises.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Assemble, gather, acquire, or prepare documents in support of obtaining environmental compliance from BPA
# of acres of vegetation planted (0.1 ac.)	.2
# of riparian miles treated (0.01 mi.; count each bank separately)	.3
Identify and Select Projects	Work with Upper Salmon Basin Watershed Project Technical Team to identify, prioritize, asses, and ultimately select projects.
Coordination	Landowner and regional coordination with other parties involved in fish and wildlife work.
Manage and Administer Projects	Manage on the ground efforts and administrative work in support of on the ground efforts and in support of BPA's programmatic requirements such as metric reporting, financial reporting, and development of an SOW package
Produce Annual Report	Produce technical report with summary and analysis of data gathered
Produce Status Report	Produce quarterly status reports

Produce/Submit Scientific Findings Report	Produce manuscript to be submitted for publication in a scientific journal
Develop RM&E Methods and Designs	Develop and test new conceptual, quantitative, and technological tools for application in research, monitoring, and/or evaluation.
Collect/Generate/Validate Field and Lab Data	Collect, create, generate, or capture field data. Collect samples for later analysis. Enter data into a computer spreadsheet/database.
Submit/Acquire Data	Transfer data to shared databases where they will be maintained and accessible.
Disseminate Raw & Summary Data	Distribute data for users.
Analyze/Interpret Data	Statistically analyze data and make resource recommendations based on the results.

1996-043-00 - Johnson Creek Artificial Propa (Expense) Nez Perce Tribe - Lapwai

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.

Accomplishments

Performed evaluation of natural and supplementation fish. Estimated juvenile production and survival of Johnson Creek summer chinook salmon. Monitor Johnson Creek adult escapement and estimate adult production. Collected DNA, scale, and finray samples from juvenile and adult Chinook salmon. Conducted redd, carcass, and prespawning ground surveys.
The synthesis of this data enabled the project to look at key performance metrics. Utilizing Work Elements 70, 99, 118, 119, 132, 141, 157, 158, 159, 162, and 165 this project provided the following performance metrics:
Metric – Abundance.
Abundance Performance Metrics: adult escapement to Snake Basin and tributary, fish per redd, redd counts, spawner abundance, hathcery fraction, ocean harvest, tributary harvest, juvenile abundance, hatchery production abundance, smolt equivalents, and run prediction.
Metric – Survival-Productivity:
Survival-Productivity Performance Metrics: smolt-to-adult return rate, progeny-per-parent ratio, recruit/spawner, pre-spawn mortality, juvenile survival to Lower Granite Dam, juvenile survival to mainstem dams, in-hatchery life stage survival, post-release survival, and relative reproductive success.
Metric – Distribution:
Distribution Performance Metrics: adult spawner spatial distribution, stray rate, juvenile rearing distribution, and disease frequency.
Metric – Genetic:
Genetic Performance Metrics: genetic diversity, reproductive success, and effective population size.
Metric – Life History:
Life History Performance Metrics: age class structure, age at return, age at emigration, size at return, size at emigration, condition of juveniles at emigration, condition of juveniles at emigration, adult spawner sex ratio, fecundity by age, adult run timing, spawn timing, juvenile emigration timing, and mainstem arrivial timing.
Metric – Habitat:
Habitat Performance Metrics: physical habitat, stream network, instream flow, water temperature, and fish assemblage.

PAST Metric / Work Element	Value or description
Production: # fish released from program, by life stage and species	427,440 - chinook smolts; 2,542 - chinook fall parr; 14,996 - chinook eyed eggs outplanted
Incubation: # fertilized eggs into incubation program, by species	746,398 - green or fertilized chinook eggs into incubation program. 55,342 - green chinook eggs culled from high positive BKD female parents (13 out of 162 females total spawned).
Incubation: # fry (button-up) produced, by species	547,525 eyed chinook eggs produced.
Rearing: # fish into program (fish ponded), by life stage and species	547,525 - Eyed eggs incubated (listed above) for this project are ponded as fry and reared until the smolt stage.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S

Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	501 - natural origin, non-clip summer chinook salmon collected for broodstock. 8 - Johnson Creek supplementation, non-clip summer chinook salmon jacks collected for broodstock. 359 (162 female and 197 male) of 509 - summer chinook salmon spawned.
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	All fish listed are summer chinook. 8 - Johnson Creek supplementation age 3 jacks; 47 - natural origin age 3 jacks. 192 - natural origin age 4 males; 48 - natural origin age 5 males; 125 - natural origin age 4 females; 89 - natural origin age 5 females
Manage and Administer Projects	Attended relevant inter- and intra-agency meetings, workshops, training as required to coordinate program activities and participation in professional meetings (e.g., AFS, CBFWA Implementation Reviews, NPCC) andregional supplementation programs).
Manage and Administer Projects	Prepared Statements of Work for years 2002-2005 that identified objectives and tasks to be completed. Identified methods to abide by tribal and agency policies and procedures required for project operational, safety, personnel, finance, and admim actions
Produce/Submit Scientific Findings Report	Produced adult trapping and broodstock reports for years 2002-2005. Draft 5-year synthesis report in progress with scheduled completion fall 2005. Produced Monitoring and Evaluation Plan reviewed by the Independend Science Review Panel in 2005.
Produce Status Report	Quarterly Reports were completed 15 days after the end of each quarter. Quarterly reports included tasks and accomplishments completed within that quarter. Quarterly reports completed for 2002 through spring 2005.
Coordination	Coordinated with state and tribal hatcheries integrated with the JCAPE project. Also includes day to day operations of the project for administration,logistics, and operations of the project to collect, analyze, summarize, and report data and conclusions
Install Fish Trap/Monitoring Weir	Installed juvenile screw trap and adult weir in Johnson Creek to estimate juvenile and adult production and to remove broodstock for supplementation program.
Mark/Tag Animals	Tagged natural and hatchery fish with PIT tags, to obtain survival data, trap efficienies, populations estimates, and survival through the hydrosystem. In addition all hatchery fish were CWT and VIE marked for comparative studies with natural fish.
Collect/Generate/Validate Field and Lab Data	Operated juvenile screw traps to estimate the number of chinook parr, presmolts, and smolts migrating out of Johnson Creek. Basic bilogical data was recorded (length, weight, marks, origin, broodyear etc.).

Submit/Acquire Data	Uploaded all juvenile Chinook salmon PIT tag release files to PTAGIS throughout the field season within 3 days of tagging. Retrieve interrogated PIT-tag detections from Lower Granite to McNary dams to estimate minimum survival estimate to these dams.
Collect/Generate/Validate Field and Lab Data	Conducted redd counts and carcass surveys on Johnson Creek. Redd counts will be used as a a measure of adult escapement. Pertinent biological information was also collected (length, sex, DNA, marks/tags, age fins, etc.)
Collect/Generate/Validate Field and Lab Data	Used adult weir to identify, collect, mark, and enumerate adults escaping into Johnson Creek. Recorded fork length, age, marks, tags, and gender on all supplementation, general production, and wild/natural fish collected at the weir.
Collect/Generate/Validate Field and Lab Data	Released all returning supplementation adult Chinook salmon upstream of the weir, and release all wild/natural adult Chinook salmon minus necessary broodstock requirements. Perfomed mark recapture study of all fish released above weir for total escapement
Collect/Generate/Validate Field and Lab Data	Collected DNA, scale, snout, and fin ray samples from juvenile and adult chinook salmon in Johnson Creek and performed detailed analysis of natural and hatchery fish.
Analyze/Interpret Data	Utilized the perfomance measures outlined on the M&E Evaluation plan to quantify the effects of supplementation in the Johnson Creek population. Forty-nine performance measures are listed in the M&E plan.

Goals

Project Goal: Reduce the demographic risk of extirpation of the ESA listed Johnson Creek summer chinook salmon and begin its recovery through supplementation. Operate and maintain adult collection and conduct juvenile releases on Johnson Creek and egg incubation and juvenile rearing facilities at the McCall Fish Hatchery. These facilities are necessary to implement the JCAPE program and achieve the overall goal of preventing the extirpation of the Johnson Creek salmon population. Establish baseline information on the Johnson Creek summer chinook salmon population. Monitor and evaluate the effectiveness of supplementation to aid in the recovery of the natural population of Johnson Creek summer chinook.
Future Accomplishments:
Utilizing Work Elements 70, 99, 118, 119, 132, 141, 157, 158, 159, 162, and 165 this project will provide the following performance metrics:
Metric–Abundance: adult escapement to Snake Basin and tributary, fish per redd, redd counts, spawner abundance, hathcery fraction, ocean harvest, tributary harvest, juvenile abundance, hatchery production abundance, smolt equivalents, and run prediction.
Metric-Survival-Productivity: smolt-to-adult return rate, progeny-per-parent ratio, recruit/spawner, pre-spawn mortality, juvenile survival to Lower Granite Dam, juvenile survival to mainstem dams, in-hatchery life stage survival, post-release survival, and relative reproductive success.
Metric–Distribution: adult spawner spatial distribution, stray rate, juvenile rearing distribution, and disease frequency.
Metric–Genetic: genetic diversity, reproductive success, and effective population size.
Metric–Life History: age class structure, age at return and emigration, size at return and emigration, condition of juveniles at emigration, adult spawner sex ratio, fecundity by age, adult run timing, spawn timing, juvenile emigration timing, and mainstem arrivial timing.
Metric-Habitat: physical habitat, insream flow, water temperature, and fish assemplage.

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Produce Environmental Compliance Documentation for NOAA Fisheries and BPA on JCAPE Project Activities
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Participate in a number of efforts to educate or communicate with the public. 10 to 15 presentations/tours to schools, YCC work crews, scouting groups, and daily interaction with the general public, etc. throughout the year in classrooms and at field site
Coordination	Coordinate with project cooperators and regulatory agencies for McCall fish hatchery operation and maintenance, and NOAA Fisheries on ESA Section 10 Permit activities
Manage and Administer Projects	Prepare a Statement of Work for contract year 2007 that identifies research objectives and tasks. Also prepare a budget for contracts, and providing BPA with budget accruals and invoicing estimates as requested.
Produce Plan	Update AOP and the HGMP for the JCAPE Project.
Produce Annual Report	Prepare two annual/technical reports each year (one each for O&M and M&E).
Produce Status Report	Prepare and submit four (4) quarterly reports for the JCAPE O&M and M&E project.
Enhance Nutrients Instream	Return (80 to 100) broodstock carcasses to Johnson Creek for nutrient enhancement
Production: # fish released from program, by life stage and species	100,000 summer chinook salmon smolts
Incubation: # fertilized eggs into incubation program, by species	120,000 summer chinook salmon smolts
Incubation: # fry (button-up) produced, by species	110,000 summer chinook salmon
Rearing: # fish into program (fish ponded), by life stage and species	105,000 summer chinook salmon
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	80 natural origin non-clip summer chinook salmon.
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	38 male natural origin non-clip age 4 and 5 summer chinook salmon, 40 female natural origin non-clip age 4 and 5 summer chinook salmon, and 2 jack male natural origin non-clip age 3 summer chinook salmon.

Maintain Hatchery	Maintain both the weir in Johnson Creek and Adult holding facilities on SFSR. This involves the replacement of parts of the picket weir and trap and for the portable adult holding tank.
Install Fish Trap/Monitoring Weir	Install juvenile screw trap and adult weir in Johnson Creek to estimate juvenile and adult production and to remove broodstock for supplementation program.
Collect/Generate/Validate Field and Lab Data	Operate juvenile screw traps to estimate the number of chinook parr, presmolts, and smolts migrating out of Johnson Creek. Basic bilogical data was recorded (length, weight, marks, origin, broodyear, etc.).
Mark/Tag Animals	Tag natural and hatchery fish with PIT tags, to obtain survival data, trap efficienies, populations estimates, and survival through the hydrosystem. In addition all hatchery fish will be CWT and VIE marked for comparative studies with natural fish.
Submit/Acquire Data	Upload all juvenile Chinook salmon PIT tag release files to PTAGIS throughout the field season within 3 days of tagging. Retrieve interrogated PIT-tag detections from Lower Granite to McNary dams to estimate minimum survival estimate to these dams.
Coordination	Coordinate with state and tribal hatcheries integrated with the JCAPE project. Also includes day to day operations of the project for administration, logistics, and operations of the project to collect, analyze, summarize, and report data, results, and c
Manage and Administer Projects	Attend relevant inter- and intra-agency meetings, workshops, training as required to coordinate program activities and participation in professional meetings (e.g., AFS CBFWA Implementation Reviews, NPCC) andregional supplementation programs.
Collect/Generate/Validate Field and Lab Data	Conduct redd counts and carcass surveys on Johnson Creek. Redd counts will be used as a a measure of adult escapement. Pertinent biological information will also be collected (length, sex, DNA, marks/tags, age fins, etc.)
Collect/Generate/Validate Field and Lab Data	Use adult weir to identify, collect, mark, and enumerate adults escaping into Johnson Creek. Record fork length, age, marks, tags, and gender on all supplementation, general production, and wild/natural fish collected at the weir.
Collect/Generate/Validate Field and Lab Data	Release all returning supplementation adult Chinook salmon upstream of the weir, and release all wild/natural adult Chinook salmon minus necessary broodstock requirements. Perfom mark recapture study of all fish released above weir for total escapement
Collect/Generate/Validate Field and Lab Data	Collect DNA, scale, snout, and fin ray samples from juvenile and adult chinook salmon in Johnson Creek and perform detailed analysis of natural and hatchery fish.

Analyze/Interpret Data	Utilize the perfomance measures outlined on the M&E Evaluation plan to quantify the effects of supplementation in the Johnson Creek population. Forty-nine performance measures are listed in the M&E plan.
Produce/Submit Scientific Findings Report	Produce adult trapping and broodstock reports. Complete 5-year synthesis report to include all activities and analyses for brood years 1997-2002.

1997-001-00 - Idaho Chinook Salmon Captive R (Expense) IDFG

Description: Develop captive rearing techniques for chinook salmon and evaluate the success and utility of captive rearing for maintaining stock structure and conservation levels of adult spawners in three drainages.

Accomplishments

FY05 (Supplementation)

Production (Releases):
Eyed-eggs: 24,503 East Fork Salmon River (EFSR)
Adults: EFSR – 4
West Fork Yankee Fork (WFYF) - 70

Incubation: 24,503 eyed-eggs produced at Eagle Fish Hatchery(EFH) in 2004.
12/31/04 Eyed-egg/Fry Inventory:
EFSR: 430 fry
WFYF: 268 fry

Rearing:
12/31/04 Juvenile Inventory:
EFSR: 304
WFYF: 296

Broodstock collection:
Chinook Captive Rearing Program does not collect adults.
Captive Reared EFSR: 39 females and 48 males spawned at EFH in 2004.

FY04 (Supplementation)

Production (Releases):
Eyed-eggs: EFSR - 16,154
Adults: EFSR – 41
WFYF – 88
Lemhi (LEM) - 48

Incubation: 16,154 eyed-eggs produced at EFH in 2003.
12/31/03 Eyed-egg/Fry Inventory
EFSR: 306
WFYF: 306

Rearing:
12/31/03 Juvenile Inventory:
EFSR: 313
WFYF: 279

Broodstock collection:
Chinook Captive Rearing Program does not collect adults.
Captive Reared: 27 females and 24 males from EFSR spawned at EFH in 2003.

FY03 (Supplementation)

Production (Releases):
Eyed-eggs: LEM - 47,977
Adults: EFSR – 130
WFYF - 215

Incubation: 47,977 eyed-eggs produced at EFH in 2002.
12/31/02 Eyed-egg/Fry Inventory:
EFSR: 317
WFYF: 284

Rearing
12/31/02 Juvenile Inventory
EFSR: 284
WFYF: 258

Broodstock collection:
Chinook Captive Rearing Program does not collect adults.
Captive Reared: 47 females and 45 males from LEM spawned at EFH in 2002.

FY02 (Supplementation)

Production (Releases):
Eyed-eggs: EFSR - 6,751
Adults: WFYF – 91

Incubation: 6,751 eyed-eggs produced at EFH in 2001.
12/31/01 Eyed-egg/Fry Inventory
EFSR: 295
WFYF: 266

Rearing
12/31/01 Juvenile Inventory:
EFSR: BY00 – 463; BY99 – 25; BY98 - 5
WFYF: BY00 – 285; BY99 – 21; BY97 - 2
Yankee Fork: BY00 - 220
LEM: BY99 – 18; BY98 - 2

Broodstock collection:
Chinook Captive Rearing Program does not collect adults.
Captive Reared: 27 females and 24 males from LEM spawned at EFH in 2001.

PAST Metric / Work Element	Value or description
Production: # fish released from program, by life stage and species	Chinook salmon: Eyed-eggs up to 50,000. Adults up to 200 from each drainage; East Fork Salmon River (EFSR), West Fork Yankee Fork (WFYF), and Lemhi River (LEM).
Incubation: # fertilized eggs into incubation program, by species	Chinook salmon: Incubate up to 50,000 eyed-eggs for gamete evaluation studies. Collect approximately 300 eyed-eggs from natural/wild redds from EFSR, WFYF, and LEM.

Incubation: # fry (button-up) produced, by species	Chinook salmon: Hatch and rear up approximately 300 eyed-eggs from two or three Salmon River drainages.
Rearing: # fish into program (fish ponded), by life stage and species	Chinook Salmon: Rear approximately 300 Chinook salmon from EFSR, WFYF, and LEM rivers. Fish will be reared to the smolt stage and than transferred to Manchester Research Lab for saltwater rearing.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	Chinook salmon: Mature captive reared adults are returned from Manchester Research Lab and released to natal streams or spawned at Eagle FH for gamete evaluations. No anadromous adults are collected.
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Chinook salmon: Fish held at Eagle FH to evaluate gamete quality will consist of mature captive reared adults from age 2,3,4, and 5 year old adults.

Goals

FY2006 Anticipated accomplishments:
Produce Environmental Compliance Documentation: Produce NOAA permit annual reports. Produce Hatchery Fish: Production: Up to 200 adults released to natal streams (EFSR and WFYF). Incubation: Incubate, hatch, and rear up to 300 BY05 eyed-eggs (EFSR and WFYF) through the smolt stage. Rear up to 300 BY04 juveniles (EFSR and WFYF)through the smolt stage. Maintain Hatchery: Maintain Eagle FH grounds, equipment, and buildings. Provide herbicide use and equipment inventories to BPA. Install Fish Trap/Monitoring weir: Install and remove adult weir on the EFSR. Collect/Generate/Validate Field and Lab Data: Collect juvenile genetic samples, monitor adult spawning behavior. Mark/Tag Animals: Juveniles will be PIT and Elastomer tagged; Adults will receive Petersen disc, floy, or jaw tags, a portion will receive radio transmitters to facilitate field observations. Analyze and Interpret Data: Data will be summarized and presented in CSCPTOC meetings, annual reports, and used to make project/program management decisions. Produce Status Reports: Status reports will be updated quarterly. Produce Annual Reports: BPA annual reports will be submitted covering program activities. Manage and Administer Projects: BPA will be provided annual budget documentation and accrual estimates. Coordination: CSCPTOC meetings will be attended to update and make management decisions for the program.

CURRENT Metric / Work Element	Value or description
Production: # fish released from program, by life stage and species	Chinook salmon: Release up to 200 mature captive reared Chinook salmon to natal streams, East Fork Salmon River (EFSR) and West Fork Yankee Fork (WFYF).
Incubation: # fertilized eggs into incubation program, by species	Chinook salmon: Approximately 300 eyed-eggs will be collected from EFSR and WFYF and transported to Eagle FH to rear through the smolt stage.
Incubation: # fry (button-up) produced, by species	Chinook salmon: Approximately 300 eyed-eggs from EFSR and WFYF will be incubated, hatched and ponded at Eagle FH.
Rearing: # fish into program (fish ponded), by life stage and species	Chinook salmon: Approximately 300 fish from EFSR and WFYF will be reared to the smolt stage of developement and transported to Manchester Marine Lab for saltwater rearing.

Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Supplementation
Broodstock collection: # of fish collected by origin (ad-clip/non-clip) and species	No broodstock collected.
# of fish by sex (M,F,J), origin (ad-clip/non-clip), and age	Chinook salmon: Mature adults from Manchester are to Eagle FH and held until release. Maturing adults are made up of 2, 3, 4, and 5 year old fish.

1997-030-00 - Listed Stock Adult Escapement (Expense) Nez Perce Tribe - Lapwai

Description: Monitor abundance-based adult salmon spawner information over time, with a passive temporary facility using underwater time-lapse video technology.

Accomplishments

This project provides the key performance measure of tributary specific adult abundance and migration timing information on listed spring and summer chinook salmon in Lake Creek (2002-2004) and the Secesh River (2004).
1. Produce Environmental Compliance – NEPA and ESA Section 10 permits done annually for both streams
2. Coordination – state, federal, Tribal and research coordination done annually
3. Manage and Administer Projects – BPA accrual estimates, contracts, SOW's, pisces reporting, and NPT policies and procedures done annually
4. Provide Technical Review – literature review of abundance monitoring methods and improvements done annually.
5. Install Lake Creek and Secesh River adult abundance monitoring structures – done annually for underwater video (Lake Creek) and DIDSON monitoring (Secesh River).
6. Collect Adult Chinook Salmon Abundance Data – underwater video operated on Lake Creek and DIDSON operated on the Secesh River to determine adult salmon abundance annually.
7. Maintain project data – adult abundance databases updated and proofed annually.
8. Disseminate Data – project data shared via presentations and data exchange
9. Analyze and Interpret Data – adult salmon abundance, migration timing, DIDSON validation, and data analysis done annually
10. Produce Status Reports – quarterly status reports and ESA reports done annualy.
11. Produce Annual Reports - adult salmon abundance in Lake Creek was 410, 490, and 394 fish in 2002, 2003, and 2004;DIDSON adult salmon abundance in the Secesh River was 1,064 salmon (2004); DIDSON counts were validated by optical cameras; DIDSON successfully acquired 99.9% out of 914 adult salmon passages; estimated abundance of wild/natural chinook salmon in the entire Secesh River drainage in 2002, 2003, and 2004 was 992, 1,180 and 1,052 fish for assessment of recovery metrics;estimated adult salmon hatchery fraction in Lake Creek was 7.4% (2002), 1.4% (2003), and 2.9% (2004);redd count expansion techniques estimated from 65% fewer to 208% more salmon compared to video determined salmon abundance.

Goals

The goal of the Chinook Salmon Adult Abundance Monitoring project is to accurately determine adult spring and summer chinook salmon escapement into the Secesh River and Lake Creek on an annual basis. Secesh River chinook salmon are recognized by the ICRTRT (2003) as a subpopulation for recovery planning in Idaho.

All of the 11 metrics previously identified (see Past Accomplishments section) will be continued on this project in FY 2006. The project will continue to provide adult salmon abundance on wild stocks in Lake Creek (underwater video) and apply the new DIDSON technology for wild stock abundance quantification in the Secesh River. Use of salmon abundance data from this project will allow direct measurement of progress toward recovery metrics, assessment of the effectiveness of conservation actions, evaluation of program effectiveness in meeting Salmon Subbasin Management Plan adult return objectives, and more effective resource management. Data from this project used in combination with information from other research projects will assist in deriving juvenile or smolt per female data, spawner to spawner ratios, determination of smolt-to-adult return rates, and in assessing delisting criteria.

Adult abundance is a key performance measure that is used to derive other primary performance measures, and in recovery metric status monitoring. Information from this project, and other projects that collect actual escapement data, may allow movement toward developing the abundance data sets necessary to provide a scientifically sound basis for salmon conservation and allow evaluation of recovery thresholds (NMFS 2000, NMFS 2002, ICRTRT 2004).

1997-038-00 - Listed Stock Chinook Salmon Ga (Expense) Nez Perce Tribe - Lapwai

Description: Preserve Salmonid Gametes through cryogenic techniques to maintain genetic diversity in populations with low levels of abundance and at high risk of extirpation. Establish a Regional Salmonid Germplasm Repository for populations listed under the ESA.

Accomplishments

Utilizing work elements 98, 118, 119, 132, 141, 157, 160, 162 and 165 the following accomplishments were performed from 2001 through 2004.

2001 – Collected, transported and cryopreserved gametes from 398 male chinook salmon and 295 steelhead.
Performed fertility trial using gametes collected in 2001; ave fertility–26.5%.
Performed genetic analysis of DNA collected from fish that contributed gametes using microsatellite markers.
Maintained inventory of 2526 gamete samples in long-term storage.
Prepared and uploaded 2000 Annual Report.

2002 – Collected, transported and cryopreserved gametes from 286 male chinook salmon and 283 steelhead.
Performed fertility trial using gametes collected in 2002; ave fertility–36.3%.
Performed genetic analysis of DNA collected from fish that contributed gametes using microsatellite markers.
Maintained inventory of 3095 gamete samples in long-term storage.
Provided cryopreserved gametes to ODFW for use in the Imnaha River hatchery production.
Prepared and uploaded 2001 Annual Report.

2003 – Collected, transported and cryopreserved gametes from 266 male chinook salmon and 90 steelhead.
Performed fertility trial using gametes collected in 2003; ave fertility–32.7%.
Performed genetic analysis of DNA collected from fish that contributed gametes using microsatellite markers.
Maintained inventory of 3451 gamete samples in long-term storage.
Prepared and uploaded 2002 Annual Report.

2004 – Collected, transported and cryopreserved gametes from 252 male chinook salmon and 125 steelhead.
Performed genetic analysis of DNA collected from fish that contributed gametes using microsatellite markers.
Maintained inventory of 3821 gamete samples in long-term storage.
Prepared and uploaded 2003 Annual Report.

Goals

Utilizing work elements 98, 118, 119, 132, 141, 157, 160, 162 and 165 the following goals will be accomplished in 2006.

Spring 2006 – collect gamete from ESA-listed populations of steelhead in the Snake River Basin
Summer/Fall 2006 - collect gamete from ESA-listed populations of chinook salmon in the Snake River Basin
Fall 2006 – Conduct fertility trials using gametes collected in 2006, genotype and conduct genetic analyses using DNA collected from fish that contributed gametes to the gene bank.
Maintain inventory of gamete samples in long-term storage.
Prepare and upload 2005 Annual Report.

1999-019-00 - Restore Salmon River (Challis, (Expense) Custer Soil & Water Conservation Dis

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.

Accomplishments

Working in partnership with the Corps of Engineers and Custer County Watershed Group at least six project have been identified along a 12 mile reach of the Salmon River near Challis. These projects focus to restore floodplain and create side channels. A Conservation Easement with one of the landowners on this reach is expected to close in early June. The Custer SWCD assisted the Corps with the development of the EA and BA for this project both of which have been out for public comment. The Corps is providing 65% cost share of the total overall project.

Goals

The goal of this contract is to coordinate with the Corps of Engineers to identify potential projects and develop plans and specifications for the development of side channels and improve function of floodplains within a 12-mile reach. The District anticipates continued efforts with the Corps and potential construction on a side channel on the Stark Property in 2006.

1999-020-00 - Analyze Persistence/Dynamics S (Expense) USFS Rocky Mountain Research Stati

Description: Results will advance current understanding of the relationship between the distribution, pattern, and persistence of chinook salmon and landscape patterns. **Note: the most appropriate RPA for this project is RME Action 180.

Accomplishments

Aerial Chinook salmon redd counts were completed in the mainstem MFSR and 12 tributaries during 2002-2004. A GPS unit was used to georeferenced spawning areas and redds. GPS files were corrected and transferred into GIS for spatial analysis. Summaries of redd surveys were submitted to collaborators. In cooperation with scientists in the UI Ecohydraulics Research Group, we have examined geomorphic controls on the spatial distribution of spawning gravels using a model that predicted substrate size as a function of channel hydraulics (channel type and bankfull discharge). Field studies were conducted to quantify reach-average channel type, substrate size, and channel dimensions (bankfull depth, width, and channel gradient). Results show a strong correspondence between predicted locations of suitable spawning gravels and observed locations of redds, indicating that much of the spatial pattern of Chinook salmon spawning may be explained by the effects of channel hydraulics on substrate size. We continued and expanded the research to sample a broader range of locations and underlying geologies in the basin. We have initiated work to examine the effects of sediment supply on substrate size and quality. We have begun statistical analyses of annual patterns of spawning locations and density.

Results have been presented at the AFS Transboundary conference (Buffington et al. 2002, Isaak and Thurow 2002), Idaho chapter AFS meetings (Thurow and Isaak 2003, Isaak and Thurow 2003, Isaak et al. 2005), AFS National meetings (Isaak et al. 2003, Thurow and Isaak 2004, Isaak and Thurow 2004), Western Division AFS meetings (Thurow and Isaak 2004, Isaak and Thurow 2004), the North American Benthological Society meeting (Isaak and Thurow 2004), and the Biobío River Scientific Forum, University of Concepción, Chile (Buffington et al. 2004). One manuscript has been published in the Canadian Journal of Fisheries and Aquatic Sciences (Isaak et al. 2003) and three manuscripts are in review. Quarterly and Annual reports have been submitted to BPA and additional manuscripts are in progress.

Goals

Deliverables that will be provided as a result of 2006 funds:
1- A complete annual census and database of spatially located Chinook salmon redds in the entire MFSR

2- A database of spatially located potential Chinook salmon spawning patches in the study area

3- Refined predictions of spawning gravel availability; correcting reach-average grain-size predictions for subreach variability (sediment patches) as a function of channel type and roughness.

4- An empirical model to predict potential spawning patch location, size, and quality as functions of physical landscape features.

5- A refined hydraulic model and model predictions.

6- Testing and refinement of a sediment routing model and inclusion of a wood module (input, routing, and consequent morphologic and habitat effects of wood).

7- A model that applies patch quality, size, and connectivity to predict the likelihood of Chinook salmon spawning and occurrence.

8- Assessments of how synchrony in redd distributions changes in response to population size and environmental

characteristics.
Deliverables are being shared with collaborators and developed as manuscripts for publication in peer-reviewed journals.

2002-049-00 - Eval Precision Bias Chinook (Expense) USFS Rocky Mountain Research Stati

Description: Results will assess redd count bias and precision and will have important implications for improving chinook salmon redd surveys across the Snake River basin. **Note: the most appropriate RPA for this project is RME Action 180.

Accomplishments

Accomplishments since 2002
In FY 2001 we submitted and were granted a request for a within year increase in funds as part of BPA Project #1999-020-00 to evaluate the bias and precision of redd counts which is our primary method for tracking Chinook salmon populations. In 2002, we submitted a proposal (#28001) to expand the redd count analysis research. In FY 2002, BPA Project # 2002-049-00 was funded and we expanded the research we had begun in 2001. From 2002 through 2004 we have annually collected field data that will enable us to rigorously evaluate the bias and precision of aerial and ground-based redd counts. In 2002, observers completed consecutive redd counts in 20 reaches of five major tributaries. Crews recorded the locations of all redds with GPS units. A total of 154 independent redd counts were completed in 17 reaches and IDFG biologists collaborated with us to complete 9 counts in 3 reaches. In 2003, observers completed consecutive redd counts in 15 reaches of six major tributaries. A total of 110 independent redd counts were completed in the 12 reaches and IDFG biologists collaborated with us to complete 9 counts in 3 additional reaches. In 2004, observers completed consecutive redd counts in 19 reaches of six major tributaries. A total of 131 independent redd counts were completed in 16 reaches and IDFG biologists collaborated with us to complete 9 counts in 3 additional reaches. From 2002-2004, variation in redd counts as a result of interobserver variability was examined by having multiple independent observers conduct single pass ground counts in several study reaches after the completion of Chinook salmon spawning. Reach- and redd-scale characteristics affecting sightability were measured by field crews at more than 800 redds from 2002-2004. These data have been assembled into a database in preparation for detailed analysis and modeling of factors affecting sightability.

Results to date have been presented at Idaho chapter AFS meetings (Thurow and Isaak 2003), AFS National meetings (Thurow and Isaak 2004), and Western Division AFS meetings (Thurow and Isaak 2004). Several manuscripts destined for peer-reviewed journals are in preparation and Quarterly and Annual reports have been submitted to BPA.

Goals

Deliverables that will be provided as a result of 2006 funds:
1-Spatially and temporally explicit maps of the true number of Chinook salmon redds in a series of study reaches.

2-Comparison of redd counts derived from both aerial and ground surveys.

3-A rigorous test of mark-resight estimators to evaluate the bias and precision of Chinook salmon redd counts.

4-A database of spatially explicit redd counts with a measure of interobservor errors of omission and commission. A model of factors influencing interobserver errors. A model of single versus multiple redd counts that includes a cost function in the analysis.

5-A database of spatially explicit habitat characteristics with the potential to influence redd sightability.

6-A model that assesses the influence of environmental and habitat variables on redd sightability.

2002-069-00 - Protect & Restore Little Salmo (Expense) Nez Perce Tribe - Lapwai

Description: Protect valuable riparian corridor and fluvial aquatic habitat while increasing habitat quality and quantity within the mainstem Little Salmon river basin.

Accomplishments

PAST Metric / Work Element	Value or description
Coordination	Coordination with various entities throughout the watershed (i.e., USFS, BLM, Boise Cascade, and private landowners) is an on-going effort.
Manage and Administer Projects	"Fish Passage Feasibily Study", as funded by the Pacific Coastal Salmon Recovery Fund (PCSRF), has been managed and administered by a Project Manager. Activities include: planning, coordination, and budget management.
Produce Plan	A "Fish Passage Feasibility Study" has been completed for Little Salmon Falls (2004). The plan includes design alternatives, feasibility, and cost estimates.

Goals

CURRENT Metric / Work Element	Value or description
Produce Plan	Implementation plan for establishing anadromous fish passage through Little Salmon Falls.
Produce Environmental Compliance Documentation	Assist with the production of all environmental compliance documentation necessary for project implementation (e.g., Cultural Survey & Report, NEPA, ESA, USACE, and Idaho Dept. of Water Resources)
Coordination	Coordinate with USFS, BLM, Boise Cascade, private landowners, and all other interested parties. Hold public meetings.
Coordination	Research and write grants for matching funds for fish passage projects as well as riparian and agricultural BMPs.
Provide Technical Review	"Fish Passage Feasibility Study" will be reviewed by an internal technical review team and will be followed by recommendations and an Implemention Plan.

2005-xxx-x2 - Snake River Sockeye Smolt Program at Oxbow Hatchery (E ODFW

Accomplishments

This is a new project N/A

Goals

Fall 2005- design and begin construction to develop and collect additional water from existing spring.
Fall2005 and Winter/Spring 2006- Design and construct modifications to rearing pond cleaning effluent abatement system.
Winter/Spring 2006- Install rearing pond bird exclusion and shading

CURRENT Metric / Work Element	Value or description
Build Artificial Production Facility	-Develop spring and construct improved collection for spring water-Modify discharge piping from rearing ponds, construct new effluent lift station and complete repairs to abatement pond-Install pond shades and bird exclusion netting

1982-013-01 - Coded Wire Tag - Psmfc (Expense) Pacific States Marine Fisheries Comm

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

Accomplishments

No metrics apply.
Results for 2004:
1. Columbia River CWT Sampling Program (WDFW and ODFW)
(a) Commercial non-treaty and treaty fisheries sampled at minimum 20% mark sample rate:
- WDFW: 73,652 fish sampled, 4,347 snouts
- ODFW: 42,729 fish sampled; 3,452 snouts
(b) Sport fisheries sampled in Mainstem, Willamette River, Hanford Reach and major tributaries:
- WDFW: 9,083 fish sampled; 552 snouts. Sampling rate 18%
- ODFW: 12,185 fish sampled; 830 snouts. Sampling rate > 20%
(c) Sampling also done in hatcheries (~100% rate) and on spawning grounds.

2. ODFW – Ocean CWT Sampling Program
Oregon's ocean commercial and sport fisheries sampled at minimum 20% rate and stratified by weeks and major catch areas.
(a) Coho: 23,507 fish sampled; 1,966 snouts
(b) Chinook: 96,824 fish sampled; 7,381 snouts

All CWT recovery data were summarized and stratified (area and age) and then applied to catch and escapement populations to provide age and stock composition for all Columbia River stocks encountered. The data provided population estimates and biological information on spawning populations. Run reconstructions and future run size forecasts done, plus a wide variety of reports. All CWT recovery and sampling data uploaded to PSMFC's RMIS database.

3. ODFW - Clackamas CWT Recovery Lab
The lab processed 37,618 heads in 2004 from fish sampled in the Columbia Basin and Oregon ocean landings during 2001 through 2004. Staff cuts, budget reductions and large escapement in the past few years have forced the lab to prioritize CWT processing. In-season management needs are addressed first, followed by data needs for fishery evaluation and research projects.

4. PSMFC –Regional Mark Center
Access to all CWT data (release, recovery, and catch/sample records) provided through PSMFC's on-line 'Regional Mark Information System' (http://www.rmis.org/). Staff provided regional coordination of coastwide and Columbia Basin fish marking programs.

Goals

The CWT Recovery Program remains consistent from year to year in terms of sampling the various commercial and sport fisheries, recovering the tags, analyzing the data and then reporting the CWT recovery and sample data to PSMFC. Specific goals and expected accomplishments by project are listed below: In addition, WDFW and ODFW share very similar goals and tasks for sampling their respective Columbia River fisheries and thus are summarized together.

1. Columbia River CWT Sampling Programs of WDFW and ODFW:
1.a) ODFW and WDFW will jointly and separately sample their respective Columbia River Basin fisheries and escapement areas to recover heads from CWT tagged salmon and steelhead.
1.b) ODFW and WDFW will jointly and separately summarize and analyze catch, escapement, and CWT data for

stock status monitoring purposes.

2. Oregon Ocean Fisheries CWT Sampling:
2.a) ODFW will sample Oregon's ocean commercial troll and sport ocean salmon fisheries at a minimum of 20% of the weekly landed catch within major ocean sampling catch areas, and provide CWT sampling data to estimate total effort and catch by port, week, area, and fishery.
2.b) Data analysis and delivery: Error check, summarize, and analyze CWT and ocean fishery data to determine the stock composition by species, time, and area.

3. Tag Extraction and Processing (ODFW)
a) The Tag Lab will extract and decode CWTs from fish heads recovered in the Columbia River Basin and Oregon's coastal ocean fisheries.
b) Verify and report CWT recovery data to ODFW's data management operations and to PSMFC's RMIS system.

4. Run Reconstruction and Pre-Season Forecasting
WDFW and ODFW will jointly carry out run reconstruction and pre-season forecasting to provide managers with stock specific monitoring information.

5. PSMFC - CWT Data Management
a) PSMFC's Mark Center will maintain the regional CWT database and RMIS system for CWT data retrieval.
b) Mark Center staff will assist in regional coordination of CWT marking programs, including CWT data exchange standards.

1982-013-02 - Coded Wire Tag - Odfw (Expense) ODFW

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 survival, contribution and stray rates of hatchery reared salmon.

Accomplishments

Environmental Compliance
This project was issued an environmental clearance memorandum on 11/4/04 for the work being performed under this project during 1/1/05 to 12/31/05.

Mark/Tag Animals {Year is the year fish were tagged (brood year +1)}
2000 = Tagged 423,169 coho & 621,870 chinook (total = 1,045,039). Pre release tag retention checks for these BPA tagcodes averaged: 530 fish sampled, 41 days between tag and sample, 1.68% tag loss, 97.5% of prod. fish associated with a CWT group.
2001 = Tagged - 352,575 coho & 659,054 chinook (total = 1,011,629). Pre release tag retention checks for these BPA tagcodes averaged: 519 fish sampled, 54 days between tag and sample, 2.14% tag loss. 97.7% of prod. fish associated with a CWT group.
2002 = Tagged - 330,150 coho & 702,070 chinook (total = 1,032,220). Pre release tag retention checks for these BPA tagcodes averaged: 529 fish sampled, 55 days between t tag and sample, 2.07% tag loss. 99.0% of prod. fish associated with a CWT group.
2003 = Tagged – 303,233 coho & 756,647 chinook (total = 1,059,880). Pre release tag retention checks for these BPA tagcodes averaged: 502 fish sampled, 50 days between tag and sample, 3.00% tag loss. 99.2% of prod. fish associated with a CWT group.

Collect/Generate/Validate Field and Lab Data {year is year adult fish were collected}
2000 = Collected -4,068 coho & 624 chinook tags from returning fish (total = 4,692). 14 of 26 tag codes w/ complete returns met 30 recoveries/group criteria.
2001 = Collected 7,033 coho & 1,710 chinook tags from returning fish (total = 8,743). 19 of 24 tag codes w/ complete returns met 30 recoveries/group criteria.
2002 = Collected 4,529 coho & 2,173 chinook tags from returning fish (total = 6,702). 18 of 23 tag codes w/ complete returns met 30 recoveries/group criteria.
2003 = Collected 4,910 coho & 1,982 chinook tags from returning fish (total = 6,892). 21 of 22 tag codes w/ complete returns met 30 recoveries/group criteria.

Produce Annual Report
Submitted annual report each year.

Manage & Administer Project
Administered project each year.

PAST Metric / Work Element	Value or description
BPA Environmental Compliance	Obtain environmental clearance (NEPA) for project activities.
Mark/Tag Animals	Insure all ODFW Columbia Basin hatchery coho and chinook production releases have a representative adipose fin clipped and coded-wire tagged (Ad+CWT) group included in the release.
Collect/Generate/Validate Field and Lab Data	Recover coded-wire tags from snouts of fish tagged in Work Element "Mark & Tag Animals" in prior fiscal years.

Produce Annual Report	Prepare summary of CWT release and recovery data for all ODFW hatcheries in the Columbia Basin (last 5 broods). Summary will include an estimate of the survival and contribution for all Ad+CWT groups released from each hatchery.
Manage and Administer Projects	Perform administrative support for CWT field operations and analysis operations during the entire contract performance period.

Goals

During FY 2006 we anticipate marking the following:
300,000 fall chinook salmon in 3 Ad+CWT groups.
385,000 spring chinook salmon in 11 Ad+CWT groups.
275,000 coho salmon in 11 Ad+CWT groups.
During FY 2006 we anticipate recovery of the following CWTs from returning adults:
250 fall chinook salmon.
500 spring chinook salmon.
2,000 coho salmon.
Final plans for marking and recovery will be made in the fall of 2005. After ODFW's annual production planning meetings, and updating of recent hatchery salmon survival rates.

CURRENT Metric / Work Element	Value or description
BPA Environmental Compliance	This project was issued an environmental clearance memorandum on 11/4/04 for the work being performed under this project during 1/1/05 to 12/31/05.
Manage and Administer Projects	Perform administrative support for CWT field operations and analysis operations during the entire contract performance period.
Produce Annual Report	Prepare summary of CWT release and recovery data for all ODFW hatcheries in the Columbia Basin (last 5 broods). Summary will include an estimate of the survival and contribution for all Ad+CWT groups released from each hatchery.
Collect/Generate/Validate Field and Lab Data	Recover coded-wire tags from snouts of fish tagged in Work Element "Mark & Tag Animals" in prior fiscal years.
Mark/Tag Animals	Insure all ODFW Columbia Basin hatchery coho and chinook production releases have a representative adipose fin clipped and coded wire tagged (Ad+CWT) group included in the release.

1982-013-03 - Coded Wire Tag - Usfws (Expense) USFWS

Accomplishments

Succcessfully adipose clipped and Coded Wire Tagged 75,000 brood year 2004 spring chinook at Little White Salmon National Fish Hatchery, 75,000 brood yesr 2004 spring chinook at Carson National Fish Hatchery, and 25,000 brood year 2004 coho at Eagle Creek National Fish Hatchery and conducted bio-sampling and stock assessment analtsis for Columbia River National Fish Hatcheries within the 2005 budget provided. The Service supplied all marking equipment, staffing and contract services to accomplish the marking projects and the technical staff to conduct the stock assessment analysis.

Goals

2006 goals are to continue the partner role with the other management agencies to mark and tag representative groups of hatchery fish that have no other marking programs to support ongoing evaluations of basin-wide hatchery programs.

1982-013-04 - Coded Wire Tag - Wdfw (Expense) WDFW - Olympia

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.

Accomplishments

Annual Coded-Wire Tag Program Washington Missing Production Groups Annual Report For 2001. Annual Coded-Wire Tag Program Washington Missing Production Groups Annual Report For 2002.

PAST Metric / Work Element	Value or description
Mark/Tag Animals	There will be 622,900 fall chinook, 422,900 spring chinook, and 315,000 coho tagged from Washington lower Columbia River hatcheries.

Goals

Apply 1,360,800 tags to salmon from Washington lower Columbia River hatcheries. Recover tags from the 2006 Columbia River return of salmon. Prepare annual report for 2003.

CURRENT Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Recover tags from snouts and decode tags.
Submit/Acquire Data	Transfer data to PSMFC in Portland, Oregon.
Analyze/Interpret Data	Analyze the results and recommend improvements in hatchery practices.
Produce Annual Report	Prepare annual report.

1983-319-00 - New Marking & Monitoring Tech (Expense) NOAA Fisheries

Description: Determine the biological and technical feasibility of using PIT-tag technology to obtain information on juvenile and adult salmonids. Develop ancillary equipment to expand the PIT-tag system's capabilities to meet CRB resource stakeholder needs.

Accomplishments

Corner-collector system
2003: 1) Coordination with U.S. Army Corps of Engineers on antenna design,
2) Work started on developing unique transceiver

2004: 1) Development of interim PIT tag model to work in 16' x 16' antenna,
2) Working prototype transceiver,
3) Test antenna, transceiver and new tag all work well in demo by Digital Angel,
4) Corp's fabricated prototype antenna fails tests at Bonneville, and
5) Team develops new slot antenna concept

2005: 1) Antenna design finalized and prototype fabricated,
2) Tests to determine slot antenna size and fabrication material completed,
3) Work on developing final PIT tag model for system, and
4) Final transceiver will be fabricated

Instream system
2003: 1) Working prototype of a multiplexing and auto-tuning transceiver (FS1001M) and
2) First portable DC power supply

2004: 1) Production FS1001M units available,
2) Complete systems installed at multiple sites, and
3) Larger antennas fabricated (4' x 11')

2005: 1) Thermoelectric generator system evaluated for off-grid sites

Miscellaneous
2003: 1) Fish evaluation of new flat-plate interrogation system at Bonneville Dam,
2) Work started on developing new G2 transceiver, and
3) Fish evaluation of new PIT tag model (TX1400ST)

2004: 1) Document written for evaluating new PIT tag models for use in the Columbia River Basin, and
2) Assist PSMFC in developing a new software program for performing separation-by-code function

2005: 1) G2 prototype transceiver delivered and evaluated and
2) Laboratory and fish evaluation of new PIT tag model (TX1400SGL)

Goals

Winter 2005:
1)Evaluate new tags, antenna, and transceiver for corner-collector (CC) system at Bonneville Dam,
2)Finish development and then install CC PIT-tag system, and
3)Evaluate new G2 transceiver at an instream PIT-tag site

Spring 2006:
1)Refine the installed CC system (adapting a system to a new site always takes time),
2)Evaluate CC system with fish – phase I,

3) Evaluate antennas and power systems for instream PIT-tag systems

Summer-Fall 2006:
1) Fish Evaluation – phase II

1986-050-00 - Evaluate Sturgeon Physical Hab (Expense) ODFW

Description: Restore and mitigate for hydrosystem-caused loss loss of white sturgeon productivity through intensive fisheries management, supplementation, and modified hydropower system operation. Assess success of mitigation and restoration efforts.

Accomplishments

PAST Metric / Work Element	Value or description
Analyze/Interpret Data	2003 – Estimated abundance of white sturgeon in The Dalles Reservoir to be 104,350 fish greater than 54 cm total length. Only 5,928 of these were in the legal size class.
# of fish	2003 - Transported 4,177 juvenile white sturgeon from below Bonneville Dam to John Day Reservoir and 941 to The Dalles Reservoir.
Analyze/Interpret Data	2003 - Estimated abundance of transported fish from previous years to be 10,588 in The Dalles Reservoir, approximately 10% of the white sturgeon population.
Analyze/Interpret Data	2003 – Determined that trends in catch, effort, season length, and size composition since 1999 suggest that the legal-size populations in Bonneville and John Day reservoirs have declined.
Analyze/Interpret Data	2003 - Showed that river discharges and water temperatures during April through July 2001 provided some of the worst conditions since 1985 for spawning by white sturgeon.
Analyze/Interpret Data	2003 – Showed that predation on young sturgeon cannot be discounted as a factor in poor spawning success. Northern pikeminnow, channel catfish, walleye, and prickly sculpins are capable of eating young sturgeon.
Analyze/Interpret Data	2004 - Estimated abundance of white sturgeon in Bonneville Reservoir to be 120,000 fish greater than 54 cm total length.
# of fish	2004 - Transported 2,951 juvenile white sturgeon from below Bonneville Dam to John Day Reservoir.
Analyze/Interpret Data	2004 – Provided information that allowed the Sturgeon Management Task Force to address in-season fishery management actions.
Analyze/Interpret Data	2004 – Determined that both gill nets and trawling can be used to assess relative trends in age-0 white sturgeon abundance.
Production: # fish released from program, by life stage and species	2004 – Released 12,000 PIT-tagged and scute-marked age-0 and 8,600 scute-marked age-1 hatchery-reared white sturgeon into Rock Island Reservoir. Funding reductions preclude continuing this effort.
Collect/Generate/Validate Field and Lab Data	2004 - Collected paired blood and gonad samples from 727 white sturgeon in the Columbia River between February 2000 and March 2004.

Analyze/Interpret Data	2004 – Determined that white sturgeon showed sex- and maturity-specific levels of plasma steroids.
Analyze/Interpret Data	2004 – Determined that the gametogenic cycle may be a 2 to 4+ year cycle in males and a 3 to 5+ year cycle in females, with the majority of females displaying a 5+ year cycle.

Goals

Project goals remain to (1) implement and evaluate measures to protect and enhance white sturgeon populations and to mitigate for effects of the hydropower system on production of white sturgeon in Columbia River impoundments downstream from McNary Dam, and (2) determine the need and identify potential measures for protecting and enhancing white sturgeon populations and mitigating for effects of the hydropower system on production of white sturgeon in the Columbia and Snake rivers upstream from McNary Dam.

Anticipated Accomplishments:

Fall 2005 - Capture and transplant up to 10,000 juvenile white sturgeon from below Bonneville Dam to The Dalles and John Day reservoirs.

FY 2006 - Continue intensive fisheries management and monitoring of harvest in Bonneville, The Dalles, and John Day reservoirs.

Spring/summer 2006 - Monitor the status of the white sturgeon population in Bonneville Reservoir.

Spring/summer 2006 - Determine sex, maturational status, and reproductive potential of white sturgeon in impounded and unimpounded areas.

Fall/winter 2005 - Describe annual variation in white sturgeon recruitment.

1987-127-00 - Smolt Monitoring By Non-Feder (Expense) Pacific States Marine Fisheries Comm

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.

Accomplishments

The SMP has been in place since 1984 and has provided a consistent and continuous data series regarding migration characteristics of anadromous fish through the Columbia and Snake rivers. The SMP data has provided the basis for real time spill and flow management decisions, long term mitigation decisions, and has been a key information foundation for the NOAA BIOPS and the NPCC Fish and Wildlife Program passage measures. The SMP is a key element of the transportation program.

The SMP provides daily data to the region from early March through the end of October each year, regarding the passage of anadromous fish. The SMP provides daily passage index data at each site by species. In addition, some SMP sites mark fish which are recaptured downstream for determination of travel time, survival and passage distribution. The SMP collects real time data on gas bubble trauma monitoring which supports the implementation of the spill for fish passage measures of the BIOP. Included in the data provided by the SMP is incidental species catch data, lamprey data, daily catch by species, fin clips, marks and wild and hatchery catch. Flow data is provided for calculation of the passage index. Facility mortality, sample mortality, transportation and bypass numbers are also collected. The SMP program provides managers with real time information on all aspects of the juvenile migration including observations of descaling, injury, and disease.

Goals

The SMP overall goal for 2006 is to implement the SMP as approved by the agencies and tribes, add the 2006 data to the historic data base to provide a foundation for present and future consideration of project specific and basinwide fish passage mitigation measures as well as provision of the real time basis for implementation of hydrosystem passage mitigation measures, such as the start and stop of spill, flow augmentation and transportation programs.

In 2006 the SMP will provide daily passage index data by species according to the SMP plan at the following sites: the Imnaha trap, the Lewiston trap, the Grande Ronde River trap, the Salmon River trap, and Lower Granite, Little Goose, Lower Monumental, McNary, Rock Island, John Day and Bonneville dams. Data will be electronically transmitted daily and hand logs and data collection sheets will be faxed to FPC for quality control review. Data will be collected, recorded and transmitted according to protocols outlined by the FPC in the SMP manual. Marking will occur at the trap sites according to protocols and marking plans and fish handling methods developed by the FPC and included in the ESA section 10 permit. The following data will be collected at SMP sites and transmitted daily. The site personnel will validate their own sampling data weekly to assure that there are no errors in transmitted data. The SMP in 2006 will collect and transmit: Daily sample, catch, fork length, marks, brands, project operations, flow data, fish transport numbers, facility mortalities, percent descaling, average fork length, gas bubble trauma data, upload PIT tag data to PITAGIS, some sites will PIT tag Chinook and steelhead according to the SMP plan for 2006.

CURRENT Metric / Work Element	Value or description
Produce Annual Report	Annual reports are produced for each of the ten SMP sites
Produce Status Report	Status Reports are produced for each of the ten individual SMP sites
Coordination	All SMP sites are required to coordinate their activities which other monitoring programs, and research programs and management programs such as juvenile smolt transportation. In addition each site is required to maintain close coordination with the FPC.

Collect/Generate/Validate Field and Lab Data	SMP sites collects a combination of the data listed by species depending on the site, passage index, flow, descaling, facility mortality, numbers of fish transported, sample catch, sample number, fork length, gas bubble trauma symptoms,marks,clips,brands
Operate/Maintain Facility	Each SMP site is required to maintain and operate the particular trapping and sampling facility in operation at that site.
Submit/Acquire Data	Each SMP site is required to acquire data from the project and submit it with their own sampling and catch data for the site, to the FPC.
Manage and Administer Projects	Each site is required to manage their budgets, personnel and meet contract requirements
Install Fish Trap/Monitoring Weir	Each site is required to install, maintain and start up the trapping and or sampling facility that is employed at that location.
Mark/Tag Animals	The Imnaha, Lewiston Trap, Grande Ronde, Salmon River traps all PIT tag fish for the SMP. In addition the USFWS and IDFG PIT tag hatchery mark groups for the SMP at several hatcheries
Analyze/Interpret Data	All sites analyze and interpret data for the status and annual reports provided to the region.
Produce Environmental Compliance Documentation	All sites are required to provide data to the FPC for ESA section 10 permit requirements

1987-127-00 - Smolt Monitoring By Non-Feder (Expense) Pacific States Marine Fisheries Comm

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.

Accomplishments

Successfully PIT tagged 6,000 Brood Year 2004 summer chinook at Wells State Hatchery, 3,000 Brood Year upriver bright fall chinook at Priest Rapids State Hatchery, and 15,000 Brood Year 2004 spring chinook chinook at Leavenworth National Fish Hatchery within the FY2005 budget provided. The Service supplied all marking equipment, staffing and contractual services to accomplish the marking projects. PIT tags were supplied by PSMFC.

Goals

2006 goals are to continue to provide the tagging support services for the Pacific States Marine Fisheries Commission and Fish Passage Center as the Service has in the past by tagging the requested number of fish for the Smolt Monitoring Project within agreed upon budgets.

1988-108-04 - Streamnet (Cis/Ned) (Expense) Pacific States Marine Fisheries Comm

Description: Provide data and data services to the FWP by 1) compiling essential, regionally consistent biological data, 2) creating access to data via the Internet, StreamNet Library, and custom products, and 3) giving technical support to FWP activities.

Accomplishments

Not included in the metrics was Library Services. The StreamNet Library continued to provide full library services and access to an extensive fish and wildlife related collection, including gray literature and all reference documents for the data in the StreamNet database.

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	StreamNet staff participated in several professional meetings to promote the project and regional data sharing.
Produce Inventory or Assessment	StreamNet staff conducted data inventories for the CSMEP project in several selected subbasins in three states. We also developed the online data inventory submission tool and database for CSMEP.
Coordination	StreamNet participated with several FWP funded and other projects such as CSMEP, Subbasin Planning, NED and PNAMP to provide data management advice and services. Data were captured from Oregon SB planning, and data were inventoried for CSMEP.
Manage and Administer Projects	Project management was conducted at the PSMFC and cooperating agency levels to assure that work outlined in the statement of work was accomplished.
Produce Annual Report	The 2004 annual report was produced in a new brochure format to summarize project accomplishments. Details of specific accomplishments were included in the quarterly reports.
Produce Status Report	Detailed descriptions of accomplishments by task were included in quarterly performance reports which were submitted to BPA and also made available on the Reports page of the StreamNet website.
Submit/Acquire Data	StreamNet cooperators annually acquired, standardized, performed QA/QC, and submitted specified fish related data from the field management agencies to the regional database at PSMFC as the first step in making these data publicly available.
Manage/Maintain Database	Computer, database, GIS and online mapping systems necessary for managing and disseminating data were annually administered, maintained and upgraded at the cooperator and regional levels.
Disseminate Raw & Summary Data	Standardized fish data were publicly disseminated via the online query system and online mappers. In addition, new capability was implemented to archive and provide for search and acquisition of data from other projects. Page views approached 1 million.

Goals

Library services (not included under the metrics) will continue. These include development and access to a large collection of fish and wildlife information, an extensive collection of fish and wildlife related gray literature, and reference documents for all data in the StreamNet database.

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	On an opportunistic basis, StreamNet will participate in various professional meetings and workshops to explain the project and its data services and to solicit cooperation and data sharing. People reached could exceed several hundred.
Coordination	StreamNet will continue to coordinate with regional programs, including NED, PNAMP and CSMEP, to assist in development of effective regional data sharing and monitoring programs, with intent of sharing expertise, sharing data and avoiding duplication.
Manage and Administer Projects	Administration of the project will continue at the Regional and cooperator levels to assure accomplishment of the work contained in the Statement of Work.
Produce Annual Report	The Annual Report of project activities from FY-2005 will be produced and delivered.
Produce Status Report	Detailed reports of project accomplishments will be developed and posted to Pisces, quarterly or as required by BPA. We may also publish the quarterly accomplishments in the traditional format and post them on the Reports page of the StreamNet website.
Submit/Acquire Data	The StreamNet cooperators will acquire, update, QA/QC, georeference, and standardize the traditional data collected by the management agencies and submit them to the Regional database at PSMFC. A key effort will be finalizing a mixed scale hydrography.
Manage/Maintain Database	All database, GIS and Internet systems (hard & soft) necessary for the acquisition, management and dissemination of fish data at the coooperator and PSMFC levels will be administered and maintained, and will be upgraded as possible under existing funding.
Disseminate Raw & Summary Data	All StreamNet fish data will be disseminated publicly through www.streamnet.org via online data query and interactive maps. In additon, we will provide custom delivery of data on specific request. Data from other projects will be archived and posted.

1988-108-04 - Streamnet (Cis/Ned) (Expense) Pacific States Marine Fisheries Comm

Description: Provide data and data services to the FWP by 1) compiling essential, regionally consistent biological data, 2) creating access to data via the Internet, StreamNet Library, and custom products, and 3) giving technical support to FWP activities.

Accomplishments

The Service successfully provided hatchery facility, fish release, fish return, and age composition data to the Streamnet database and actively participated in StreamNet steering and Technical Committee meetings.

Goals

2006 goals are to continue Service participation in the StreamNet process and provide relivant data to the StreamNet database

1989-062-01 - Annual Work Plan Cbfwa (Expense) CBFWA

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.

Accomplishments

Staff organized and facilitated meetings, developed analyses, and produced reports. Staff maintained a website to support the F&W Program. Staff maintained a database of historic project activities. Members and staff monitored regional meetings and provided input into regional policy and technical issues.

Members delivered Annual Implementation Work Plans; 39 within-year budget modification recommendations; policy comments to BPA regarding Federal lands, financial choices, BiOp implementation, strategic direction, Federal RME, and summer spill; comments to NPCC regarding nominations to Fish Passage Center Oversight Board, guide to within-year project review process, review of innovative projects, subbasin planning, 2003 Draft Annual Report, APRE report, reprioritization of the Program, wildlife crediting, Program amendment process, flat funding policy, review of RME projects for the mainstem amendment, and review of the Draft Research Plan. In addition, CBFWA delivered an Annual Implementation Report and analyses on BPA spending.

A summary of the regional issues addressed by CBFWA members from 2002-2004 follows:

Members mtgs, 7 mtgs, avg attend 44
- Program development/ implementation
- BiOp implementation
- BPA financial situation
- Mainstem operations
- MOA
- Federal agency coordination
- Communication with NPCC and BPA

MMG (policy), 41 mts, avg attend 29
- Performed RPR project review and selection
- Program start-of- year budget review, within-year budget adjustments
- Provided comments on BPA and NPCC policy/technical documents
- Participated in amendment process
- Convened workshops
- Convened ad-hoc committees

AFC, RFC, WC (technical), 60 mts, avg attend 17
- Provided project reviews and recommendations
- Conducted site visits
- Reviewed within-year budget modification requests
- Reviewed project accomplishments
- Coordinated and facilitated technical workshops/ conferences
- Reviewed and commented on regional technical documents

Misc ad-hoc committees, 82 mts, avg attend 18
- Business Practices Committee
- Regional RME workgroup
- Spill Committee and science subcommittee
- Fish Screen Oversight Board
- Decision Framework Workgroup
- 13 Tribes Workgroup

• Hosted meetings for others (Fish Passage Center Oversight Board, Biological Risk Assessment Team, Memorandum of Agreement Workgroup, Oregon TOAST, Subbasin Planning workgroups, etc.)

Goals

The goal of the CBFWA project is to provide consensus agreement among the authorized fish and wildlife management entities in the Columbia River Basin and provide guidance to BPA and NPCC in implementation of the Fish and Wildlife Program. This goal is best represented by the PISCES work elements:

• Host workshops including Resident Fish Conference, mainstem/systemwide implementation review, RME, fish passage and screening, cost sharing, others as requested by NPCC, BPA, CBFWA and others
• Develop, produce and distribute reports on rolling review project implementation, Status of the Resource, and Resident Fish Status and Trends, and others as requested by NPCC, BPA, CBFWA and others
• Maintain CBFWA website including posting protocols, providing links to BPA and NPCC websites, post current events, maintain directory, provide access to historical project information, and develop subbasin explorer
• Administer HEP and CBFWA members contracts including staff administration and oversight
• Coordination and arrangements for CSMEP meetings and workshops
• Facilitation and coordination for regional groups including CSMEP, FSOC, RFC, AFC, WC, MMG, 13 Tribes, Members meetings, and other as requested by NPCC, BPA, CBFWA and others
• Coordinate with regional groups including PNAMP, RTTs, LTWG, RCG, BOG, NPCC, and BPA
• CBFWA members participation in regional groups including PNAMP, RTTs, LTWG, RCG, BOG, NPCC, and BPA
• Conduct ongoing staff review and analysis of technical documents
• Conduct ongoing Members review and analysis of technical/policy documents
• Research and write papers as requested by members on regional F&W scientific and policy issues
• Develop draft policy recommendations and facilitate F&W manager review and approval
• Required BPA and NPCC reporting including monthly status and annual contract report
• Manage and maintain data for CBFWA database including F&W calendar, jobs, directory, committees, conferences, hot topics, historical p

1989-096-00 - Genetic M&E Prog For Sal/Steel (Expense) NOAA Fisheries

Description: Direct and indirect estimates for reproductive success. Estimate selection gradients in hatchery and wild. Monitor changes in hatchery, natural (supplemented), and wild (unsupplemented) populations. Evaluate effectiveness of hatchery supplementation.

Accomplishments

Conducted tissue collections, genotyping and data analysis as per statements of work. All results through the last performance period were provided in the 2004 annual report. DNA extraction and genotyping is on schedule, relative to the 2005 Statement of Work. Recent results have been presented at regional meetings and workshops.

PAST Metric / Work Element	Value or description
Produce Annual Report	Produce annual report
Coordination	Coordinate reseach and collections
Manage and Administer Projects	Project management
Produce Status Report	Produce status reports
Produce/Submit Scientific Findings Report	Publish in peer-reviewed literature or provide reports to comanagers
Collect/Generate/Validate Field and Lab Data	Collect tissue samples and associated data. Collect and analyze genetic data
Analyze/Interpret Data	Analyze genetic data.

Goals

Evaluate reproductive success via parentage analysis and gene frequency changes though time. Continue to develop the molecular and analytical tools to refine these measurements.

CURRENT Metric / Work Element	Value or description
Coordination	Coordinate tissue sampling with comamangers
Manage and Administer Projects	A great deal of management and administration is anticipated
Produce Annual Report	An annual report will be produced as required
Produce Status Report	Status reports will be produced as required
Produce/Submit Scientific Findings Report	Results will be published or otherwise provided to comanagers
Collect/Generate/Validate Field and Lab Data	Genotypic data will be collected to evaluate reproductive success.

1989-107-00 - Statistical Support For Salmon (Expense) U of W

Description: Improve monitoring and evaluation capabilities by developing better measurement tools and study designs to estimate juvenile and adult salmonid survival and survival relationships. Provide statistical guidance to investigators in the Columbia Basin.

Accomplishments

The ongoing mission of Project 1989-107-00, since its inception in 1989, has been the development of statistical tools for analyzing fisheries tagging data in the most precise and appropriate manner possible, and providing statistical guidance on the best ways to design large-scale tagging studies. The need for this mission, which supports the goals of the Columbia River Basin Fish and Wildlife Program (FWP) and FCRPS Biological Opinion (BiOp), is continuing, as the technologies for conducting fish tagging studies improve. In the last decade, fisheries biologists have seen the evolution from freeze-brands and coded wire tags (CWT) to passive integrated transponder (PIT) tags, balloon-tags, radiotelemetry, and now, acoustic-tags. With each advance, the technology holds the promise of more detailed and precise information. However, the methodology for analyzing and interpreting the data concurrently becomes more complex as the tagging techniques become more sophisticated. The goal of the project is to develop the analytical tools in parallel with the technical advances in tagging studies, so that maximum information can be extracted on a timely basis. Associated with this mission is the transfer of these analytical capabilities to the field investigators to assure consistency and the highest levels of design and analysis throughout the fisheries community. Consequently, the project develops state-of-the-art statistical software to estimate smolt inriver survival, ocean survival, adult upriver survival, delayed mortality effects, and SARs from PIT-tag, radiotelemetry, and acoustic-tag studies. To this end, statistical programs SURPH, PitPro, USER, and SampleSize were developed. A new program ROSTER, capable of analyzing PIT-tag, life-cycle information, will be available later this year.

PAST Metric / Work Element	Value or description
Develop RM&E Methods and Designs	2003: Created user manuals for major software packages, i.e., SURPH 2.1, USER 2.1, PitPro 1.0, SampleSize 1.0. Improved data entry capabilities to Program SURPH 2.1.
Develop RM&E Methods and Designs	2003: Developed new statistical models to jointly analyze smolt downstream and adult upstream PIT-tag detections.
Produce Plan	2003: Total of 268 hours provided to assist NOAA Fisheries, USACE, USGS, WDFW, Mid-Columbia PUDs, and the Nez Perce Tribe in the design and analysis of salmonid survival studies.
Produce/Submit Scientific Findings Report	2003: Johnson, G. E., J. B. Hedgepeth, J. R. Skalski, and A. E. Giorgi. 2004. A Markov chain analysis of fish movements to determine entrainment zones. Fisheries Research 69(3):349-358.
Produce/Submit Scientific Findings Report	2003: McMichael et al. Chinook salmon in the Priest Rapids Project. Prepared for Grant PUD. Battelle, Pacific Northwest Division, Richland, WA.
Develop RM&E Methods and Designs	2004: Added diagnostic and graphical tools to Program USER to improve interpretation of fitted models. Expanded Program SampleSize to include replicate releases for the estimation of mean survival.
Produce Plan	2003. Skalski. Statistical analysis plan for the 2003 Chelan PUD smolt tagging studies at Rocky Reach and Rock Island dams. Prepared for Chelan County PUD.

Produce Plan	2003: Skalski. Description of the statistical analysis of advanced turbine experiment at Wanapum Dam. Prepared for Department of Energy and Grant County PUD.
Produce Annual Report	2003: Submitted Annual Report on 19 November that summarized software development and consulting activities focused on improving the design, analysis, and interpretation of salmonid tagging studies conducted in the Columbia Basin.
Develop RM&E Methods and Designs	2004: Initial development of Program ROSTER (River Ocean Survival and Transportation Estimation Routine) to provide joint juvenile-to-adult PIT-tag survival analyses.
Develop RM&E Methods and Designs	2004: Developed preliminary statistical models to analyze upriver adult radiotelemetry studies to estimate adult survival, fallback, and straying rates.
Produce Plan	2004: Total of 543 hours provided to NOAA Fisheries, USACE, USGS, WDFW, PUDs, Nez Perce Tribe, Confederated Tribes and Bands of Yakama Nation, and Confederated Tribes of the Umatilla Indian Reservation in design and analysis of tagging studies.
Produce Plan	2004: Skalski. Statistical analysis plan for the 2004 acoustic-tag FPE studies at Rocky Reach and Rock Island dams. Prepared for Chelan County PUD.
Produce Plan	2004: Skalski. McNary turbine survival study in 2004 using PIT-tagged smolts. Prepared for Battelle, Pacific Northwest National Laboratory.
Produce Annual Report	2004: Submitted Annual Report on 24 November that summarized software development and consulting activities focused on improving the design, analysis, and interpretation of salmonid tagging studies conducted in the Columbia Basin.
Produce Status Report	2004: Published 4 quarterly newsletters of Salmon Insider to publicize features of the CBR website, http://www.cbr.washingon.edu, i.e., inseason forecasts and monitoring of salmonid migration, interactive graphical displays of status and trends monitorin
Produce/Submit Scientific Findings Report	2004: Peven et al. Guideline and recommended protocols for conducting, analyzing, and reporting juvenile salmonid survival studies in the Columbia River Basin. U.S. Army Corps of Engineers, NOAA Fisheries, USGS, and Mid-Columbia PUDs.
Produce/Submit Scientific Findings Report	2004: Skalski and Lady. Analysis of the 2004 Bonneville Dam DIDSON tracking data. Battelle, Pacific Northwest National Laboratory, North Bonneville, WA.
Produce/Submit Scientific Findings Report	2004: Skalski, J. R., and J. Lady. Analysis of the 2004 The Dalles Dam DIDSON tracking data. Prepared for Battelle, Pacific Northwest National Laboratory, Portland, OR.

Develop RM&E Methods and Designs	2004: Develop user version of Program ROSTER to provide simultaneous analysis of juvenile and adult PIT-tag detections to estimate inriver and ocean survival, as well as transportation effects.
Develop RM&E Methods and Designs	2004: Expand modeling capabilities and develop interactive software for Program ROSTER for alternative model development to test hypotheses on transportation effects on adult survival.
Develop RM&E Methods and Designs	2005: Continue developing and refining statistical theory and approaches to analyzing complex processes of adult upriver migration, fallbacks, and straying. A flexible unified approach to statistically analyzing the data is anticipated by end of 2005.
Develop RM&E Methods and Designs	2005: Enhance Program USER to include the capability of analyzing abundance data from PIT, balloon, radio, and acoustic-tag survival studies. This expansion will extend the utility of the program to a much wider range of investigators.
Produce Plan	2005: Assist USACE in the evaluation of minimum-gap turbines, fish-friendly turbine, corner collectors, extended-length submersible screens, other occlusion devices, bypass outfall, spill programs, surface collectors and RSWs, spillway deflectors, etc.
Produce Plan	2005: Skalski., J. R. Overview of fall chinook salmon smolt survival and transport study at Lower Granite Dam. Prepared for US Army Corps of Engineers.
Produce Plan	2005: Skalski, J. R.. A statistical approach to estimating survival with seasonal shutdown of the PIT-tag detection system. Prepared for US Army Corps of Engineers.
Produce Status Report	2005: Published quarterly newsletter, Salmon Insider, to publicize features of the CBR website, http://www.cbr.washingon.edu, i.e., inseason forecasts and monitoring of salmonid migration, interactive graphical displays of status/trends monitoring, etc.
Produce/Submit Scientific Findings Report	2005: Buchanan et al. Estimating the effects of smolt transportation from different vantage points and management perspectives. North American Journal of Fisheries Management (submitted).
Produce/Submit Scientific Findings Report	2005: Buchanan and Skalski. A life-cycle release-recapture model for salmonid PIT-tag investigations. Journal of Agricultural, Biological, and Environmental Statistics (in prep).
Produce/Submit Scientific Findings Report	2005: Townsend et al. Correcting bias in survival estimation resulting from tag failure in acoustic and radiotelemetry studies. Journal of Agricultural, Biological, and Environmental Statistics (submitted).
Produce Plan	2003: Skalski, J. R. Statistical analysis plan for the 2003 acoustic-tag FPE studies at Rocky Reach and Rock Island dams. Prepared Chelan County PUD, Wenatchee, WA

Goals

Tagging studies within the Columbia Basin are extensive, with tens of millions of CWT, over a million PIT-tags, tens of thousands of radio-tags, and thousands of acoustic-tags used annually to obtain life-history information on salmonid stocks. Yet this FWP project is the only project dedicated to providing statistical support for the design and analysis of these tagging studies. This project helps assure cost-effective study design, valid analysis of the data, and proper interpretation of results to best manage water and salmonid resources. Because evaluation of mitigation projects and system recovery depends on performance measures from tagging studies, reliable study designs and data analyses are crucial to the Fish and Wildlife Program and FCRPS BiOp on Remand.

The project mission is to ensure that the salmonid tagging studies in the Columbia Basin have the most up-to-date, accurate and valid statistical analyses. Furthermore, to assure that the tagging studies conducted are cost-effective and capable of delivering the desired information in the most effective and timely manner possible to fisheries managers.

The mission in 2006 includes delivering statistical models to analyze PIT-tag, life-history data and adult radiotelemetry data crucial to extracting RM&E performance measures. The new statistical models will be capable of estimating not only juvenile inriver survival, but also ocean survival (i.e., Bonneville to Bonneville), adult upriver survival, fallback rates, transportation-inriver ratios, and delayed mortality (i.e., D), along with associated error variances. These new statistical models will provide the most comprehensive analysis of tagging data to date in preparation for assessing recovery and compliance with Fish and Wildlife Program goals.

CURRENT Metric / Work Element	Value or description
Develop RM&E Methods and Designs	Maintain statistical software programs SURPH 2.2, USER 3.0, PitPro 2.0, ROSTER 1.0, and SampleSize 1.3. Update to work on the newer operating systems, PC and UNIX. Respond to user questions, provide manuals, and provide instruction.
Develop RM&E Methods and Designs	Expand Program ROSTER to analyze salmonid life history from PIT-tag data to estimate downriver survival of juveniles, upriver survival of adults, ocean survival and transport-inriver ratios.
Develop RM&E Methods and Designs	Enhance Program ROSTER to estimate the delayed mortality, percent of smolts transported, net juvenile survival inriver, accounting for transportation and adjusting T/I ratio for delayed differential effects of upriver adult mortality or straying.
Develop RM&E Methods and Designs	Develop interactive software to analyze adult radiotelemetry data, adjusting for fallback and straying to estimate inriver survival. The model will be available to analyze UI radiotelemetry data as it becomes publicly available.
Develop RM&E Methods and Designs	Examine use of diffusion models to characterize small-scale movement of smolts in CR estuaries. Develop guidelines in design of tagging studies to monitor estuary mitigation projects, estimate residence times and smolt days in the nearshore habitat.
Produce Plan	Provide statistical support to Columbia River investigators on request on the design of tagging studies, i.e., sample size calculations, guidance on the release-recapture designs, etc.

Produce Plan	Provide statistical support on request on analysis of tagging studies, i.e., methods in data analysis, modifying statistical software to accommodate unique analysis requirements, and review of technical reports.
Produce Annual Report	Produce annual report summarizing software development and consulting activities focused on improving the design, analysis, and interpretation of salmonid tagging studies conducted in the Columbia Basin
Produce Status Report	Produce quarterly newsletter, Salmon Insider.

1989-107-00 - Statistical Support For Salmon (Expense) U of W

Description: Improve monitoring and evaluation capabilities by developing better measurement tools and study designs to estimate juvenile and adult salmonid survival and survival relationships. Provide statistical guidance to investigators in the Columbia Basin.

Accomplishments

Goals

1990-077-00 - Dev Of Sytemwide Pred Control (Expense) Pacific States Marine Fisheries Comm

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.

Accomplishments

In 2004, 267,213 pikeminnows were removed in the sport reward fishery with our increased reward incentive. This was an all time high for the program. This record catch translated into an exploitation rate of 17%, also the highest on record. The catches in 2003 were 196,977 fish with an exploitation rate of 10.5%
Salmonidae composed the majority (69-89%) of fish remains identified to species in the digestive tracts of northern pikeminnow in all reaches of the study area in 2004. The 2004 northern pikeminnow abundance index below Bonneville Dam (excluding the tailrace BRZ) was 40% lower than the average value of four previous years sampled (1994-1996, and 1999). The 2004 John Day Reservoir northern pikeminnow abundance index was an order of magnitude lower than the program average (1990-1996, 1999). Northern pikeminnow predation indices varied by season and area in 2004. The 2004 combined spring predation index for below Bonneville Dam (excluding the tailrace BRZ) was 32% lower than the average of the previous 3 years (1995, 1996, and 1999), and between 1992 and 2004 we observed an 88% drop in the overall spring predation index for below Bonneville Dam. The combined summer 2004 predation index for below Bonneville Dam was 89% less than in 1992. Modeling results estimated potential predation by northern pikeminnow on juvenile salmonids in 2004 at 79% of pre-program levels. If exploitation rates remained simlilar to mean 1996-2003 levels, further reductions in potential predation are likely to be minimal. Even if exploitation rates were maintained at the 2004 levels, long-term projections indicate further reductions in predation are likely to be minimal._ However, it is important to maintain the benefits achieved and work to increaae them by the continued removal of predatory sized pikeminnow.

Goals

1. To achieve an exploitation rate of 14-16% in the sport reward fishery.
2. Maintain the pressure on croping out predatory size pikeminnow from the population with a harvest of at least 200,000 fish for the year.
3. Determine the feasibility of bringing back a sucessful dam angling component to the fishery in 2004 with a test fishery by experienced anglers at lower Columbia river dams.
4. Test feasability of removal of pikeminnows by long line fishing at lower Columbia river dams by use of the contractor from upriver PUD projects.

1990-080-00 - Columbia Basin Pit-Tag Informa (Expense) Pacific States Marine Fisheries Comm

Description: Develop, operate, maintain and enhance a long-term Columbia River Basin database on PIT tag information and provide operations and maintenance support for the collection of PIT tag information at PIT tag interrogation sites.

Accomplishments

PAST Metric / Work Element	Value or description
Develop RM&E Methods and Designs	Client Systems support: Provide bug fixes, enhanements to PTAGIS provided software including P3, Minimon, Mobilmon,
Develop RM&E Methods and Designs	Server Systems
Develop RM&E Methods and Designs	Web Systems
Manage/Maintain Database	Operated and maintained PTAGIS client, server and web systems based upon system and application design documents that were developed under RM&E Develop Methods and Designs tasks.
Disseminate Raw & Summary Data	Implemented Web systems as described under RM&E Develop Methods and Designs tasks.
Install Fish Trap/Monitoring Weir	Not sure if this includes installation of PIT tag monitors at existing sites. If so, 28 detectors @ 10 sites. PTAGIS provides coordination and technical support for Corps funded efforts to install full flow bypass monitors at McNary and Ice Harbor dams.
Collect/Generate/Validate Field and Lab Data	PTAGIS has provided automated data data from about 400 detection coils located at more than 40 separate interrogation sites.
Submit/Acquire Data	PIT Tag interrogation data and associated diagnostics are collected at many different detection sites. PTAGIS supported sites operate in a 'lights-out' environment, but regularly scheduled general maintenance checks are performed to assure continuous oper
Collect/Generate/Validate Field and Lab Data	The PTAGIS project provided Separation by Code services for a number of different projects: 2003: 11 projects (6 Corps and 5 FWP), 2004: 9 projects (5 Corps 4 FWP); 2005: 12 projects (7 FWP, 5 Corps)
Collect/Generate/Validate Field and Lab Data	The PTAGIS project tag distribution: 2002: 73 FWP projects, 916,300 tags; 2003 71 FWP projects, 793,500 tags; 2004: 81 projects 1,061,400 tags; 2005: 53 FWP projects 820,000 tags (year to date 5/19/05).
Manage and Administer Projects	Provided Project Management for overall Columbia Basin PIT Tag Information System. Includes coordination with various NPCC projects, BPA, Corps, and other federal, state agencies, tribes, universities, industry, etc.

Coordination	Coordinated with PIT Tag Steering Committee, Fish Passage Advisory Committee, Fish Facility Design Review Work Group, Corps Project staff, BPA COTR's, federal, state and tribal agencies, universities, industry and others.
Provide Technical Review	Provide technical review of Corps of Engineers, WDFW, ODFW, IDFG, Yakama Indian Nation, Portland General Electric and other entities with PIT tag related project plans.
Produce Design and/or Specifications	Developed software development data models, process models, plans and specfications to support client, server and web systems development.
Produce Design and/or Specifications	Developed conceptual and technical designs for installation and operations of PIT tag detection equipment in field locations.
Produce Plan	Developed PTAGIS Project Plans, and work statements and budgets.
Produce Annual Report	Produced annual reports.
Coordination	Write and distribute PTAGIS Newsletter to over 425 users on a periodic basis.
Manage/Maintain Database	Perform activities to make site specific information available in web interfaces, and other ptagis database management tools. See Site Configuration Setup Instructions

Goals

Note: The following take from PTAGIS 2005 SOW. I could figure out where to put the effort described briefly in #4 below -- i.e., I didn't see how it related to any of the Work Elements.

1. Maintain 99% uptime of all PTAGIS systems and sub-systems as measured during the peak of the migration year.
2. Systems support
2.1 Client software support (multimon, minimon, mobilmon, "Project Mustang", tagcounter)
2.2. Server software support (FDVL, IDL, PTTP, ADE, DGE, -- roughly two dozen server side data systems to support ptagis operations)
2.3 Web systems support and development.
3. Provide support for Separation by Code activites.
4. Operate and maintain PIT detection facilities region-wide.
5. Management and Coordination
6. Other support actions

CURRENT Metric / Work Element	Value or description
Manage and Administer Projects	Plan, organize, direct and control PTAGIS project.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Distribute PTAGIS Newsletter to system users and interested parties on a periodic basis. Includes users from universities, government, industry and general public.
Provide Technical Review	Provide techical review to COE plans and specs, contractors plans and specs, study designs, project implementation alternatives, etc. for system users.

Produce Design and/or Specifications	Develop specifications and designs for client systems, server systems, web systems and their interfaces. Develop specifications and designs for new detection site configurations.
Produce Annual Report	Produce annual report for PTAGIS program.
Install Fish Trap/Monitoring Weir	Perform final installation work as required. Includes BON full flow bypass and assistance with BON Corner Collector PIT.
Develop RM&E Methods and Designs	Build, modify and maintain system processes and reports to assist in overall operations and maintenance management of PIT Tag data collection and distribution systems. Includes headquarters data systems (client systems, server systems, web and Field O&M.
Collect/Generate/Validate Field and Lab Data	Collect PIT Tag mark information from researchers. Collect detection information from field systems. Collect equipment diagnostic information for O&M use.
Submit/Acquire Data	Modify maintain and enhance PTTP data transfer technology for use use PTAGIS client systems and web interfaces. Provide interface between these systems with database management system and server processes.
Manage/Maintain Database	Modify, maintain and enhance PTAGIS systems server processes. Improve meta data capture capabilities congruent with ISRP's requests based upon advise of PIT Tag Steering Committee. Work toward better implementations of web services using industry standard
Disseminate Raw & Summary Data	Make PTAGIS data available via traditional and web interfaces. Includes data feeds to NOAA-F data sytems, University of Washington CQS (TMT), Fish Passage Center and other ad-hoc users.
Analyze/Interpret Data	Analzye indirect coil efficiency reports for O&M purposes. Analyze PTAGIS user data usage to improve data management and end user query capabilities. Analyze system data to improve data center efficiencies and troubleshoot problems. Other ...

1990-093-00 - Genetic Analyses Of Oncorhynch (Expense) U of Idaho

Description: Provide biological and genetic information on O. nerka and O. tshawytscha samples collected throughout the Snake and Columbia Basins to be used in the overall recovery of endangered Snake River sockeye salmon and threatened Salmon River chinook salmon.

Accomplishments

2003 - produced spawning matrices (using microsatellite data) for all spawned sockeye salmon under the Redfish Lake captive broodstock program. Produced parentage analysis for all sampled outmigrants from the captive broodstock program. Produced genetic analyses for ongoing chinook salmon captive rearing program.
2004 - produced spawning matrices (using microsatellite data) for all spawned sockeye salmon under the Redfish Lake captive broodstock program. Produced parentage analysis for all sampled outmigrants from the captive broodstock program. Produced genetic analyses for ongoing chinook salmon captive rearing program. Produced the completion report for mitochondrial analyses entitled: Genetic analyses of Redfish Lake sockeye salmon (Oncorhynchus nerka).
2005 - complete spawning matrices (using microsatellite data) for all spawned sockeye salmon under the Redfish Lake captive broodstock program. Produce parentage analysis for all sampled outmigrants from the captive broodstock program. Produce genetic analyses for ongoing chinook salmon captive rearing program. Produced Master of Science Thesis entitled: Utilizing parental analyses to evaluate smolt production from the Snake River sockeye salmon (Oncorhynchus nerka)captive broodstock program.

PAST Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Sample and genetically analyze spawning adult sockeye salmon and produce a spawning matrix for inbreeding avoidance. Sample and genetically analyze outmigrant sockeye salmon with microsatellites.

Goals

CURRENT Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Genetically analyze spawning adult sockeye salmon from Redfish Lake and produce a spawning matrix for the captive broodstock program.

1991-029-00 - Post-Release Survival Of Fall (Expense) USFWS

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.

Accomplishments

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Successfully obtained Federal ESA and State fish handling permits in 2003, 2004, 2005.
Produce Annual Report	Provided BPA three annual reports since 2003 available on the BPA web site (project 199102900).
Produce/Submit Scientific Findings Report	Provided FPAC and TMT briefings in June 2003 and 2004 on the status of wild subyearling fall Chinook salmon run timing to aide in planning and implementation of summer flow augmentation.
Produce/Submit Scientific Findings Report	Provided TMT with a summary of the effects of summer flow augmentation on wild subyearling fall Chinook salmon survival and rate of seaward movement in October 2003 and 2004.
Produce/Submit Scientific Findings Report	Provided two written testimonials during the summer 2004 court case involving summer spill at Snake and Columbia River dams.
Produce/Submit Scientific Findings Report	Briefed the Council on wild subyearling fall Chinook salmon migratory behavior and survival, November 2004.
Produce/Submit Scientific Findings Report	Published three peer-reviewed papers on the project's research results in 2003 and 2004.
Produce/Submit Scientific Findings Report	Received two scientific awards for project research results in 2004.
Collect/Generate/Validate Field and Lab Data	Successfully collected and validated PIT tag and radio tag data on wild subyearling fall Chinook salmon in the Snake River and lower Snake River reservoirs in 2003 and 2004.
Analyze/Interpret Data	Estimated migration rates and survival of wild subyearling fall Chinook salmon passing downstream from the Snake River into Lower Granite Reservoir and passed Lower Granite Dam in 2003 and 2004.
Mark/Tag Animals	PIT tagged (4,000 to 5,000) and radio tagged (100 to 200) wild subyearling fall Chinook salmon in 2003 and 2004.
Collect/Generate/Validate Field and Lab Data	Successfully collected laboratory data on the physiology and survival of subyearling fall Chinook salmon exposed to chronically elevated temperatures in 2003 and 2004.

Goals

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Obtain Federal ESA and State fish handling permits for research.
Produce Annual Report	Produce an annual report of research results.
Produce/Submit Scientific Findings Report	Provide FPAC and TMT briefings on the status of wild subyearling fall Chinook salmon run timing to aide in planning and implementation of summer flow augmentation.
Produce/Submit Scientific Findings Report	Provide TMT with a summary of the effects of summer flow augmentation on wild subyearling fall Chinook salmon survival and rate of seaward movement.
Produce/Submit Scientific Findings Report	Brief the NWPCC on wild subyearling fall Chinook salmon migratory behavior and survival upon request.
Produce/Submit Scientific Findings Report	Publish peer-reviewed papers on the project's research results
Collect/Generate/Validate Field and Lab Data	Collect and validate PIT tag and radio tag data on wild subyearling fall Chinook salmon in the Snake River and lower Snake River reservoirs.
Mark/Tag Animals	PIT tagged (10,000) and radio tagged (100 to 200) wild subyearling fall Chinook salmon to evaluate summer flow augmentation, transportation, and spill.
Analyze/Interpret Data	Estimate passage timing, migration rates, and survival of wild subyearling fall Chinook salmon passing downstream from the Snake River through the hydropower system in the lower Snake and Columbia rivers.

1991-051-00 - M&E Statistical Support For Li (Expense) U of W

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.

Accomplishments

This project was initiated in 1991 in response to the Endangered Species Act (ESA) and the subsequent 1994 Fish and Wildlife Program (FWP) call for regional analytical methods for monitoring and evaluation. This project supports the need for the "best available" scientific information accessible to the BPA, fisheries community, decision-makers, and public by analyzing historical tagging data to investigate smolt outmigration dynamics, salmonid life histories and productivity, and providing real-time analysis to monitor outmigration timing for use in water management and fish operations of the hydrosystem. This project provides real-time analyses of PIT-tag data and smolt passage indices to predict outmigration timing at 8 Snake and Columbia River dam sites, and travel time information and barging predictions in the Snake River Basin. Daily updates are provided for salmon and steelhead from April through September of each year. These predictions and supporting information can be retrieved and independently analyzed using interactive software on the internet http://www.cbr.washington.edu/rt/rt.html).

The second element of this project provides value-added analyses of historical tagging data by testing hypotheses, estimating parameters, and investigating interrelationships without the tremendous costs of additional field studies. Currrently, this project is analyzing and compiling a myriad of performance measures asociated with mainstem hydro passage.

Finally, this project provides statistical assistance to the BPA and the NW fisheries community on an as-needed basis. These efforts are used to provide BPA with independent assessment capabilities and provide technology transfer to regional investigators.

PAST Metric / Work Element	Value or description
Analyze/Interpret Data	2003: Provided real-time predictions of outmigration timing for 15 FPC passage-indexed and 34 PIT-tagged stocks of subyearling and yearling chinook salmon, sockeye salmon, coho salmon, and steelhead trout smolts.
Analyze/Interpret Data	2003: Summarized and posted historical to 2003 information on smolt survivals and travel times, based on PIT-tag data from 11 hatcheries and traps, at http://www.cbr.washington.edu/pitSurv/.
Analyze/Interpret Data	2003: Summarized adult escapement data from 37 streams and rivers and posted on DART with associated with NOAA Fisheries interim recovery goals for public access.
Develop RM&E Methods and Designs	2003: Assisted RME-Hydro Group with statistical decision criteria for assessing compliance with recovery criteria for smolt survival through the hydrosystem.
Develop RM&E Methods and Designs	2003: Assisted USACE in evaluating alternatives for a turbine survival study at McNary Dam to assess the effects of operating levels on smolt passage survival. Compared costs of conducting radio- versus PIT-tag release-recapture methods.
Develop RM&E Methods and Designs	2003: Assisted USACE, USGS, and NOAA Fisheries in evaluating alternative summer spill study proposals for 2004.

Produce Annual Report	2003: Summarized statistical analysis and consulting performed Focused on real-time outmigration timing predictions, life-history performance measures, recovery status and trends, and guidance on design and analysis of Columbia Basin M&E studies.
Produce/Submit Scientific Findings Report	2003: Burgess et al. Evaluation of the 2003 predictions of run-timing of wild and hatchery-reared salmon and steelhead smolt to LGR, RIS, MCN, and JDA dams using Program RealTime. M&E of smolt migration in Columbia Basin, Volume XI. BPA, Portland, OR
Produce/Submit Scientific Findings Report	2003: Burgess et al. Precision and accuracy of T/I ratio estimator of survival benefits to juvenile salmonids transported around Columbia River Basin dams. Design & analysis of salmonid tagging studies in the Columbia Basin, Vol XVIII. BPA, Portland, OR
Produce/Submit Scientific Findings Report	2003: Johnson et al. Hydroacoustic evaluation of turbine intake J-occlusions at The Dalles Dam in 2002. Final report for USACE, Portland District. Battelle Memorial Institute, Pacific Northwest Division, Richland, WA.
Produce/Submit Scientific Findings Report	2003: Skalski, J. R.. Hypothetical examples of survival trends and compliance assessment. Prepared for the RME-Hydro Working Group, Portland, OR.
Produce/Submit Scientific Findings Report	2003: Stevenson et al. Telemetry investigation: Fish passage efficiency of juvenile yearling and subyearling chinook, steelhead and sockeye at Rocky Reach and Rock Island dams, 2003. Prepared for Chelan County PUD, Wenatchee, WA
Provide Technical Review	2003: Carlson et al. Review of the application of an acoustic scintillation flow meter for hydroturbine discharge estimation. For USACE, NW Division, Contact DACW57-00-D-0009-0006. Battelle, Pacific Northwest Division, Richland, WA.
Provide Technical Review	2003: Skalski, J. R. Review of "The effects of mainstem flow and water velocity on salmon and steelhead populations of the Columbia River." Prepared for BPA, Portland, OR.
Analyze/Interpret Data	2004: Provided real-time predictions of outmigration timing for 20 FPC passage-indexed and 32 PIT-tagged stocks of subyearling and yearling chinook salmon, sockeye salmon, coho salmon, and steelhead trout smolts.
Analyze/Interpret Data	2004: Summarized and posted historical to 2004 information on smolt survivals and travel times, based on PIT-tag data from 11 hatcheries and traps, at http://www.cbr.washington.edu/pitSurv/.
Analyze/Interpret Data	2004: Summarized adult escapement data from 26 streams and rivers have been summarized and posted on DART with associated NOAA Fisheries interim recovery goals for public access.

Analyze/Interpret Data	2004: Provided online data analysis and plots of SARs for CWT hatchery salmon from Oregon, Washington, and Idaho. The website includes CWT returns from 90 hatcheries across the Northwest for all available years with annual updates of analyses.
Develop RM&E Methods and Designs	2004: Assisted the USACE, USGS, and NOAA Fisheries in evaluating alternative summer spill study proposals for 2004.
Develop RM&E Methods and Designs	2004: Assisted the USACE in the design of a fall chinook transportation evaluation study at Lower Granite Dam in 2005.
Develop RM&E Methods and Designs	2004: Assisted the Mid-Columbia PUDs, tribes, and agencies in designing and implementing web pages on DART for monitoring salmonid smolt and adult migration timing in Mid-Columbia Basin and associated tributaries.
Develop RM&E Methods and Designs	2004: Assisted the Department of Energy and Grant County PUD in designing a smolt survival study of existing and new generation turbines for winter 2005.
Produce Plan	2004: Skalski, J. R. Statistical synopsis for estimate project-wide fish passage efficiency, spill efficiency, corner collector efficiency, and sluiceway efficiency at Bonneville Dam in the Year 2004. Prepared for Battelle.
Produce Plan	2004: Skalski, J. R. Statistical synopsis for the 2004 fixed-location hydroacoustic investigations at The Dalles Dam. Prepared for Battelle.
Produce Plan	2004: Skalski, J. R. Input to the study plan to assess the effects of channel deepening on fish stranding in the Lower Columbia River. Prepared for Battelle, Sequim, WA.
Produce Annual Report	2004: Summarized statistical analysis and consulting performed. Focused on real-time outmigration timing predictions, life-history performance measures, recovery status and trends, and guidance on the design and analysis of Columbia Basin M&E studies.
Produce Status Report	2004: Published Salmon Insider newsletter on a quarterly basis in 2004.
Produce/Submit Scientific Findings Report	2004: Burgess et al. Evaluation of 2003 predictions of run-timing of wild and hatchery-reared salmon & steelhead smolt to LGR, RIS, MCN, & JDA dams using Program RealTime. Vol. XI in Design & Analysis of Salmonid Tagging Studies in Columbia Basin. BPA.
Produce/Submit Scientific Findings Report	2004: Townsend et al. Evaluation of the 2004 predictions of run-timing of wild and hatchery-reared salmon and steelhead smolt to LGR, RIS, MCN, & JDA dams using Prog RealTime. M&E of smolt migration in the Columbia Basin. BPA (submitted).

Produce/Submit Scientific Findings Report	2004: Normandeau Associates et al. Direct effects of differential spill volumes on mortality and injury rates of juvenile salmonids at The Dalles Dam spillway, Columbia River in fall 2002 and spring 2003. USACE, Portland District, Portland, OR.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	2004: Pearson et al. Lower Columbia River stranding studies. US Army Corps of Engineers, Anadromous Fish Evaluation Program, November 15-18, 2004, Portland, OR. Approx. 400 (G) in attendance.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	2004: Ploskey et al. Hydroacoustic evaluation of juvenile salmonid fish passage at Bonneville Dam. US Army Corps of Engineers, Anadromous Fish Evaluation Program, November 15-18, 2004, Portland, OR. Approx. 400 (G) in attendance.
Analyze/Interpret Data	2005: Provide real-time predictions of outmigration timing for 20 FPC passage-indexed and 32 PIT-tagged stocks of subyearling and yearling chinook salmon, sockeye salmon, coho salmon, and steelhead trout smolts.
Produce Status Report	2005: Published quarterly issues of the Salmon Insider newsletter.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	2004: Johnson et al. Hydroacoustic evaluation of fish passage and the sluiceway surface flow bypass at The Dalles Dam in 2004. US Army Corps of Engineers, Anadromous Fish Evaluation Program, November 15-18, 2004, Portland, OR. Approx. 400 (G).
Produce/Submit Scientific Findings Report	2004: Anglea et al. Survival of PIT-tagged yearling chinook salmon passage through the Priest Rapids project, 2003. Grant County PUD, Ephrata, WA.
Produce/Submit Scientific Findings Report	2003: Smith et al. 2004. Survival estimates for the passage of spring migrating juvenile salmonids through Snake and Columbia River dams and reservoirs, 2003. Annual Report to BPA, NMFS, NWFSC, Seattle, WA.
Produce/Submit Scientific Findings Report	2003: Normandeau Associates Inc. et al. Juvenile salmonid survival in passage through modified spillbays at Bonneville Dam, Columbia River. USACE, Portland, OR.
Produce/Submit Scientific Findings Report	2003: Normandeau Associates Inc. et al. Survival/condition of chinook salmon smolts under different turbine operations at McNary Dam, Columbia River. Prepared for USACE.
Produce/Submit Scientific Findings Report	2003: Normandeau Associates Inc. et al. Estimated direct mortality and injury of juvenile salmonids in passage through The Dalles Dam spillway, Columbia River in spring & summer 2002. USACE, Portland, OR.
Produce/Submit Scientific Findings Report	2003: Normandeau Associates Inc. et al. Evaluation of smolt mortality & injury associated with passage through a modified top spill bulkhead at Wanapum Dam, Columbia River. Grant County PUD, Ephrata, WA.

Produce/Submit Scientific Findings Report	2003: Robichaud et al. Survival of chinook smolts during various spill configurations at Wanapum & Priest Rapids dams, 2002. Grant County PUD, Ephrata, WA.
Produce/Submit Scientific Findings Report	2003: Skalski et al. Estimation of survival of yearling chinook salmon at the Rock Island dam, pool, & project in 2002 using acoustic & PIT-tag release-recapture methods. Chelan County PUD, Wenatchee, WA.
Produce/Submit Scientific Findings Report	2003: Steig et al. Comparison of PIT-tagged and acoustic tagged juvenile chinook, steelhead & sockeye salmon passing Rocky Reach Dam in 2002. Chelan County PUD, Wenatchee, WA.
Produce/Submit Scientific Findings Report	2004: Steig et al. Comparison of acoustic & PIT-tagged tagged juvenile chinook, steelhead & sockeye salmon passing dam on the Columbia River, USA. Proceedings of Fish Telemetry Conference (in press).
Produce/Submit Scientific Findings Report	2004: Skalski et al. Estimation of Rock Island project passage survival of yearling chinook salmon smolts in 2003 using acoustic & PIT-tag release-recapture methods, Chelan County PUD, Wenatchee, WA.
Produce/Submit Scientific Findings Report	2004: Stevenson et al. Fish passage efficiency of juvenile yearlings & subyearling chinook, steelhead & sockeye at Rocky Reach and Rock Island Dams, 2003: Telemetry investigation. Chelan County PUD, Ephrata, WA.
Produce/Submit Scientific Findings Report	2004: Anglea et al. Survival of PIT-tagged yearling chinook salmon passage through the Priest Rapids project, 2004. Grant County PUD, Ephrata, WA.
Produce/Submit Scientific Findings Report	2004: Townsend et al. Arrival distributions for the Rock Island & Priest Rapids tailrace releases in the 2004 yearling summer chinook salmon survival study at Grant County PUD, Ephrata, WA.
Analyze/Interpret Data	2003: A total of 188 hours of assistance provided to USACE, USGS, NOAA Fisheries, and Chelan County PUD to evaluate adult and juvenile salmoni survival in the Columbia Basin.
Analyze/Interpret Data	2004: A total of 208 hours of assistance provided to USACE and WDFW to evaluate adult and juvenile salmonid survival in the Columbia Basin.

Goals

Numerous performance measures and recovery goals have been established (i.e., FWP, BiOp on Remand, RM&E Hydro Working Group) to monitor the recovery of the Columbia Basin system. Despite all the discussions of recovery and performance measures, no readily accessible public source of information exists. In preparation for progress reports and comprehensive evaluations in 2007 and 2010, this project will be compiling and summarizing the myriad of endpoints identified in recovery documents. This project will also help people interpret this volume of information by developing interactive virtual reports. The virtual reports will allow uses to assess the recovery information from multiple perspectives, such as fish stock, hydroproject, performance measure, subbasin, or any combination thereof. The software will allow users to examine the data from their own perspective, conduct their own analyses, and draw conclusions about status, trends, and compliance.

Numerous additional performance measures will be added to historical databases including the following:

1. SARS from PIT-tag data.
2. T/I ratios from PIT-tag data.
3. Estimates of delayed transport effects from PIT-tag data.
4. Hydrosystem-wide smolt survival estimates from PIT-tag data.
5. Adult upriver survival estimates from both PIT- and radio-tag data.
6. Adult harvest numbers by stock and year.
7. River km of completed restoration in watershed by year.
8. Hectares of completed restoration in the estuary by year.

Data will be compiled, documented, and estimates extracted for all available stocks and/or locations annually. The goal of the project is to provide a comprehensive yet user-friendly resource to examine performance measures and monitor efforts toward recovery.

CURRENT Metric / Work Element	Value or description
Analyze/Interpret Data	Update website daily with predictions of smolt outmigration timing for PIT-tag stocks and passage indices in 2006. Include daily predictions of “percent passage to date," “date to specified percentiles," and raw counts for each monitored stock.
Analyze/Interpret Data	Update historical characterization of performance standards. Extract smolt and adult performance standards and assorted water quality and flow target information for compilation and comparison with recovery standards.
Analyze/Interpret Data	Create virtual report on status and trends of hydrosystem performance measures and progress towards salmonid recovery and BiOP compliance. Produce an interactive summary of monitoring data, permitting assess to information from multiple perspectives.
Develop RM&E Methods and Designs	Assist the USACE, USGS, NOAA Fisheries, and other state and Tribal entities in evaluating adult and juvenile salmonid survival in the Columbia Basin.
Produce/Submit Scientific Findings Report	Submit a report evaluating the accuracy of the RealTime predictions for all stocks at the end of the 2006 migration season.
Produce Status Report	Publish quarterly issues of Salmon Insider newsletter.
Produce Annual Report	Produce annual report summarizing statistical analysis and consulting activities performed in 2006.

1993-029-00 - Survival Est For Passage Throu (Expense) NOAA Fisheries

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

Accomplishments

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Successfully obtained Federal ESA and State fish handling permits for research.
Mark/Tag Animals	PIT-tagged 40,000 to 55,000 juvenile salmonids each year for hydropower survival estimation.
Collect/Generate/Validate Field and Lab Data	Successfully collected and validated PIT tag data from Snake and Columbia River dams and the PIT tag trawl for use in juvenile survival estimation.
Analyze/Interpret Data	Estimated survival of juvenile spring/summer chinook salmon and steelhead through individual reaches and combined reaches of the hydropower system each year as well as an analysis of adult returns of PIT tagged fish.
Produce Annual Report	Provided BPA five annual reports of research (3 for spring migrants and 2 for summer migrants)since 2003 (available on BPA's website under 1993-029-00 project number).
Produce/Submit Scientific Findings Report	Prepared tech memo: Williams, J. G., S. G. Smith, R. W. Zabel, W. D. Muir, M. D. Scheuerell, B. P. Sandford,D. M. Marsh, R. McNatt, and S. Achord. 2004. Effects of the federal Columbia River power system on salmon populations NOAA Tech. Memo. 63

Goals

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Obtain required permits (Federal ESA and State fish handling) for research.
Mark/Tag Animals	PIT tag from 40,0000 to 54,000 juvenile salmonids for survival estimation.
Collect/Generate/Validate Field and Lab Data	Collect and validate PIT tag data from Snake and Columbia River dams and the PIT tag trawl for use in juvenile survival estimation. Operate the pair trawl in the estuary.
Analyze/Interpret Data	Analyze PIT tag data from Snake and Columbia River dams and the pair trawl to estimate juvenile survival within the hydropower system and adult return rates. Test survival model assumptions.
Produce Annual Report	Produce annual report summarizing research.
Produce/Submit Scientific Findings Report	Produce report of scientific findings for publication in peer-reviewed journal.

1993-056-00 - Demonstration Of Captive Salmo (Expense) NOAA Fisheries

Description: Improve effectiveness and assess risks of captive broodstock programs as a tool for recovery of depleted salmon stocks

Accomplishments

Several RM&E metrics apply to this project. Answers are by research objective.

1: i) Developed tools for monitoring the spawning success of captive-reared Chinook salmon that can now be used for evaluating the reintroduction success of ESA-listed captive broodstocks in natal habitats. ii) Developed an automated temperature controlled rearing system to test the effects of seawater rearing temperature on reproductive success of Chinook salmon.

2: i) Determined that sockeye salmon imprint at multiple developmental stages and the length of exposure to home water is important for imprinting. Results can be utilized for developing successful reintroduction strategies to minimize straying by ESA-listed sockeye salmon. ii) Developed behavioral and physiological assays for imprinting in sockeye salmon.

3: i) Developed growth regime to reduce age-two male maturation in spring Chinook salmon, ii) described reproductive cycle of returning hatchery Snake River spring Chinook salmon relative to captive broodstock, and iii) found delays in egg development in captive broodstock prior to entry to fresh water. iv) Determined that loss of Redfish Lake sockeye embryos prior to hatch is due to lack of egg fertilization rather than embryonic mortality.

4: i) Demonstrated safety and efficacy limits against bacterial kidney disease (BKD) in fall Chinook of attenutated R. salmoninarum vaccine and commercial vaccine Renogen, ii) improved prophylactic and therapeutic efficacy of compound vaccine against BKD in fall Chinook and iii) testing of broodstock antibiotic treatment in combination with compound vaccine against BKD.

5: i) Determined that close inbreeding in Chinook salmon led to substantial reductions in marine survival; progeny of half sibs survived at 90% the rate of noninbred fish and progeny of full sibs survived at only 15% the rate of noninbred fish. ii) For broods 2002 and 2003, we established a breeding design with 30 half- and 120 full-sib families of Chinook salmon to test the generality of the results.

The project has published 10 peer-reviewed articles since 2003.

Goals

Several of the RM&E metrics listed apply to this research project. Goals through FY 2006 are listed below by research Objective.

Objective 1: i) Evaluate the effects of seawater rearing temperature on the spawn timing and reproductive success of naturally spawning captively reared Chinook salmon.

Objective 2: i) Evaluate the importance of home-water characteristics and exposure timing and duration for successful imprinting and homing of ESA listed sockeye salmon, ii) continue development and application of molecular assay for imprinting success in sockeye and coho salmon.

Objective 3: i) Evaluate effects of seawater rearing temperature on growth, spawning time, fecundity, and fertility of gametes in female spring Chinook salmon, and ii) evaluate effects of growth regimes designed to reduce early male maturity on fecundity and age of maturity in female spring Chinook salmon

Objective 4: i) Develop an integrated disease management plan for bacterial kidney disease (BKD), targeting vertical transmission, ii) test BKD management treatments for both prophylactic and therapeutic value, and iii) develop and

test BKD treatments that elicit effective host response and minimize environmental risks.

Objective 5: i) Replicate experimental inbreeding in locally adapted University of Washington Hatchery (UWH) Chinook salmon, comparing survival and growth of half-sib inbred and full-sib inbred lines to those of a randomly mated control line, ii) recover marked adults returning to UWH, establish 2005-brood experimental families from crosses among these adults, and iii) coded-wire tag and release 2005-brood experimental fish with family-specific tags for evaluation of survival to adulthood.

1994-033-00 - Fish Passage Center (Expense) Pacific States Marine Fisheries Comm

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.

Accomplishments

The FPC project has met all of the specific tasks and objectives that are defined for the project in the NPCC for the past three years encompassed in the last provincial review. The primary purpose of the FPC is defined in the NPCC Fish and Wildlife Program and is to provide technical assistance and information to the fish and wildlife agencies in particular and to the public in general on matters related to juvenile and adult salmon and steelhead passage through the mainstem hydrosystem.
•Planned and implemented the annual SMP dissolved gas trauma monitoring as required by the NOAA BIOP, the CSS as directed by the CSS Oversight Committee
•Gathered, organized, analyzed, housed and made available on a daily basis monitoring and research information related to juvenile and adult passage, and to the implementation of the water management and passage measures that are part of the Council Program
•Continued to build a long term continuous and consistent data series on the passage characteristics of juvenile and adult salmonids in the Columbia and Snake rivers, to support fish passage management decisions, mitigation decisions and to assess the relative benefits of tributary and habitat improvement projects conducted within the sub-basin plans framework
•Responded to all requests for data, analysis and information including review of research reports , research designs and analyses. On average over the past three years the FPC staff has responded to 500,000 requests per year through the web site or direct contact by the agencies & tribes to assist in formulating in-season flow & spill recommendations.
•Completed and distributed, daily monitoring and river data, weekly reports and SMP Annual reports, CSS Reports, and quarterly reports and the annual FPC Accomplishments report required by the FPC Oversight Board.
•Completed environmental compliance requirements for the SMP and the CSS activities.
•Completed the requirements for conversion of the SMP, CSS and FPC projects to the BPA Picses project data system.
•The FPC prepared the draft annual report to the ODEQ

Goals

Goals/products/services to the region for direct use in juvenile & adult fish passage management decisions, applying to real time day to day management, implementation of BIOP measures & NPCC Fish & Wildlife Program mainstem passage measures:
•Add 2006 juvenile & adult fish passage characteristics data to existing historic time series of data to support implementation of BIOP measures & to support implementation of NPCC mainstem passage measures
•Design & implement the SMP, including daily data reporting, to support juvenile & adult fish passage management decisions on a daily & weekly basis.
•The SMP will be designed in conjunction with the CSMEP mainstem hydrosystem technical group to address data collection from tributary and sub-basin marking projects to support the long term determination of benefits from sub-basin plans & to collect migration data to contribute to sub-basin plan activities.
•FPC Annual Report which summarizes, mainstem hydrosystem fish passage operations, fish passage conditions and characteristics will be completed.
•The CSS will be designed & implemented under the auspices of the CSS Oversight Committee, data summaries, & calculations of travel time, survival & smolt to adult returns will be completed for the draft annual status report prepared by FPC & finalized by the CSS Oversight Committee.
•The dissolved gas monitoring program will be designed, implemented & the report for 2006 completed to comply with the state dissolved gas waiver permit requirements.
•All environmental compliance requirements for the SMP and the CSS will be completed including ESA section 10 permits application & reporting requirements & individual states requirements.

•Requirements for reporting & maintaining the BPA Pisces system for SMP, CSS & FPC.
•Respond to all data requests,requests for analysis & reviews from fishery managers & public. We anticipate response to at least 685,000 requests for data, analysis, summaries or reviews, both through the FPC web site & direct contact.
•FPC will write & distribute weekly reports to the region March-Octobe

CURRENT Metric / Work Element	Value or description
Develop RM&E Methods and Designs	In 2006 the FPC will develop the design for the SMP and the CSS study. This will include determination of mark group sizes, coordination of fish availability with the managing agency or tribe Past data,
Develop RM&E Methods and Designs	prevailing management questions and comments and reviews by the agencies and tribes, the region and the ISAB and ISRP will be incorporated into the designs for 2006. CSMEP and subbasin plan initiatives and benefit evaluations will also be incorporated.
Develop RM&E Methods and Designs	Individual sampling site requirements will be reviewed; data collection and software for data acquisition and transmittal will be modified if required.
Collect/Generate/Validate Field and Lab Data	In 2006 the FPC data quality assurance process will be in place. Hardcopies of handlogs will be reviewed and compared with transmitted batch data, errors and error rates will be recorded and the results provided to each sampling site.
Collect/Generate/Validate Field and Lab Data	The FPC data receipt and web posting software for passage indices, river data and all other daily data will be upgraded as necessary to meet 2006 needs.
Submit/Acquire Data	All levels of data acquisition will continue in 2006 to maintain the goal of maintaining a long term consistent and continuous data base to support FPC analysis, agencies and tribes analysis and to inform the region and the public at large.
Submit/Acquire Data	Hourly spill, flow, dissolved gas, and temperature data, detailed hatchery release data will be updated weekly directly from the sites, data will be acquired from sampling sites daily.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	The FPC web site will be maintained to include all data that is utilized by FPC and the agencies and tribes for hydrosystem operation requests.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	All FPC analysis, comments, reviews provided to the agencies and tribes will be posted on the web site to inform, and educate the region and the public at large. Responses to all data requests will be developed as they are submitted.
Manage and Administer Projects	Budgets and statements of work will be reviewed and developed with the agencies and tribes for the SMP, CSS and FPC projects. Budget expenditures will be tracked throughout the year.

Manage and Administer Projects	Requirements of the BPA project tracking, reporting & budgeting process will be met. NPCC project funding & tracking of budgets, SOW & process information requirements will be met .Expenditures will be tracked against the total annual budget allocation
Produce Annual Report	The FPC will produce five annual reports; the CSS Annual Status Report, summarizing the adult returns, survivals , smolt to adult returns from CSS mark groups; the FPC annual report summarizing river operations, migration characteristics and the juvenile
Produce Annual Report	and adult migration, hatchery production and adult returns; the juvenile and adult passage facilities annual report, the dissolved gas water quality report and the FPC Accomplishments Annual report.
Produce Environmental Compliance Documentation	The FPC will meet ESA section 10 permit application and reporting requirements and states permitting requirements for the implementation of the Smolt Monitoring Program and the Comparative Survival study.
Coordination	The FPC will facilitate weekly and monthly Fish Passage Advisory Committee meeting to discuss fish passage data, research and operations.
Coordination	The FPC will coordinate with the state, tribal and federal agencies in the design and implementation of the Smolt Monitoring Program and the Comparative Survival Study.
Provide Technical Review	As requested the FPC will provide technical reviews of research designs, research results, reports and proposed actions, by any regional party.
Produce Plan	The FPC will produce marking and implementation plans, sampling plans and work plans for the SMP and the CSS. As required by the BPA and NPCC funding process the FPC will develop spending plans and projections for the projects.
Analyze/Interpret Data	The FPC will analyze, summarize and interpret fish passage data resulting from the SMP and CSS, as well as data available from other sources to address basin wide
Analyze/Interpret Data	as well as project specific fish passage issues and the implementation of research and monitoring results to hydrosystem and fish passage management actions.

1996-005-00 - ISAB (Expense) NPCC

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.

Accomplishments

The ISAB fosters a scientific approach to fish and wildlife recovery and the use of sound scientific methods in research related to the programs of NOAA Fisheries, the Council, and the Tribes. Since the Systemwide project funding decisions in 2003, the ISAB has released approximately 11 reports.

These reports include:
ISRP/ISAB2005-5 Review of the All-H Analyzer (AHA)
2005-3 Recommendation to Study Effects of Load Following on Juvenile Salmon Migratory Behavior and Survival
2005-2 Viability of ESUs Containing Multiple Types of Populations
2005-1 Review of the Pacific Northwest Aquatic Monitoring Partnership's "Study Design for Comparing Monitoring Protocols"
ISRP/ISAB2004-13 Scientific Review of Subbasin Plans for the Columbia River Basin Fish and Wildlife Program
2004-2 ISAB Findings from the Reservoir Operations / Flow Survival Symposium
2004-1 Review of Draft Action Agency and NOAA Fisheries RME Plan
2003-4 Comments on Draft NOAA Technical Recovery Team Documents Identifying Independent Salmonid Populations Within Evolutionarily Significant Units
2003-3 Review of Salmon and Steelhead Supplementation
2003-2 Review of Strategies for Recovering Tributary Habitat
2003-1 Review of Flow Augmentation: Update and Clarification

See the ISAB webpage at: www.nwcouncil.org/fw/isab/Default.htm

These reports have assisted the Council in considering subbasin plans for adoption into the Fish and Wildlife Program, aided NOAA Fisheries in how to best consider the viability of listed salmon populations, and synthesized the state of the science in such areas as tributary habitat recovery strategies and salmon supplementation.

Goals

The ISAB's basic work elements are to conduct technical reviews and produce reports to the Council, Tribes, and NMFS. Specific ISAB assignments are commonly generated within the fiscal year and often span fiscal years. The ISAB's general tasks include:
1) Evaluate the Council's Program scientific principles to ensure they are consistent with the best available science.
2) Evaluate the Council's Program on its scientific merits in time to inform amendments to the fish and wildlife program.
3) Provide scientific review of NMFS recovery planning activities for Columbia River Basin stocks.
4) Review the scientific and technical issues associated with efforts to improve anadromous fish survival through all life stages, based on adaptive management approaches.
5) Review and provide advice on priorities for conservation and recovery efforts, including research, monitoring, and evaluation and data management.
6) Provide scientific reviews of topics identified as critical to fish recovery and conservation in the Columbia River Basin. (Including questions and issues posed by the region's management agencies and other parties.)
7) Evaluate the scientific merits of plans and measures proposed to ensure satisfaction and continuation of tribal treaty fishing rights in the Columbia River Basin and other tribal efforts to restore and manage fish and wildlife resources.
8) Compare the various plans, strategies, analytical tools and methods employed by the Council, NOAA Fisheries, the Columbia River Basin Indian Tribes, and others related to the management of Columbia River Basin fish and wildlife to identify areas of consensus, disagreement, uncertainty, and opportunity.

Systemwide Systemwide

In FY 2006, the ISAB may be asked to conduct a variety of reviews associated with NOAA's Technical Recovery Team efforts, the Council's subbasin planning process, the Council's mainstem amendments, and regional research, monitoring and evaluation efforts.

1996-019-00 - Technical Management Team (Tmt (Expense) U of W

Description: Implement certain non-discretionary actions to 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

Accomplishments

2004 Expanded juvenile and adult Columbia Basin ESU population data services to include: Upper Columbia River Spring Chinook, Upper Willamette Spring Chinook, Mid Columbia River Steelhead, and Lower Columbia River Steelhead.
2004 Acquired and assimilated historical and real-time oxygen saturation data from U.S. Army Corps of Engineers to the river environment data set.
2004 Updated Pacific Northwest Index, a terrestrial climate index, for 1891-2003 based on data from National Climatic Data Center.
2004 Expanded Columbia Basin Performance Measures analysis tool to include exposure calculations for Adult PIT-tag passage to hydrosystem conditions.
2004 Updated analysis services with new Coded Wire Tag Smolt-to-Adult Ratios (SAR) estimates and PIT-tag survival and travel time estimates.
2004 DART served 449,785 individual data requests.
2004 Provided more than 61 special data analyses by request to users at Idaho Department of Fish and Game, USACE, University of Idaho, WDFW, NOAA, Pacific Institute for the Mathematical Sciences, Virginia Institute of Marine Science, Connell High School, USGS, Idaho Power, Fish Passage Center, Carollo Engineers, Seattle City Light, Nez Perce, DCPUD, CCPUD, GCPUD, PNL, NPPC, Washington State Legislature, John R. Stevenson-Fisheries Biologist, British Petroleum, Lands Energy Consulting, PNGC Power, Farmington High School, Hampton Affiliates, EVS Environment, Mobrand, KWA Ecological Sciences Inc., Grand Valley State University, ODFW, Colville Tribes, Washington State Department of Ecology, Portland State University, and Eastern Oregon University.
2004 Integrated trap collection counts for six trap locations in the Mid-Columbia region with historical and daily data from Chelan PUD, Douglas PUD, Washington Department of Fish and Wildlife, and US Fish and Wildlife Service. The trap data set was integrated with the USGS stream flow data set as part of the DART daily services.
2004 Fully integrated YKFP adult passage data into DART through a distributed database solution.
2004 Added trend statistics to PIT Tag Survival and Travel Time Analysis and Smolt-to-Adult Ratio (SAR) Estimates for Coded Wire Tag.
2004 Adult Escapement for the Columbia Basin data and trend statistics presentation was developed and launched to allow comparison of interim target abundances set by NMFS in their April 2002 memo (http://www.nwr.noaa.gov/occd/InterimTargets.html) with historical trend data.
2004 DART provided data services, programming and web logistics to present the USACE's requested Bonneville daily and cumulated fallback analysis.
2004 Updated and enhanced javaDART to provide improved user interface, menus help, and expanded flexibility. Launched as a java applet.
2004 Provided BPA with potential spill reduction analysis relative to ESU passage in the FCRPS.
2004 Continued integration of data sets from and coordination with primary sites: PSMFC, U.S. Army Corps of Engineers, Grant County PUD, Douglas County PUD, Chelan County PUD, USGS, PFEL, NWS, NCDC, USBR, SnoTel, NOAA, YKFP, USFWS, and Fish Passage Center.
2004 Further developed and enhanced PIT-tag Adult Conversion Rate report and PIT-tag Adult Conversion Rate observation detail report with overwintering and release km information.
2004 Synchronized adult passage data with the adult passage data set available through the USACE Northwest Division's interactive database query system. At the same time, historical chinook run designations were re-assigned to match current run timings as defined by the USACE and YKFP.
2004 Developed and implemented Adult Passage Annual Summary report for total adult salmon passage counts for all adult species at a selected project for all years in the Columbia River DART database (1938 to the present).
2004 Updated and enhanced PIT Tag Adult Returns Observation Summary report to include by Brood Year summary option.

Goals

At the level funding, our goals and accomplishments will be to maintain the same data integration services performed in the past. We will continue to respond to user requests for integrated data sets, tool enhancement and additional development of on-line processing tools for realtime analysis. This will include development of additional ocean condition indicators based on the Pacific Decadal Oscillation and upwelling indices.

This contract implements Reasonable and Prudent Actions (RPAs) of the 2000 NOAA Fisheries and USFWS Biological Opinions governing operations of the Federal Columbia River Power System (FCRPS):

1. RPA 180: Develop and implement a basinwide hierarchical monitoring program…
To determine population and environmental status (including assessment of performance measures and standards) and allow ground-truthing of regional databases.

2. RPA 198: Common data management system…
for fish populations, water quality, and habitat data.

This contract also provides data integration and Internet-based information access for monitoring, evaluation, and decision support to systemwide and mainstem-specific strategies of the Northwest Power Conservation Council's Fish and Wildlife Program (FWP), including 2004 mainstem amendments. These basinwide strategies pertain principally to (1) the "naturalization" of the mainstem environment, (2) improving juvenile and adult mainstem passage, and (3) dissemination of data and information for research, monitoring, evaluation, decision support, and program oversight.
Finally, this contract provides (1) Internet-based data integration, management, and presentation services as well as (2) juvenile and adult mainstem passage modeling supporting federal decisions affecting the operation of the FCRPS. These services compliment but do not replace services provided by the Fish Passage Center, StreamNet, PTAGIS, etc. which, along with services provided by this contract, provide a regional information service to all interested parties.

The DART project provides the region web-based access to specialized fish analysis tools developed at Columbia Basin Research by the research groups of Drs. Anderson and Skalski. Analysis capabilities provided by these web integrated tools include:

- Analysis of the real-time movement of juvenile salmon and steelhead through the hydrosystem using smolt migrating timing predictions (Realtime) developed by Dr. Skalski and a juvenile passage predictions (CRiSP) developed by Dr. Anderson

- Prediction of adult salmon upstream passage timing and run size uses models developed by Dr. Anderson

- Web available flexible querying and analyses of estimated smolt-to-adult ratios for Coded Wire Tagged stocks from Washington, Oregon, and Idaho

- Web available flexible querying and analyses of juvenile fish survival identified by stock and release groups using statistical software (SURPH) developed by Dr. Skalski

- Detailed analysis of adult PIT tag returns including age structure, travel time, conversion rates of PIT-tagged adult migrants from Bonneville to upstream projects

- Detail and summary statistics of PIT-tagged ESU stocks, including detailed passage timing

- On-line analytical processing for reach specific survival and travel time estimates.

These features and others provided by the DART website are not available at other regional facilities such as the Fish Passage Center or PSMFC. Thus, DART provides unique and valuable analysis services for hydrosystem operations planning, real-time monitoring, and post-season analysis of passage conditions. In providing specialized analysis, DART compliments the Fish Passage Center responsibilities for housing passage data and providing technical assistance to the agencies and tribes. While the Fish Passage Center is charged with assisting agencies and tribes in developing requests for flow and spill programs, DART compliments this function by providing regional groups an independent source of integrated information and additional analysis capabilities for evaluating water and fishery actions.

1996-020-00 - Pit Tagging Spring/Summer Chin (Expense) Pacific States Marine Fisheries Comm

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.

Accomplishments

The CSS has provided valuable information for the region regarding the benefits of transportation of spring Chinook juvenile migrants, reach survival estimates, delayed mortality, smolt to adult returns from individual hatcheries as well as aggregates of specific tributary groups, smolt to adult returns via route of passage, i.e. transportation, bypass or in-river passage. The CSS has provided data that is utilized for in-season passage management. The data and analysis being generated through the CSS study has directly addressed the prevailing fish passage and mitigation management questions. The CSS has provided life cycle data on the groups of marked hatchery and groups of wild spring Chinook data from the CSS mark groups is available to others for additional analysis and is routinely utilized by NOAA fisheries in their analysis of survival and smolt to adult returns. A regional CSS workshop was held which considered and reviewed data and evidence supporting various hypotheses, relating to fish passage and migration through the Columbia and Snake rivers.

Goals

The goals for the CSS for 2006 are to continue PIT tag mark and release groups of hatchery spring Chinook, wild spring Chinook and wild steelhead in order to calculate; smolt to adult returns by route of passage (bypass, transportation or in-river migration), reach survival estimates, passage timing, travel time, estimates of delayed mortality and confidence intervals on each of those parameters. PIT Tag mark groups are anticipated to include:
•Dworshak-52,000-spring Chinook
•McCall-52,000-spring Chinook
•Carson-15,000-spring Chinook
•Rapid River-52,000-spring Chinook
•Salmon River Trap-5,000-wild Chinook
•Clearwater River Trap-3,250-wild Chinook
•Clearwater R. trap-1,400-wild steelhead
•Snake River Trap-2,000-wild Chinook
•Various IDFG traps-14,500-wild Chinook
•Imnaha R. AP-21,000-spring Chinook
•Catherine Creek AP-21,000-spring Chinook
•Grande Ronde R. trap-1,350-wild Chinook

In addition we anticipate that the CSS Oversight Committee will complete the CSS Status report for 2005 in 2006 which will include analysis of downstream passage data through 2006 and analysis of adult returns through 2005 and will complete the design for the 2007 CSS study, in 2006.

CURRENT Metric / Work Element	Value or description
Mark/Tag Animals	A total of 240,500 fish will be marked with PIT tags for this study, marking will be conducted by Idaho Department of Fish and Game, Oregon Department of Fish and Wildlife, and the US Fish and Wildlife Service.
Collect/Generate/Validate Field and Lab Data	Marking entities prepare, validate, and submit tagging files
Manage and Administer Projects	IDFG, USFWS, ODFW and PSMFC have indirect costs relative to management and administration of the project including personnel costs and purchase of tags.

Install Fish Trap/Monitoring Weir	IDFG installs, operates, and maintains the Clearwater River trap.
Analyze/Interpret Data	The CSS Oversight Committee analyzes and interprets the data generated through the CSS.
Produce Annual Report	The CSS Oversight Committee produces a final Annual Status Report from the Draft Status Report prepared by the FPC.

1996-020-00 - Pit Tagging Spring/Summer Chin (Expense) Pacific States Marine Fisheries Comm

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.

Accomplishments

Successfuly PIT tagged 15,000 Brood Year 2004 spring chinook at Carson National Fish Hatchery, 10,000 Brood Year 2004 spring chinook at Leavenworth National Fish Hatchery, and 52,000 Brood Year 2004 spring chinook at Dworshak National Fish Hatchery within the FY2005 budget provided. The Service supplied all marking equipment, staffing and contract services to accomplish the marking project. PIT tags were supplied by PSMFC.

Goals

2006 goals are to continue to provide tagging support services for the Pacific States Marine Fisheries Commission and Fish Passager Center as the Service has in the past by tagging the requested number of fish for the comparitive survival study within agreed upon budget.

1996-021-00 - Gas Bubble Disease Mon & Resea (Expense) Alec Maule

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

Accomplishments

2003 - Cleaned and serviced all dissecting microscopes; provided GBD monitoring training for all GBD inspectors; provided QA/QC support as needed.
2004 - Cleaned and serviced all dissecting microscopes; provided GBD monitoring training for all GBD inspectors; provided QA/QC support as needed. Provided annual report to BPA.
2005 - Cleaned and serviced all dissecting microscopes; provided GBD monitoring training for all GBD inspectors; provided QA/QC support as needed. Provided annual report to BPA.

Goals

2006 - Clean and service all dissecting microscopes; provide GBD monitoring training for all GBD inspectors; provide QA/QC support as needed. Provide annual report to BPA.

1996-067-00 - Manchester Spring Chinook Capt (Expense) NOAA Fisheries

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

Accomplishments

The cooperative (ODFW, IDFG, NOAA, NPT, CTUIR, and SBT) captive broodstock program has provided the safety net that has aided in preventing the extinction of Snake River spring/summer Chinook salmon. The NOAA component provided the crucial seawater rearing needed for the long term retention of these stocks anadromous traits. NOAA facilities provided marine smolt-to-adult rearing for 90% of the Salmon River and 1/3 to ½ of the Grande Ronde River captive broodstocks. The program has supplied over 2,819 maturing seawater reared adults to Oregon for use in ODFW, NPT, and CTUIR recovery activities in the Grande Ronde Basin. Over 1,875 seawater marine reared maturing fish have been supplied to Idaho to aid IDFG's and the SBT in their recovery efforts for Salmon River spring/summer Chinook salmon listed as threatened with extinction under the U.S. Endangered Species Act.

PAST Metric / Work Element	Value or description
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Purpose: ESA recovery (S)
# of fish into program, by life stage	Oregon smolts into smolt-to-adult seawater rearing program: FY05=741 BY03, FY04=716 BY02, FY03=716 BY01. Maturing adults produced: FY05=440+, FY04=463, FY03=716
# of fish into program, by life stage	Idaho smolts into smolt-to-adult seawater rearing program: FY 05=600 BY03, FY04=592 BY02, FY03=542 BY01. Maturing Adults produced: FY05=327+, FY04=256, FY03=436

Goals

The marine captive broodstock project's primary goal is to provide a safety net population that can be used to sustain ESA-listed stocks of spring/summer chinook salmon (Oncorhynchus tshawytscha) in years when no fish return from the sea. In addition, the program has the goal of generating fish that can be used to aid the rebuilding of ESA-listed populations in the Snake River Basin.

CURRENT Metric / Work Element	Value or description
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	Purpose: ESA recovery (S)
# of fish into program, by life stage	Transfer up to 750 BY04 Oregon smolts into seawater rearing program. Transfer up to 600 BY 04 Idaho smolts into seawater rearing program.

1997-023-00 - Independent Scientific Review (Expense) Pacific Northwest Electric Power

Accomplishments

The ISRP provides technical review of proposals, programs, and plans that are implemented through the Council's Fish and Wildlife Program and BPA's Reimbursable Programs. Since the Systemwide project funding decisions in 2003, the ISRP has released approximately 41 reports which contained technical reviews of subbasin plans, the Corps' Anadromous Fish Evaluation Program, Council Three-Step submittals for artificial production projects, RM&E plans, Request for Studies for hatchery and wild fish interactions, and UPA projects. These reviews have aided project sponsors in improving projects, assured the region that funded projects are technically sound, and thus ensured a high level of accountability in the Fish and Wildlife Program. ISRP reports are available on the Council's website at: www.nwcouncil.org/fw/isrp/Default.htm.

Goals

As requested by the Council, the ISRP will release reports for the following tasks:
1) Review projects proposed for Bonneville funding to implement the Council's program. In FY 2006, the ISRP will participate in a review of new proposals and ongoing projects for FY 2007. The project selection and review process is currently being developed but will likely focus review on systemwide efforts, production and habitat efforts to implement subbasin plans, and other proposals to implement the Action Agencies' Updated Proposed Actions (UPA).

2) Retrospective review of program accomplishments. Review the results of prior-year expenditures and submit findings to Council. The retrospective review should focus on the measurable benefits to fish and wildlife made through projects funded by Bonneville. The ISRP's findings should provide biological information for the Council's ongoing accounting and evaluation of Bonneville's expenditures. Also the ISRP should summarize its province review efforts and identify the major basinwide programmatic issues. By July 2005, the ISRP will release a Retrospective Report summarizing the results of past review efforts. In FY06, the ISRP will work with the Council to develop an approach to best evaluate the biologically measurable results of the Council' Program.

3) Review projects funded through Bonneville's reimbursable program. In 1998, the U.S. Congress' Senate-House conference report on the Fiscal Year 1999 Energy and Water Development Appropriations bill directed the ISRP to review the fish and wildlife projects, programs, or measures included in federal agency budgets that are reimbursed by Bonneville. These programs include the Corps' Columbia River Fisheries Mitigation and O&M Programs, the Lower Snake River Compensation Plan Program, and Leavenworth Hatchery. Some portion of these programs will be reviewed in FY 2006, either as part of provincial reviews or through the Corps' program.

1997-024-00 - Avian Predation On Juvenile Sa (Expense) OSU - Contract Administration

Description: Develop a management plan to reduce avian predation on juvenile salmonids. Implement chosen management options and evaluate their efficacy through continued monitoring of smolt losses to birds.

Accomplishments

In addition to the extensive work we have done to monitor and evaluate management actions implemented to reduce the impacts of Caspian terns on juvenile salmonids in the Columbia River estuary, we have recently increased our efforts to evaluate the impacts of other avian predator populations on the lower Columbia River. This comprehensive effort includes nesting colonies of cormorants, gulls, pelicans, and terns on the Columbia River from the mouth to the head on McNary Pool.

These recent efforts have revealed that although numbers of Caspian terns nesting in the Columbia River estuary have remained stable over the last 7 years, the numbers of double-crested cormorants nesting on East Sand Island have more than doubled during the same period to ca. 12,500 pairs. This colony is now the largest known breeding colony for the species in North America. Although juvenile salmonids represented only ca. 5% of the diet of cormorants nesting on East Sand Island in 2004, estimated smolt consumption by the cormorant colony is now comparable to that of the East Sand Island tern colony. The double-crested cormorant colony on East Sand Island has experienced high nesting success in recent years, and the colony is expected to continue to expand for the foreseeable future.

Despite the much smaller numbers of salmonid smolts consumed annually by the Crescent Island tern colony, predation rates on particular salmonid stocks have been surprisingly high, particularly in low flow years. Crescent Island terns consumed a minimum of 21% of the in-river migrating Snake River steelhead smolts in 2004. The relatively high predation rate on in-river migrants from the Snake River was, however, offset greatly by transportation, a benefit not afforded to steelhead from the Upper Columbia River ESU.

The extent of system-wide smolt losses to avian predators is being investigated as part of this research program, as are methods to reduce smolt losses to birds (e.g., relocation of nesting cormorants using habitat manipulation and social attraction).

PAST Metric / Work Element	Value or description
Remove or Relocate Predaceous Animals	Monitored upper estuary dredge disposal islands for tern nesting activity and contacted management agencies when terns attempted to nest there in 2000-2005. This monitoring helped prevent tern nesting in areas where tern impacts on salmon are high.
Produce Environmental Compliance Documentation	Work with BPA and other agencies to acquire all necessary permits (e.g., collection permits) and to insure that work meets all NEPA requirements.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	100s/100s/100s; Attend numerous seminars, workshops, seminars, and professional society meetings to present project results in each of the last three years. Just this year we organized and chaired a special predation session at the Oregon AFS meeting.
Produce Inventory or Assessment	Our research and monitoring helped assess the efficacy of management implemented to reduce the impacts of avian predators on juvenile salmonids (i.e., relocation of terns from Rice Island to East Sand Island as a way to reduce tern impacts on salmon).

Coordination	Our work includes many cooperators (e.g., USFWS, USACE, NOAA) with which we coordinate on a monthly, if not weekly, basis.
Manage and Administer Projects	Work with contractors to insure adequate habitat preparation for terns in areas where their impacts on salmonids are relatively low (East Sand Island) and to prevent tern nesting in areas where their impacts are relatively high (upper estuary).
Provide Technical Review	Reviewed and commented on the Draft EIS for Caspian Tern Management in the Columbia River Estuary. Also, reviewed and commented on other avian management plans and supporting documents (e.g., NOAA Fisheries Report).
Produce Plan	Provided technical information needed to complete the Final EIS for Caspian Tern Management in the Columbia River Estuary and other related documents.
Produce Annual Report	Research results are provided in-season (Weekly Reports) and at the completion of the field season (Season Summaries). These have been provided in each of the last three years and are available online (www.columbiabirdresearch.org).
Produce/Submit Scientific Findings Report	Since the ISRP last reviewed our research program (2003), we have had 12 manuscripts published in the peer-reviewed literature, two manuscripts are either in press or in review, and many more manuscripts are in preparation.
Develop RM&E Methods and Designs	Development of custom data collection forms for PDAs that improve the efficiency, accuracy, and consistency of data collection. Administration of project web site (www.columbiabirdresearch.org) for dissemination of project results.
Mark/Tag Animals	We banded nearly 1,500 Caspian terns over the past three years so that we can monitor inter-colony movements of birds and assess different demographic metrics (e.g., survival rates, rate of population increase).
Submit/Acquire Data	PIT tag data acquired as part of our research program are uploaded to PITAGIS. Banding records are submitted to the Bird Banding Lab at the Patuxent Wildlife Research Center. Collections of wildlife specimens are reported to Federal and State agencies.
Manage/Maintain Database	Project data (1997-2005) is validated, normalized, and stored in a secure centralized database for project personnel to use.
Disseminate Raw & Summary Data	Developed and maintain project web page (www.columbiabirdresearch.org) that disseminates project information including background, in-season weekly reports, reports, and publications. Band resightings can also be reported through our project web page.

Analyze/Interpret Data	Bioenergetic modeling and PIT tag recoveries are used to assess the magnitude of avian predation on juvenile salmonids. An age-structured matrix population modeling framework is used to determine the benefits of bird management to salmon survival.
Collect/Generate/Validate Field and Lab Data	Collect samples to evaluate diet composition of avian predator populations. Contractors take and analyze aerial photos to determine colony size

Goals

The Final EIS for Caspian tern management in the Columbia River estuary lists the redistribution of the majority of the East Sand Island colony to alternative colony sites outside the Columbia Basin as the preferred alternative. A goal of our research will be to monitor and evaluate the effects of the implementation of the preferred alternative. We will assess how management affects the distribution of terns on the Columbia River from the estuary to the head on McNary Pool and will notify management agencies if terns displaced from East Sand Island attempt to nest elsewhere along the Columbia River. We will quantify the system-wide impacts of terns on smolt survival to evaluate whether tern management in the estuary reduces tern predation. Results from our study will be provided to resource managers in-season so that terns can be adaptively managed.

Management options to reduce smolt losses to the expanding double-crested cormorant colony on East Sand Island have yet to be considered and will require additional research and NEPA analysis. Another goal of our research will be to collect the information necessary to critically evaluate the benefits to juvenile salmonids of managing cormorants in the estuary. We will generate precise and reliable estimates of smolt consumption, determine the cause(s) for the expansion of the estuary population, assess the boundaries of the management unit that includes the East Sand Island colony, and amass the demographic data to predict the population trajectory and future risks from cormorant predation on smolt survival. Finally, we will evaluate the efficacy of various options for managing cormorants to reduce their impacts.

Lastly, our research will provide a basin-wide assessment of the distribution, colony size, and population trajectories of fish-eating waterbirds along the lower Columbia River. Predation impacts of those colonies posing the greatest risk to salmon survival will be thoroughly investigated, as will the management options to reduce those impacts.

CURRENT Metric / Work Element	Value or description
Remove or Relocate Predaceous Animals	Determine if terns displaced from East Sand Island attempt to nest elsewhere along the Columbia River (e.g., upper estuary or further upriver). This monitoring will help to ensure that tern management goals in reducing smolt consumption are met.
Produce Environmental Compliance Documentation	Work with BPA and other agencies to acquire all necessary permits (e.g., collection permits) and to insure that work also meets all NEPA requirements.
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	100s/100s/100s: Will attend numerous seminars, workshops, seminars, and professional society meetings to present project results.
Produce Inventory or Assessment	Monitor affects of tern management as outlined in the Final EIS. Provide a basin-wide assessment of the distribution, colony size, and population trajectories of fish-eating waterbirds along the lower Columbia River and assess predation impacts.

Coordination	Our work will include many cooperators (e.g., USFWS, USACE, NOAA) with which we coordinate on a monthly, if not weekly, basis.
Manage and Administer Projects	Provide technical assistance to contractors in the preparation or removal nesting habitat, and the attraction or dissuasion of nesting birds.
Provide Technical Review	Review and provide comments on any forthcoming NEPA documents, management plans, or other relevant predation-related documents. Provide technical assistance in the implementation of the tern EIS.
Produce Plan	Provided technical information needed to complete any forthcoming NEPA documents, management plans, or other relevant predation-related documents.
Produce Annual Report	Research results will be provided in-season and at the completion of the field season at www.columbiabirdresearch.org. Project web page will be expanded to include information on other avian predator populations.
Produce/Submit Scientific Findings Report	During the FY06 contract period we expect to have at least two papers published in the peer-reviewed literature and several others either in press, in review, or in preparation.
Develop RM&E Methods and Designs	We will continue to automate data collection using custom data collection forms for PDAs and other technologies.
Collect/Generate/Validate Field and Lab Data	Collect samples to assess diet composition and estimate consumption. Aerial photos to estimate colony size. Assess populations status and movements of cormorants.
Mark/Tag Animals	We will band Caspian terns and other fish-eating birds, as allowed, to assess inter-colony movements and various demographic metrics.
Submit/Acquire Data	PIT tag data acquired as part of our research program will be uploaded to PITAGIS. Banding records will be submitted to the Bird Banding Lab at the Patuxent Wildlife Research Center. Collections of wildlife specimens will be reported to Federal and Stat
Manage/Maintain Database	Project data collected in 2006 will be validated, normalized, and stored in a secure centralized database containing all previously collected project data (1997-20045).
Disseminate Raw & Summary Data	Continue to developed and maintain project web page (www.columbiabirdresearch.org) that disseminates project information including background, in-season weekly reports, reports, and publications, to include information on other avian predator populations.

Analyze/Interpret Data	Bioenergetic modeling and PIT tag recoveries will be used to assess the magnitude of avian predation on juvenile salmonids. An age-structured matrix population modeling framework will be used to determine the benefits of bird management to salmon surviva

1998-004-01 - Columbia Basin Bulletin (Expense) Intermountain Communications

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.

Accomplishments

The CBB has been part of the Northwest Power and Conservation Council's Fish and Wildlife Program since June 1998, and since its 2003 Provincial Review recommendation, the CBB's use by Basin stakeholders continues to increase.

The weekly e-mail report (and web postings) remains a cost-efficient information tool that responds to the Council's and Federal Agencies' emphasis on the need for information dissemination, public involvement and cooperation among all parties involved in fish and wildlife restoration.

Since 2003, the CBB has adjusted to reduced funding levels and maintain the integrity and value of the project for stakeholders.

The CBB began with about 300 names from an initial subscriber solicitation. The e-mail newsletter now has about 4,000 direct e-mail subscribers, with readership much higher due to distribution in large offices and routing forwarding from subscribers to non-subscribers, but readers. The CBB website consistently receives heavy use. For example, in April 2005 alone, in addition to the e-mail readership, the CBB site received 8,902 page views.

The CBB continues to be the best source of information for stakeholders seeking complete, timely, objective news and information about Columbia Basin Fish and Wildlife issues and developments. Because of its value as a unique, successful public information tool, fish and wildlife managers, the Independent Science Review Panel, the NPCC, and Bonneville Power Administration have approved the CBB for funding during three Council/BPA project funding processes.

Goals

With Fiscal Year 2006 funding, The Columbia Basin Bulletin will continue to offer objective, timely, trustworthy information about fish and wildlife issues important to Columbia River Basin fish and wildlife policy development. The newsletter in FY2006 will assist Northwest policy makers and other stakeholders in keeping up with the range of meetings and materials related to fish and wildlife issues.

Coverage will provide:
• an understanding of the scope of technical information used in policy decisions;
• an understanding of the multiple perspectives included in decision making;
• a presentation of various positions addressed in the decision process;
• a presentation of the political and technical constraints incorporated in decisions.

Throughout Fiscal Year 2006, the Columbia Basin Bulletin will continue to increase the number of e-mail subscribers and website use.

1998-031-00 - Implement Wy-Kan-Ush-Mi Wa-Kis (Expense) Columbia River Inter-Tribal Fish Co

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.

Accomplishments

CRITFC has provided assistance to the four member Tribes in various regional processess of the BPA, NPCC and CBFWA, PCSRF, subbasin plan development, development of a MOA with BPA, contracting, packaging new tribal projects, budget development, FCRPS Biological Opinion, the APRE and HGMP developments and the Fish and Wildlife Amendments. CRITFC has also provided coordination between the Tribes and project cooperators to insure projects are consistent with Wy-Kan-Ush-Mi Wa-Kish-Wit and the NPCC Fish and Wildlife Program. CRITFC also has promoted cost sharing of subbasin watershed projects with tribal, federal, state, local and private agencies.

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	We worked with 35 students from the Native American Youth Association. We have sent out approximately 200 copies of the Watershed Handbook, 500 Pacific Coastal Salmon Recovery Fund (PCSRF) brochures, 2000 PCSRF calendars, organized 4 workshops.
Coordination	We have attended all monthly meetings with the NPCC and CBFWA providing the tribal perspectives and concerns and coordinating with all the agencies and Tribes. We have been involved with the PCSRF, the Pacific Salmon Commission and the PNAMP.
Provide Technical Review	CRITFC staff provided technical review on the tribal subbasin plans, HGMPs, APREs, developing PCSRF and PSC Southern Fund and other agency project proposals consistent with the Wy-Kan-Ush-Mi Wa-Kish-Wit tribal restoration plan.
Produce Plan	CRITFC staff worked with the Tribes on all of their subbasin plans, HGMPs, APREs, subbasin implementation plans, RM&E plans, and restoration plans over the years.
Produce Annual Report	The annual report, along with all of the quarterly reports, have been submitted to BPA and available for review. All of the deliverables indicated were produced such as the PCSRF calendar and brochure, and maps of tribal BPA and PCSRF projects.
Produce Status Report	Status of quarterly reports are all available at the BPA.
Manage/Maintain Database	CRITFC maintains and structured database of all the tribal PCSRF projects (currently at 125). There is great detail for each project and it is continually updated with the project's progress. We also have a database/GIS of tribal BPA projects
Disseminate Raw & Summary Data	We continually update our PCSRF brochure with the most current data and provide maps of BPA and PCSRF projects. This information is available to the public at our website and through NOAA FIsheries for the PCSRF information.

Systemwide Systemwide

Goals

CRITFC hopes to continue with all of the goals/metrics stated above along with providing assistance to the four member Tribes on all Columbia Basin regional processes such as implementation of the subbasin plans, salmon recovery plans, fish and wildlife amendments, and cost share opportunities/partnerships. CRITFC plans on continuing to update and expand GIS maps of tribal salmon restoration projects, along with publishing and distributin outreach materials on tribal salmon restoration efforts. CRITFC plans on working with BPA interns over the summer.

1999-003-01 - Salmon Spawning Below Lower Co (Expense) Pacific Northwest National Laborator

Description: Monitor, protect, and enhance the spawning populations of fall chinook and chum below Bonneville Dam. Search for evidence of fall chinook spawning below The Dalles, John Day, and McNary dams.

Accomplishments

The purpose of this project is fourfold: (l) Document the existence of fall chinook populations spawning just below Bonneville, The Dalles, John Day, and McNary dams; (2) profile stocks for important population characteristics; including spawning time, emergence timing, emigration size and timing, and juvenile to adult survival rates, and relate these population characteristics to river flows and water temperatures; (3) determine habitat requirements that are necessary for successful fall chinook and chum spawning and rearing in the mainstem Columbia River; and (4) conduct chum spawning ground surveys from The Dalles Dam downstream.

It is not possible to summarize in the narrative space provided all the accomplishments that have been made since the last Council review in 2003. Rather, we have summarize task specific accomplishments in the metric/work element format provided.

PAST Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	Collected use and nonuse data for spawning fall Chinook and Chum Salmon as well as rearing fall chinook. Data collected was used to build a logistic regression model to develop probability models. 2000-2002
Collect/Generate/Validate Field and Lab Data	Collected Physical data necessary to construct hydrodynamic model below John Day Dam (2003-2004).
Analyze/Interpret Data	Conducted Hydrodynamic Modeling below Bonneville Dam encompassing the areas used for spawning and rearing by fall Chinook and chum salmon
Analyze/Interpret Data	Quantified Habitat for Fall Chinook and Chum Salmon Spawning and rearing below Bonneville dam (2002)
Analyze/Interpret Data	Within a Geographical information system (GIS) we modeling spawning and rearing habitats as probability coverages for the likely range of river flows (90-160 kcfs) below Bonneville dam (2002).
Disseminate Raw & Summary Data	Provided Chum Habitat and In-season Management Data to Managers (1998-present)
Collect/Generate/Validate Field and Lab Data	Collected Data from 2 Remote Recording Water Level Monitors (2004-2005).
Develop RM&E Methods and Designs	Maintained Remote Water Level Recording Monitors (1998-present). Water level and temperature recorders capable of remote data access will be maintained near fall chinook and chum salmon spawning sites downstream from Bonneville Dam (including I-205).
Collect/Generate/Validate Field and Lab Data	Conducted Deep Water Fall Chinook Redd Surveys Below John Day Dam (2002-2005).
Collect/Generate/Validate Field and Lab Data	Conducted Fall Chinook Diel Spawning Habitat Use Surveys below John Day Dam to determine the temporal distribution of fall chinook spawning (2005).

Analyze/Interpret Data	Conducted Preliminary Hydrodynamic Modeling below John Day Dam (2003-2004).
Collect/Generate/Validate Field and Lab Data	Conducted Reconnaissance level Deep Water Fall Chinook Redd Surveys below McNary and The Dalles dams (2002-2005).
Collect/Generate/Validate Field and Lab Data	Collected data to construct a new and spatially comprehensive Chum salmon hydrodynamic model from Below Bonneville Dam to Interstate 205 (2004-2005).
Manage/Maintain Database	Maintained and Updated Internet-Based Data Access to Habitat models for Fisheries/Hydrosystem Management (2004-2005).
Collect/Generate/Validate Field and Lab Data	Documented and mapped 214 fall Chinook salmon redds and 776 chum salmon redds (2002) and mapped 190 fall Chinook salmon redds and 262 chum salmon redds (2003) in the Ives/Pierce island complex (peak counts).
Disseminate Raw & Summary Data	
Mark/Tag Animals	Applied CWTs to 10,076 juvenile fall Chinook salmon captured in the Ives/Pierce island complex (2003); applied CWTs to 24,657 juvenile fall Chinook salmon captured in the Ives/Pierce Island complex (2004)
Analyze/Interpret Data	Produced population estimates for adult fall Chinook salmon and chum salmon in the Ives/Pierce island complex (2003-2004).
Disseminate Raw & Summary Data	Maintained real time empirical data and analyses on the Fish Passage Center website (2003-2004).
Collect/Generate/Validate Field and Lab Data	Characterized emergence timing and length at outmigration for juvenile Chinook and chum salmon below Bonneville Dam (2003-2004).
Collect/Generate/Validate Field and Lab Data	Documented and mapped 336 deepwater fall Chinook redds below Bonneville Dam (2003) and 293 (2004). Characterized substrate near deepwater redds and collected velocity data near select redds (2003-2004)
Collect/Generate/Validate Field and Lab Data	Verified that chum, chinook and coho fry were stranded in the Ives/Pierce island complex as a result of river flow fluctuations.
Disseminate Raw & Summary Data	Provided in-season hydrosystem management recommendations to salmon managers and hydrosystem operators regarding spawning habitat conditions and flows required for chum salmon to complete incubation and emergence.
Collect/Generate/Validate Field and Lab Data	Established 3 additional temperature and water level telemetry stations providing real-time temperature and water level data to the fish passage center to be used by the agencies to improve emergence timing estimates (2004).
Analyze/Interpret Data	Evaluated spawning habitat quality based on grainsize distribution and riverbed permeability (2004).

Collect/Generate/Validate Field and Lab Data	Collected spawning area subsurface grainsize and permeability distribution (24 freeze cores and slug tests at 8 Ives Island locations; 2004).
Analyze/Interpret Data	Analyzed effect of Bonneville Dam operation on hyporheic flow and temperature gradients; statistical and graphical analysis of temperature and water level data from Ives area piezometers (2004-2005).
Collect/Generate/Validate Field and Lab Data	Collect diel behavioral data on spawning chum salmon (2003)
Analyze/Interpret Data	Quantified diel differences in chum spawning behaviors (2003)
Mark/Tag Animals	Tag 27 chum salmon with acoustic tags to evaluate water level changes on spawning behavior (2004)
Analyze/Interpret Data	Quantify flow-dependent changes in juvenile fall Chinook rearing habitat (2004)

Goals

The primary goal of this project remains unchanged since the last review, and is to collect data concerning fall Chinook and chum spawning just below the four lowermost Columbia River mainstem dams so that the hydrosystem can be managed in a manner to protect and enhance these spawning populations. Specifically, during FY06 the project goals are to:

Continue to document evidence of fall Chinook and chum salmon spawning in the Columbia River below Bonneville Dam, determine if fall Chinook and chum salmon are spawning successfully in the Columbia River below Bonneville Dam, and collect biological data to profile fall Chinook and chum salmon spawning in the Columbia River below Bonneville Dam and determine stock origin.

Determine emergence timing, emigration time, and size for fall Chinook and chum salmon rearing in the Columbia River below Bonneville Dam and mark juvenile fall Chinook salmon captured in the Columbia River below Bonneville Dam with coded-wire tags to determine juvenile to adult survival rate.

Continue to monitor Ives Island area intragravel water elevations to identify redd dewatering.

Document and map chum salmon spawning in Washington and Oregon tributaries from The Dalles Dam downstream, and develop population estimates for spawning chum salmon in the tributaries.

Conduct deep water redd surveys below Bonneville Dam, John Day Dam, The Dalles Dam, and McNary Dam.

Validate Hydrodynamic/Habitat model constructed below John Day with FY06 use data and propose Dam Operations to optimize spawning Habitat for mainstem fall Chinook Salmon.

Continue to collect data necessary to construct a new and spatially comprehensive Chum and Fall Chinook salmon hydrodynamic model from Below Bonneville Dam to Interstate 205.

Conduct a second year of Fall Chinook diel spawning habitat Use surveys below John Day Dam.

Complete Ives area hyporheic data analysis and interpretation activities and submit results to peer reviewed journals.

Conduct a second year of evaluating the effects of high experimental flow on chum salmon behavior.

1999-003-01 - Salmon Spawning Below Lower Co (Expense) Pacific Northwest National Laborator

Description: Monitor, protect, and enhance the spawning populations of fall chinook and chum below Bonneville Dam. Search for evidence of fall chinook spawning below The Dalles, John Day, and McNary dams.

Accomplishments

2003-2005 Provided in-season hydrosystem management recommendations to salmon managers and hydrosystem operators regarding spawning habitat conditions and flows required for chum salmon to complete incubation and emergence.
2003-2005 Maintained real time empirical data and analyses availability on the Fish Passage Center web site.
2004 Applied CWTs to 24,000 juvenile fall chinook captured in the Ivs/Pierce island complex.
2003-2005 Incorporated data collected from piezometers to estimate emergence timing for chinook and chum in the Ives/Pierce island complex.
2003-2004 Documented evidence of fall chinook spawning below Bonneville Dam.
2003-2004 Produced population estimates for fall chinook and chum in the Ives/Pierce island complex.
2003-2005 Maintained real time empirical data and analyses availability on the Fish Passage Center web site.
2003-2005 Collected information pertaining to the physical and biological aspects of chum/chinook/coho stranding/entrapment in the Ives/Pierce island complex.
2003-2005 Verification that chum, chinook and coho fry were stranded in the Ives/Pierce island complex as a result of river flow fluctuations.
2003-2005 Determined emergence timing for chinook and chum in the Ives/Pierce island complex and verified accuracy of preseason estimates.
2003-2005 Estimated emergence timing for chinook and chum in the Ives/Pierce island complex.
2003 Applied CWTs to juvenile fall chinook captured in the Ives/Pierce island complex.

Goals

2006 Provide in-season hydrosystem management recommendations to salmon managers and hydrosystem operators regarding spawning habitat conditions and flows required for chum salmon to complete incubation and emergence.
2005-2006 Maintained real time empirical data and analyses availability on the Fish Passage Center web site.
2005-2006 Applied CWTs to juvenile fall chinook captured in the Ives/Pierce island complex.
2006 Incorporate data collected from piezometers to estimate emergence timing for chinook and chum in the Ives/Pierce island complex.
2005 Document evidence of fall chinook spawning below Bonneville Dam.
2006 Produce population estimates for fall chinook and chum in the Ives/Pierce island complex.
2005-2006 Maintain real time empirical data and analyses availability on the Fish Passage Center web site.
2006 Collect information pertaining to the physical and biological aspects of chum/chinook/coho stranding/entrapment in the Ives/Pierce island complex.
2006 Verify if chum, chinook and coho fry are stranded in the Ives/Pierce island complex as a result of river flow fluctuations.
2006 Determine emergence timing for chinook and chum in the Ives/Pierce island complex and verify accuracy of preseason estimates.
2006 Estimate emergence timing for chinook and chum in the Ives/Pierce island complex.

2000-007-XX - Erythromycin Infrastucture (Expense) U of Idaho

Accomplishments

1. We completed and submitted for review to the Food and Drug Administration a Qualitative Risk Assessment:Hazard Identification and Characterization, Release Assessment; Exposure Assessment; Consequence Assessment;and Overall Risk Estimate Assessment using Guidance Document 152. This was a critical milestone for the project.
2. We obtained certification that Bimeda Inc. will support the manufacturing claim for erythromycin Type A premix (Aquamycin 100) to control bacterial kidney disease in salmon, under the Minor Use Minor Species (MUMS) designation.
3.We have a manuscript accepted in the North American Journal of Aquaculture summarizing the results of one of the two trials used as support data for the Risk Assessment (referenced in point 1).
4.We interacted with Dr. Meg Oeller and others at Center for Veterinary Medicine FDA and Biomeda Inc. (drug company sponsor) regarding the proposed schedule of activities to complete approval of erythromycin.
5) We have scheduled a pre-approval conference with FDA and the Bimeda representatives regarding details of the manufacturing and product chemistry submissions that they will provide for the product.
6) We compiled a summary of product use and potential worst case discharges and risk characterizations using the Guidance 89 and 166 for Environmental Assessments.
7) We are working on the final data requirement for the Environmental Assessment (item 6) with assistance from NRSP-7 program of the Dept of Agriculture.

PAST Metric / Work Element	Value or description
Produce/Submit Scientific Findings Report	We have published one refereed article in 2004 and have one in press for 2005.
Produce/Submit Scientific Findings Report	We have prepared and submitted two major data summaries to the US Food and Drug Administration using their guidance documents.
Produce Annual Report	We have provided annual reporting of accomplishments by objective.

Goals

We would complete communications with the drug sponsor and FDA regarding final details of drug approval if needed.

2000-017-00 - Recondition Wild Steelhead Kel (Expense) Columbia River Inter-Tribal Fish Co

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.

Accomplishments

We have successfully developed and refined kelt steelhead husbandry techniques that could be implemented at other locations. In some years, long-term survival and rematuration rates have exceeded 60% and 90%, respectively. This resulted in an escapement increase of 7.3% in 2002-03. Diet formulations have been developed, tested, and compared.

We have developed several potential kelt steelhead management scenarios that we are evaluating and testing. Management scenarios include 1.)long-term reconditioning where individuals are held and fed for approximately 8 months then released for natural spawning; 2.) short-term reconditioning and transport, where kelts are collected and fed for 4 to 6 weeks and then trucked and released below Bonneville Dam; and, 3.) direct transport and release, where kelts are collected and transported to below Bonneville dam and released without being held or fed in captivity.

For the short-term reconditioning and direct release scenarios we have been collecting information on travel time, survival, estuary residence time, ocean entry and return timing using biotelemetry techniques. One open ocean detection has been made.

In 2004, we began investigations into gamete and progeny viability from artificially reconditioned steelhead.

PAST Metric / Work Element	Value or description
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S/R
# of fish by origin (ad-clip/non-clip)	1200 non-clip
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	S/R
# of fish into program, by life stage	800 reconditioned adults/year
# of fish into program, by life stage	800 reconditioned adults/year
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	R
# of fish transported	400

Goals

1. Evaluate effects of directly transporting steelhead kelts around the hydro system on enhancement of iteroparity.

2. Evaluate effects of short-term kelt reconditioning and subsequent transportation of kelts around the hydro system on enhancement of iteroparity.

3. Evaluate effects of long-term kelt reconditioning and subsequent release for natural spawning on enhancement of iteroparity.

4. Evaluate effects of long-term kelt reconditioning and captive spawning on: a) gamete and progeny viability; and b) enhancement of iteroparity.

5. Comprehensive project evaluation and management recommendations.

CURRENT Metric / Work Element	Value or description
Develop RM&E Methods and Designs	Develop research plan for gamete viability study.
Collect/Generate/Validate Field and Lab Data	Collect telemetry data on kelt steelhead as they move through the lower Columbia River and into the ocean. Data generated will include travel time, and survival.
Analyze/Interpret Data	Compare and contrast different management approaches each utilizing kelt steelhead. Approaches will range from very low cost / low intervention to higher cost / intense intervention.

2001-003-00 - Adult Pit Detector Installatio (Expense) Pacific States Marine Fisheries Comm

Description: Provides for procurement of PIT tag interrogation system electronic components and labor for assembly and installation in adult fish ladders at Ice Harbor, Lower Granite and the Dalles in FY02/03 and at John Day, Lower Monumental and Little Goose in FY03.

Accomplishments

PAST Metric / Work Element	Value or description
Manage and Administer Projects	Project management for coordination with Corps, database management system updates and final installations at new sites.
Manage/Maintain Database	Perform activities to make site specific information available in web interfaces, and other ptagis database management tools
Coordination	Coordinate with Corps and Corps contractors for final installation of PIT system electronics.
Install Fish Trap/Monitoring Weir	2003: Installation of 16 antennas at Ice Harbor.
Install Fish Trap/Monitoring Weir	2004: Conversion of four 400kHz PIT tag coils to ISO standards at Lower Granite adult trap and four 400kHz PIT tag coils to ISO standard at Bonneville adult trap. Last milestone for ISO conversion project initiated in 1996.
Install Fish Trap/Monitoring Weir	2003: Installed 8 detectors at Lower Granite adult ladder.
Install Fish Trap/Monitoring Weir	2005: Installed four vertical slot antennas at Bonneville dam Washington Ladder.
Mark/Tag Animals	Mark fish for adult fish evaluations at BON, ICH and GRA.
Develop RM&E Methods and Designs	Develop study design for evaluation of adult detection systems at BON, MCN, ICH and GRA.
Analyze/Interpret Data	Perform evaluation of adult PIT tag detection efficiencies at BON, MCN, ICH and GRA.

Goals

1.1. Inspect installation and provide feedback to COE.
PSMFC Maintenance personnel are tasked with inspecting key components of the installation. These key components include ensuring that the electrical and mechanical design along with the communications schema is adhered to by the general contractor. When deficiencies are noticed or issues arise that may not have been considered during the initial design phase, PSMFC relay's these concerns to the COE-COTR for review and consideration. This process helps ensure that PIT-tag detection system performs as expected upon completion.
1.2. Installation of the High Speed Interface Panel (HSIP).
Currently, there is an abandon electrical enclosure located in the AFF PIT-tag room that will be re-used and upgraded to receive the data from the Slot antenna transceivers. This task will include the installation of fiber optic modem nests, expansion chassis and additional serial cabling within the panel. This task may also include some associated electrical work.
1.3. Reconfigure the data collection platform.
This task will include putting together all the required hardware components along with configuring the data collection software, networking components and miscellaneous cabling required when introducing a new platform into the PTAGIS system.

1.4. Terminate fiber optics communication cables.
The termination of fiber optic (FO) cabling from the transceiver enclosures to the FO patch panel in the AFF will be done by contractor. PSMFC will ensure that the FO terminations are tested and are operational. FO cables that extend from the patch panel to the HSIP will be installed by PSMFC. Some termination of this cable maybe necessary and will be performed by PSMFC. PSMFC will also be responsible for the temporary relocation of the existing fiber runs that provide a data link to 3 other systems located at Bonneville dam that are currently active. This is necessary due to activities listed in section 1.5.
1.5. Install surface mount raceways in PIT-tag room.
The existing surface mount raceway will need to be re-routed to the FO patch panel's new location. In addition, additional raceway may need to be installed at other locations within the room to accommodate the FO cable from the FO Patch Panel to the new HSIP.
1.6. Lab-test the modified FS1001A transceivers.
The test will consist of installing the transceivers in the Kennewick lab test bed and connecting them to an antenna that has approximately the same inductive value as the production antennas.
The transceivers will then be tuned and calibrated. The transceivers will be checked for functionality with relative to their menu options and may be subjected to a series of belt tests. First and foremost, the transceivers will be left in the "On" or in the "Read state" for as long as time permits in order to emulate a "Burn-in" cycle.
1.7. Install the modified FS1001A transceivers.
The mounting of the transceivers onto the back panel only requires the installation of 4 bolts. However, at the same time, the transceivers internal parameters will be have to be configured along with flashing the internal EEPROM with hard coded parameters. This requires a laptop computer connected to the transceiver that downloads a file with specific information.
1.8. Organize enclosures and install cable ends.
The organization of the AC power cables, exciter cables and FO cable require the mounting of Velcro Rip-Ties every 6 to 8 inches on the inside perimeter of 4 enclosures. Each of the 4 exciter cables will then need to be terminated with the standard male connector that mates with the transceiver socket.
1.9. Test and trouble shoot entire system.
This task will involve a complete calibration of the transceivers and tuning of antennas; verify successful communications from the transceivers back to the PIT-tag data collection platform, Validate antenna ID's with respect to the software configuration and verify that communications from the Data collection platform to the PTAGIS database has been established.
1.10. Document and label final installation.
This process will involve the labeling of the transceiver enclosures with their associated weir and antenna id's, labeling of the HSIP panel per standard PSMFC numbering conventions, along with documenting the final transceiver settings. Additionally, the task will ensure that the transceiver and antenna calibration / flow travelers are complete, along with any other pertinent information that is of use in describing the system as a whole.
1.11. Project Management
Provide logistical and resource planning and organizing. Monitor project status; prepare weekly status reports, site visit inspections. Take action to keep project deliverables on time and within budget.
1.12. Database Configuration
Perform activities to make site specific information available in web interfaces, and other ptagis database management tools

CURRENT Metric / Work Element	Value or description
Coordination	Coordinate installations at BON and MCN with Corps and contractors.
Manage and Administer Projects	Plan, organize, direct and control final installation project activities.
Provide Technical Review	Provide technical review of Corps plans and specs for installations at BON and MCN.

Produce Design and/or Specifications	Develop specifications for inclusion of new detectors into new or existing sites. Includes wiring diagrams, site configuration maps, etc.
Install Fish Trap/Monitoring Weir	Install four new detectors at Bradford Island fish ladder at BON. Install three to four new detectos at MCN Washington shore ladder.
Collect/Generate/Validate Field and Lab Data	Collect detection data and detector diagnostic information to perform tuning of detection systems at BON and MCN new site installations.
Mark/Tag Animals	Mark fish for evaluation of new detection systems at BON and MCN adult ladders.
Submit/Acquire Data	Transmit tagging and detection data for fish evaluation to PTAGIS.
Manage/Maintain Database	Develop new site confiugration schema and site configuration maps for BON and MCN installations. Update PTAGIS server side processes.
Disseminate Raw & Summary Data	Provide efficiency and other related data to interested parties as appropriate.
Analyze/Interpret Data	Analyze detection efficiency information from live fish evaluations and develop meaningful information for decision makers.
Produce/Submit Scientific Findings Report	Produce final technical report of detection efficiencies at adult fish ladders.

2001-005-00 - GIS Support for Subbasin Planning (Expense) NPCC

Accomplishments

Goals

2001-046-00 - Applied Fish Science Center (Capital) Columbia River Inter-Tribal Fish Co

Description: To enhance the capacity for critical research and development of supplementation methods and consequent links to natural productivity, leading to HGMPs, Benefit/Risk analyses and population management plans.

Accomplishments

Please see "other comments"

Goals

Please see "other comments"

2001-046-00 - Applied Fish Science Center (Capital) Columbia River Inter-Tribal Fish Co

Description: To enhance the capacity for critical research and development of supplementation methods and consequent links to natural productivity, leading to HGMPs, Benefit/Risk analyses and population management plans.

Accomplishments

Goals

2001-055-00 - Salmonid Response To Fertiliza (Expense) NOAA Fisheries

Description: Experimentally evaluate the effects of marine derived nutrients on populations of Snake River spring/summer chinook salmon using three enhancement strategies: carcasses, carcass analogs, and inorganic nutrients

Accomplishments

Field work complete.
All samples have been collected.
All contractors except NOAA will have analyzed all samples by the end of the FY.
NOAA still has additional analyses of invertebrate samples that are not expected to be completed, even if a decision to fund the Within Year request is made in July 2005.

Goals

183- Produce/Submit Scientific Findings report-NOAA
183- Produce/Submit Scientific Findings report-WDFW
183- Produce/Submit Scientific Findings report-SBT

2002-013-01 - Water Entity (Rpa 151) Nwppc (Expense) National Fish & Wildlife Foundation

Accomplishments

The CBWTP is currently implementing water right transactions for the third consecutive year. We have received 45 transaction proposals this fiscal year that are currently being evaluated and processed for funding by BPA. We will know the final metrics for FY 2005 in the Fall. The program has made significant progress in the quality of the transactions implemented and funded since its inception in April 2002. The CBWTP is also coordinating with BPA and the Council this fiscal year to pilot implementation of the Columbia Basin Riparian Conservation Easement Program in the Columbia Cascade Province.

PAST Metric / Work Element	Value or description
Season of the lease in start and end month. (mm)	In 2003, there were 32 water right transactions completed under the CBWTP. In 2004, there were 24 transactions. The season of use for the acquired water rights varies depending on the deal. The period of use typically occurs betweens April 1 & October 31.
# of miles of total stream reach improvement. (0.1 mi.) Includes primary and secondary reaches	In 2003, flow was restored to over 436 river miles of stream in the Columbia Basin. In 2004, flow was to nearly 238 river miles of stream. 2005 transactions are still under review and consideration.
Flow of water returned to the stream as prescribed in the acquisition (0.1 cfs)	In 2003, there was 133.62 cfs of flow restored and in 2004 there was 319.11 cfs of flow restored. 2005 transactions are still under review and consideration.
Amount of water secured (0.1 acre-feet/year)	In 2003, there was 30,641.28 acre-feet of water secured and in 2004 there was 32,201.47 acre-feet of water secured. 2005 transactions are still under review and consideration.
Start and end dates of the returned flow. (mm/dd/yyyy)	The duration varies depending on the terms of the water transaction. However, in 2003 most deals were either annual or short-term. In 2004, a third of the deals were either long-term or permanent.

Goals

The QLEs are currently developing their FY 2006 transaction projections. Metrics are expected to be similar to results achieved in FY 2003 through 2005.

CURRENT Metric / Work Element	Value or description
Season of the lease in start and end month. (mm)	The season of use for the acquired water rights varies depending on the deal. The period of use typically occurs betweens April 1 & October 31.
# of miles of total stream reach improvement. (0.1 mi.) Includes primary and secondary reaches	2006 transactions are in development. We expect the total number of river miles with restored flow to be similar to those accomplished during FY 2003 to FY 2005.
Flow of water returned to the stream as prescribed in the acquisition (0.1 cfs)	2006 transactions are in development. We expect the rate of flow restored to be similar to that restored during FY 2003 to FY 2005.

Amount of water secured (0.1 acre-feet/year)	2006 transactions are in development. We expect the total amount of water secured to be similar to that secured during FY 2003 to FY 2005.
Start and end dates of the returned flow. (mm/dd/yyyy)	The duration depends on the terms of each specific water transaction.

2002-032-00 - Fall Chin Passage Lower Granit (Expense) USFWS

Description: Describe passage timing, genetic lineage, scale patterns, and locations of fall chinook salmon that hold over in Lower Granite Reservoir during the winter.

Accomplishments

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Successfully obtained Federal ESA and State fish handling permits in 2003, 2004, and 2005.
Produce Annual Report	Provided BPA two annual reports since 2003 available on the BPA web site (project 20203200).
Produce/Submit Scientific Findings Report	Briefed the NWPCC on the reservoir-type life history exhibited by wild fall Chinook salmon in 2004 and 2005.
Produce/Submit Scientific Findings Report	Published two peer-reviewed papers on the project's research results.
Collect/Generate/Validate Field and Lab Data	Successfully collected and validated PIT tag and radio tag data on wild reservoir-type fall Chinook salmon in the lower Snake River reservoirs in 2003, 2004, and 2005.
Produce Design and/or Specifications	Participated on an interagency team during the planning and coordination of the upcoming study on the effect of transportation and spill on survival of wild fall Chinook salmon in 2004 and 2005.
Mark/Tag Animals	Successfully PIT tagged and radio tagged fall Chinook salmon (60 to 100) wintering in Lower Granite Reservoir during 2003, 2004, and 2005.
Analyze/Interpret Data	Documented undetected winter passage at Lower Granite Dam when the juvenile fish bypass system was not operated in 2003-2004 and 2004-2005.
Collect/Generate/Validate Field and Lab Data	Successfully collected scales from fall Chinook salmon adults at Lower Granite Dam to determine juvenile wintering location in 2003 and 2004.

Goals

CURRENT Metric / Work Element	Value or description
Produce Design and/or Specifications	Assist the collaborative inter-agency team in the refinement and design of a study on the effects of transportation and spill on wild fall Chinook salmon survival.
Produce Environmental Compliance Documentation	Obtain State and Federal permits for research.
Produce Annual Report	Produce an annual report to BPA.
Produce/Submit Scientific Findings Report	Brief FPAC, TMT, and the Council on recent findings regarding winter passage of fall Chinook salmon at dams.
Produce/Submit Scientific Findings Report	Publish a peer-reviewed journal article on winter passage at lower Snake River Dams by wild fall Chinook salmon.

Collect/Generate/Validate Field and Lab Data	Collect and validate radio and PIT tag data collected on wild fall Chinook salmon wintering in Lower Granite Reservoir as well as reservoirs further downstream.
Collect/Generate/Validate Field and Lab Data	Collect and validate scale samples from adult fall Chinook salmon at Lower Granite Dam to determine where the adults overwintered as juveniles.
Mark/Tag Animals	PIT and radio tag fall Chinook salmon juveniles in Lower Granite Reservoir and reservoirs further downstream.
Produce Design and/or Specifications	Design and collect pilot data to determine which reservoirs fall Chinook salmon select for wintering in the Snake River and the extent to which wintering occurs.
Analyze/Interpret Data	Analyze data to determine which reservoirs fall Chinook salmon winter in, the extent of this wintering, and the time of passage at Snake River dams.

2002-047-00 - Artificial Production Review (Expense) NPCC

Accomplishments

Goals

2003-005-00 - Hatchery & Genetics Mgmt Plan (Expense) NOAA Fisheries

Accomplishments

174- Produce plan.
Phase I HGMPS (by 30 Sep 2005)
NOAA responses to a majority of the plans (30 Sep 2005)

Goals

NOAA is expected to respond to all HGMPs with:
1) HGMP-specific comments and recommendation for each hatchery program. Because of the sheer volume of HGMPs, at least some of this is expected to occur in FY2006
2) NOAA Prioritization among recommended actions to guide BPA (and other funding agencies) on which actions need to be taken most quickly
3) BPA/NPCC can then prioritize actions among recommendations for BPA-funded hatcheries and determine which will be implemented.

2003-009-00 - Canada USA Shelf Salmon Survival (Expense) Canada Dept of Fisheries and Ocean

Accomplishments

1. Documented a relationship between first year ocean growth and salmon survival. This relationship varied among stocks, indicating that different stocks migrated to different areas of the ocean.

2. Documented that Columbia River Chinook salmon constituted a large fraction of the juvenile salmon inhabiting the coastal waters off British Columbia during summer, and that some stocks of Columbia River Chinook established residence in this area over winter.

3. Established a successful collaboration with the NOAA Fisheries to synthesize the research conducted by Fisheries & Oceans Canada and NOAA Fisheries on the ocean ecology of Pacific salmon in coastal regions extending from California to Alaska.

4. Published a series of manuscripts on the bioenergetics of Pacific salmon and on the effects of climate change on coastal marine ecosystems of the North Pacific Ocean in peer-reviewed scientific journals, as well as technical reports on the ocean distribution and migration of Pacific salmon.

5. Documented the unusual appearance of Humboldt squid in coastal waters of British Columbia, possibly due to anomalous warm waters in recent years. Humboldt squid are voracious predators and are expected to consume large quantities of forage fish such as herring and sardines, and probably juvenile salmon, and thus, are anticipated to have a serious impacts on marine ecosystems.

Goals

Funding is requested from BPA for Fiscal Year 2006 to conduct a research survey in coastal waters off British Columbia and southeast Alaska. Results from this survey will provide baseline data to identify regions of good or poor salmon growth in the ocean, to establish which specific stocks of salmon remain resident in the areas of poorest growth, and to develop some understanding of why marine survival may differ between different stocks of salmon in the ocean.

Analysis of the data will include:

1. Physical, chemical, and biological characterization of the ocean environment encountered by juvenile salmon from the west coast of Vancouver Island to southeast Alaska;

2. Assessment of the stock of origin, the biological and physiological status of juvenile salmon in northern and southern regions of the Gulf of Alaska;

3. Identification of the physical and biological changes in the ocean that lead to reduced ocean survival through changes in growth;

4. Identification of the region of poor growth and the stocks occurring in these regions.

This survey will be coordinated with those conducted by NOAA Fisheries to provide a coast wide description of the ocean conditions encountered by Columbia River salmon during their early marine life. Key regions and months that should be surveyed in a collaborative research effort by NMFS and Fisheries & Oceans Canada scientists will be identified. The data generated from this survey will be transferred through primary and secondary publications, and through presentations at workshops and professional symposia.

2003-017-00 - Integrated Status/Effect Progr (Expense) NOAA Fisheries

Accomplishments

FY2004
Develop RM&E methods and design for Wenatchee River basin. Status and trends focus, but also infrastructure for project effectiveness monitoring under IMW model.
Collect/Generate/Validate Field RME data in Wenatchee River basin. Habitat, water quality, adult and juvenile fish monitoring data collected.
FY2005
Develop RME methods and design for Wenatchee and John Day River basins. Implemente plan in Wenatchee, design plan for John Day project effectiveness monitoring.
Collect/Generate/Validate Field data in Wenatchee.
Manage/Maintain Database for data.

Goals

Develop RME methods and design for Wenatchee, John Day and Salmon River basins. Implemente plan in Wenatchee, design plan for John Day and Salmon project effectiveness monitoring.
Collect/Generate/Validate Field data in Wenatchee and John Day.
Manage/Maintain Database for data.

2003-036-00 - Cbfwa Monitor/Eval Program (Expense) CBFWA

Accomplishments

FY 2004
- Initiated a collaborative monitoring and evaluation design process with representatives from state, tribal, and federal entities concerned with RME.
- Conducted outreach to other entities involved in RME in the Columbia River basin.
- Developed a publicly accessible website to coordinate CSMEP activities and disseminate work products and reference materials.
- Collaboratively developed a list of Tier 1, 2 and 3 M&E questions for Status, Trend, and Effectiveness Monitoring.
- Identified a list of fish performance measures for addressing Tier 1, 2 and 3 questions.
- Designed and implemented a subbasin scale data inventory process to locate and evaluate sources of existing data suitable for addressing M&E questions and deriving the identified fish performance measures.
- Completed pilot data inventories of Lower Columbia, Imnaha, Lewis, and Pend Oreille subbasins, the South Fork Salmon River Watershed of the Salmon Subbasin, and the Selway River Watershed of the Clearwater Subbasin.
- Developed prototype of web accessible database to store the data inventory metadata.
- Review the strengths and weaknesses of inventory data for addressing M&E questions, identifying data gaps to address in systemwide M&E designs that build on the strengths of existing monitoring programs
- Held three monitoring design workshops (June, July, September).

FY 2005
- Began data inventory of a second set of subbasins in FY05 (Okanogan, Methow, Kalama, Grande Ronde, Deschutes, Upper Salmon River, Middle Fork Salmon River).
- Tested and revised the prototype Web meta-database
- Used the EPA Data Quality Objectives Process to develop monitoring design templates for Status & Trend monitoring and Hydro, Habitat, Harvest, Hatchery Action Effectiveness monitoring.
- Held three monitoring design workshops (December 2004; April and June 2005).
- Policy feedback workshop involving regional decision-makers (July 2005).
- Presentation to NPCC (June 2004)
- Presentation of CSMEP goals and achievements at professional conferences (Presented at NPIC American Fisheries Society general meeting in November 2004, will make presentation at 135th American Fisheries Society meeting in Anchorage, AK September 2005)

Goals

- Continue collaborative work planning to ensure that CSMEP activities do not duplicate any other efforts (this has worked well in fy04 and fy05)
- Continue data inventory and data strengths and weaknesses analysis for another set of subbasins.
- Complete the collaborative design and evaluation of alternative monitoring designs to select the preferred template for Status and Trend, and Actions Effectiveness monitoring, interacting closely with PNAMP entities and other groups.
- Test and refine the design template by applying it to the data inventory results from the second set of subbasins.- Work with Regional M&E groups (e.g., Federal RME, Pacific Northwest Aquatic Monitoring Program (PNAMP), NOAA-F Technical Recovery Team (TRT) to review, revise and then implement the preferred alternative on a pilot basis in selected areas, consistent with the resources available for M&E.
- Develop training and communication materials to make CSMEP designs and design tools available to monitoring and evaluation initiatives throughout the basin (e.g., Subbasin planning). Make presentations to educate a wide range of groups on how to utilize these templates for designing M&E at different scales

2003-038-00 - Eval Restor Of Snake R Chinook (Expense) US DOE

Accomplishments

PAST Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	2004: collected physical habitat data at the reference site spanning 10 river kilometers and 2000+ fall chinook salmon redds
Submit/Acquire Data	2005: collected physical habitat data (bathymetry, substrate, channel morphology) at the lower Snake River study sites, covering 30 river kilometers
Analyze/Interpret Data	2004 and 2005: completed hydrodynamic modeling for a wide range of flow regimes at the reference site, covering over 10 river kilometers; initiated hydrodynamic modeling at the Snake River study sites, covering 30 river kilometers

Goals

CURRENT Metric / Work Element	Value or description
Produce Status Report	2006: compare results from other work elements to determine the presence and extent of similar characteristics at the reference site and study sites
Produce/Submit Scientific Findings Report	2006: Summarize results describing the restoration potential of mainstem habitats for fall chinook salmon, and recommendations for potential hydrosystem operational changes.
Collect/Generate/Validate Field and Lab Data	2006: collect physical habitat data at the lower Snake River study sites, covering 30 river kilometers
Analyze/Interpret Data	2006: complete hydrodynamic modeling for a wide range of flow regimes and water year types at the the Snake River study sites, covering 30 river kilometers

2003-041-00 - Eval Salmon Thru Snake R Dams (Expense) NOAA Fisheries

Accomplishments

2003-Full funding would have been received too late in the year for development, design, and construction of a new fish marking facility at Lower Granite Dam which would have the capacity to PIT tag the 301,000 smolts required for this study. Spent most of the year trying to work the third release group, as recommended by the ISRP during the Rolling Provincial Review Process, into the BPA study design and budget with no BPA COTR consistently assigned to the project. Did some conceptualization and design work on the new PIT tagging facility.

2004-Funding again would have been received too late in the year (mid-February) to allow time for design, construction, and installation of the new fish marking facility to allow PIT tagging of 301,000 study fish in spring 2004. Again, the lack of a BPA COTR who was consistently assigned to this project to communicate through and who was aware of the inclusion of the ISRP-recommended third release group and increased budget for same added considerable confusion and subsequent delay relative to implementation and initiation of this project. Conceptualized, designed, and constructed the new PIT tagging facility, which had the capacity to PIT tag 301,000 smolts within a 3-week period to meet study design requirements.

Winter 2005-Installed new PIT tagging facility at Lower Granite Dam juvenile collection facility.
Spring 2005 to date-Currently PIT tagging and releasing the first year's goal of 301,000 total study fish.

Summer and fall 2005-Manage data and write reports

Goals

Winter 2006-Prepare for and order supplies to continue PIT tagging second year's release of study fish.

Spring 2006-PIT tag second year's release of 301,000 study fish.

Spring, summer and fall 2006-Recover jacks from first year of juvenile PIT tagging. Manage/analyze data and write required reports.

2003-050-00 - Eval Of Reprod Of Steelhead (Expense) U of W

Accomplishments

PAST Metric / Work Element	Value or description
Produce Status Report	FY 2004/2005 - Produced quarterly reports and an annual report
Collect/Generate/Validate Field and Lab Data	FY 2004/2005 - Processed 2044 existing adult and smolt steelhead samples, Sampled 1413 new adult and smolt steelhead, processed 961 adult samples, Collected (so far) 1097 new adult and smolt steelhead samples
Manage/Maintain Database	FY 2004/2005 - Converted MS Excel database to MS Access database, maintained and managed database
Analyze/Interpret Data	FY 2004/2005 - Analyzed(ing) genetic parentage data for processed samples

Goals

CURRENT Metric / Work Element	Value or description
Produce Annual Report	FY 2006 - produce an annual report of findings
Produce/Submit Scientific Findings Report	FY 2006 - Produce several manuscripts for submission for publication in scientific journals
Collect/Generate/Validate Field and Lab Data	FY 2006 - Collect and process new adult and smolt steelhead samples
Manage/Maintain Database	FY 2006 - manage and maintain large, long-term database
Analyze/Interpret Data	FY 2006 - Statistically analyze genetic data

2003-054-00 - Repro Of Steelhead In Hood Riv (Expense) OSU

Accomplishments

PAST Metric / Work Element	Value or description
Produce Annual Report	Annual reports submitted as required.
Produce Status Report	Status reports submitted as required.
Produce/Submit Scientific Findings Report	We developed new statistical methods for obtaining an unbiased estimate of the relative fitness of two groups of individuals in the presence of genotyping error (pub. in review). Useful to other studies of relative reprod. success of hatchery fish.
Collect/Generate/Validate Field and Lab Data	To date we have genotyped approximately 10,000 fish in order to assess parent-offspring relationships among fish from 1991 to the present.
Analyze/Interpret Data	We have conducted extensive error checking on the data from 5 run years and have analyzed relative fitness for those years.

Goals

CURRENT Metric / Work Element	Value or description
Produce Annual Report	To be written as required
Produce Status Report	To be written as required.
Produce/Submit Scientific Findings Report	First manuscript describing relative fitness of completely genotyped and error checked run years of new and old hatchery stocks to be submitted for publication.
Collect/Generate/Validate Field and Lab Data	Will genotype another 4000 fish.
Analyze/Interpret Data	Will continue the error checking and updating of each run year's data. As we complete the dataset for each new run year, we will analyze the relative fitness of hatchery and wild fish in that run year.

2003-060-00 - Eval Repro Success Snake Rvr C (Expense) WDFW - Olympia

Accomplishments

We are currently analyzing whether genetic profiles of wild and hatchery populations can be used to accurately estimate reproductive contributions to juvenile production in the upper Snake R. per broodyear and to survivng wild-origin adults from same broodyear that return over several years. In 2005 we plan to sample fall chinook on spawning grounds to improve our chances of encountering wild origin adult Snake R. fish and reduce sampling unmarked hatchery-origin fall Chinook destined for Clearwater Hatchery program, and stray non-Snake R. fall Chinook that can be trapped at Lower Granite Dam. Wild-origin juveniles sampled annually in the Snake R. are the other major sample group for this study, and we are working on improving genetic identification of juveniles that are from spring-run populations instead of the targeted fall Chinook population. Spring-run fish can be inadvertantly sampled and must be removed from fall Chinook sample groups for any subsequent (e.g. genetic, life-history) analyses to be accurate.

PAST Metric / Work Element	Value or description
Collect/Generate/Validate Field and Lab Data	We analyzed 2,944 Chinook sampled over many years from Snake River and upper Columbia basin populations for microsatellite DNA loci variation. We currently have acceptable multilocus genotype data for 2,601 individuals, and plan to increase this number.
Collect/Generate/Validate Field and Lab Data	We sampled 1,818 unmarked and untagged, potentially wild-origin, adult fall Chinook at Lower Granite Dam (Snake R.) in 2004 for genetic analysis. Scale pattern analysis currently shows 275 to be wild-origin, and these will be used for genetic study.
Analyze/Interpret Data	We have completed initial analysis of genetic relationships among Snake R. wild, Lyons Ferry Hatchery, and Upper Columbia R. hatchery and wild fall Chinook. Snake R. wild-produced fall Chinook were significantly genetically divergent from other groups.
Produce Status Report	We completed quarterly progress reports in 2004.

Goals

FY06 work falls under "Phase 2" of our project, which was originally proposed to be implemented if Phase 1 work, occurring during 2004 and 2005, showed that genetic differentiation of wild and hatchery populations could be accurately applied to estimating contributions of each to natural production and recovery of Snake R. fall Chinook. At this point, a decision about Phase 2 is not yet possible. However, goals for FY06 work would be to 1)sample wild origin Snake R. juvenile and adult fall Chinook in 2006, 2)collect microsatellite DNA genotype data for them, 3)estimate reproductive contributions from Lyons Ferry Hatchery origin stock (which is being used in supplementation activities in natural production areas) and from wild stock to juveniles and returning adults (by broodyear), and 4)compare reproductive contributions to proportion of hatchery-origin spawners presumed to be contributing to natural production. A possible outcome and benefit may be that if hatchery-origin fish are not contributing at the rate expected, then it would be prudent to review and revise strategies based on use of hatchery stock in order to improve population growth rate. Alternative outcomes are possible and we expect them to be informative for managing recovery activities for this ESU.

2003-062-00 - Eval Repro Success Kelt Steel (Expense) Columbia River Inter-Tribal Fish Co

Accomplishments

The first year of the project FY04, was a planning year. Study sites were chosen, research plans and permits were secured, and necessary facilities were identified or purchased.

FY05 is the first year for on-the-ground work. Kelt steelhead collection sites (weirs and screw traps) have been installed and adult fish have been collected and tissue samples have been collected. Additionally, kelt steelhead have been collected and placed in aquaculture facilities for reconditioning. The number of kelt steelhead available this year has been low primarily due to low run sizes and very low water conditionings in the streams.

PAST Metric / Work Element	Value or description
Manage and Administer Projects	Manage subcontracts, and BPA contract. Includes statement of work development and reviews, invoicing, budgeting, etc.
Produce Annual Report	Produce annual reports consistent with BPA contract.
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	R
# of fish by origin (ad-clip/non-clip)	300 kelt steelhead
Purpose of production program (S/H/R): S = Supplementation, H = Harvest Augmentation, R = Research	R
# of fish into program, by life stage	250 kelt steelhead
Install Fish Trap/Monitoring Weir	Install weirs to collect upstream and downstream migrating steelhead for tissue collection.
Mark/Tag Animals	PIT tag all collected adult steelhead (approximately 500-1000)
Submit/Acquire Data	Collect genetic data from steelhead tissue collections.
Manage/Maintain Database	Maintain databases from three different locations.

Goals

This project has three main goals:
1. Plan and coordinate all aspects of project implementation including permitting, subcontracting, and logistics.
2. Evaluate reproductive success of natural-origin, hatchery-origin, and reconditioned kelt steelhead and adult resident O. mykiss at Shitike Creek, Omak Creek, and a tributary of the Yakima River using pedigree analysis.
3. Apply kelt steelhead reconditioning techniques at selected streams to post-spawners for release back into study streams.

In 2006, we will sample adult steelhead at each stream and collect tissue samples. We will also release reconditioned kelt steelhead into spawning areas containing first time spawners. Tissue samples from juvenile steelhead will be collected and using pedigree analysis we will begin to determine the relative reproductive success of artificially reconditioned steelhead and first-time spawners.

2003-063-00 - Repro Success Abernathy Creek (Expense) USFWS

Accomplishments

FY04, FY05
-Estimated the mean and variance in growth, survival of captively-reared steelhead every 6 months
-Reared 500 native parr steelhead (04)
-Spawned captively-reared, age 3 and 4 natives collected as parr (04). Trapped/spawned returning hatchery/ native steelhead (05). Culled each family to equal numbers of eyed eggs to produce 20,000 smolts. Reared 20,000 steelhead to the yearling stage (ongoing in 05).
-Marked/tagged 20,000 pre-smolts prior to release; also, PIT tagged 1000 fish
-Released 20,000 steelhead smolts into Abernathy Creek
-Purchased hatchery, antenna, and field equipment (electrofisher in 04)
-Estimated number of outmigrating smolts (ongoing in 05)
-Monitored physiological status of hatchery steelhead for three months prior to release
-Collected three samples of 35 hatchery and 35 native steelhead from the smolt trap during outmigration (ongoing in 05)
-Compared morphological parameters, physiological parameters, and smolt status between hatchery and native steelhead outmigrating (ongoing in 05)
-Backpack electrofisher course for 12 biologists (04)
-PIT tagged 1,000 native steelhead and cutthroat trout in Abernathy Creek (04)
-Monitored movements of native and hatchery steelhead and estimated the proportion of residualized steelhead (04)
-Estimated residualism, ecological impacts by in-stream snorkel surveys (04)
-Estimated allele frequencies for native steelhead population in Abernathy Creek (04)
-Determined multi-locus genotypes, allele frequencies for captively-reared adults spawned each year (04)
-Estimated allele frequencies for each brood year released (04)
-Determined the number of native adult steelhead, coho salmon, and cutthroat trout migrating upstream each year (ongoing in 05)
-Selected microsatellite nuclear DNA loci for determining parentage of hatchery, native steelhead (04)
-Prepared/submitted reports to BPA, 1 manuscript to scientific journal, and 1 MS thesis
-Presented at 2 natl. meetings

Goals

FY06
-Will estimate mean and variance in growth, survival of hatchery steelhead every six months
-Will trap/spawn returning hatchery/native steelhead. Will cull families to equal numbers of eyed eggs. Will rear 20,000 steelhead to the yearling stage.
-Will mark/tag 20,000 pre-smolts prior to release; also, will PIT tag 1000 fish
-Will release 20,000 steelhead smolts into Abernathy Creek.
-Will purchase hatchery, antenna, and field equipment
-Will estimate number of outmigrating smolts.
-Will monitor physiological status of hatchery steelhead for three months before release
-Will collect three samples of 35 hatchery and 35 native steelhead from the smolt trap
-Will compare morphological parameters, physiological parameters, and smolt status between outmigrating hatchery and native steelhead
-Will PIT tag 1,000 native steelhead and cutthroat trout in Abernathy Creek
-Will monitor movements of native and hatchery steelhead and estimate the proportion of residualized steelhead
-Will estimate residualism, ecological impacts by in-stream snorkel surveys
-Will estimate allele frequencies for native steelhead population and each brood year released
-Will compare allele frequencies among steelhead in Abernathy Creek, captively-reared adults spawned each year, and their progeny and prepare a manuscript for publication
-Will determine the total number of native adult steelhead, coho salmon, and cutthroat trout migrating upstream each

year
Will estimate smolt-to-adult return rates and number of adult returns of hatchery steelhead
Will pass equal numbers of mative and hatchery origin adult steelhead upstream to spawn
-Will select microsatellite nuclear DNA loci for determining parentage of hatchery/native steelhead
-Will determine the genotypes of natural-origin adult steelhead trapped at the AFTC and adults passed upstream
-Will prepare/submit reports to BPA and 2 or more manuscripts to journals
-Will present results at national meetings

2003-072-00 - Biodiversity Syst For Columbia (Expense)

Accomplishments

Goals

2003-114-00 - Acoustic Tracking For Survival (Expense) Kinatama Corp

Accomplishments

In 2004, POST conducted the world's first large-scale demonstration of a prototype marine acoustic tracking array. The mouths of six river systems were instrumented with acoustic tracking array elements, and 120 kms of listening lines were placed on the seabed for 5 months, in 6 major "acoustic curtains" stretching from Grays Harbor, Washington to north of the Alaska panhandle. In all, a total of 135 acoustic tracking elements were used. (When fully operational, the entire array is projected to involve ca. 2,000 elements).

At the same time that the array was constructed, surgical teams were sent out and surgically implanted long-lived acoustic tags into over 1,000 salmon smolts.

The array was then used to measure survival to the mouths of large rivers and survival is sequential sections of the coast. We achieved a 91% detection rate over the 20 km long ocean listening lines for salmon smolts. (We project a 97% detection rate in 2005). Survival, timing, and rates of movement were simultaneously measured for 14 stocks of salmon. The results show that it is now possible to directly measure juvenile salmon survival in the sea and that in the majority of stocks tested freshwater and early marine survival is high.

As smolt-to-adult survival rates are low, this implies that the poor returns currently experienced for many stocks of salmon do not have a freshwater or near-shore origin. This is an important finding, because it implies that many of the salmon conservation problems blamed on freshwater habitat degradation may actually have a cause that is located in parts of the ocean far distant from the Columbia.

Goals

The period 2006 to 2010 is intended to see the full roll-out of the continental-scale POST tracking array. At completion, it will be possible to track salmon—from the smolt out-migrants to the returning adults—and directly measure their survival and the regions that they migrate to, and periods that they remain in each area. Sub-arrays placed in major rivers (for example, the Columbia and Fraser) will allow a direct comparison of freshwater survival of salmon in rivers with or without dams, and a comparison of freshwater and marine survival rates of different stocks from the same river.

A key product of the POST system for the Columbia will be a direct measurement of survival of Snake River chinook as they migrate out to sea. It has been suggested that Snake River Chinook SARs are lower than other Columbia River Chinook stocks because of delayed (or differential) mortality caused by the additional dams that the salmon must migrate past. The POST array provides the only objective method of providing the data necessary to test these ideas.

2004-002-00 - PNAMP (Expense) USGS

Accomplishments

In 2004-2005, PNAMP:
•Became a formal organization by drafting a Charter, subsequently signed by 19 state, federal, tribal and regional entities.
•Established 5 technical workgroups, organized by aquatic monitoring topics (Watershed Monitoring, Effectiveness Monitoring, Fish Population Monitoring, Estuary Monitoring, and Data Management).
•Established a Steering Committee to guide PNAMP, interact between technical workgroups and executive network
•Hired a fulltime Coordinator and ½ time administrative assistant dedicated to PNAMP needs.
•Created a public website (www.reo.gov/PNAMP) and poster (for technical meetings) to disseminate information about PNAMP.
•Supported technical forums (open to the public): "Large-scale Monitoring" symposium at the American Fisheries Society NPIC meeting; "Remote Sensing Workshop"; "Fish Practitioners Workshop".
•Implemented a study to conduct a side-by-side protocol test in which field attributes and sampling protocols are compared across numerous agencies
•Facilitated review of Fish Monitoring Protocols from the draft paper of: David H. Johnson (et al). Review, assist with protocol publications plan , and facilitate implementation of protocols by and through PNAMP partners
•Drafted regional plan to establish a network of intensively monitored watersheds (IMWs)
•Drafted a long-range planning document "PNAMP Strategy For Coordinating Monitoring of Aquatic Environments In The Pacific Northwest"
•Provided guidance to NPCC: "Considerations for Monitoring in Subbasin Plans from the Pacific Northwest Aquatic Monitoring Partnership"

PAST Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Facilitate forums among technical experts. Serve as a clearinghouse for PNAMP activities and products. Facilitate the development, distribution of products aimed at heightening awareness of PNAMP issues, successes, and problems.
Coordination	Support PNAMP efforts to coordinate aquatic monitoring programs of state, federal, tribal, and local entities in the PNW. Facilitate the transfer of information within PNAMP and across relevant entities.
Manage and Administer Projects	Ensure completion of administrative requirements of PNAMP activities. Facilitate the development, implementation, and tracking of PNAMP work plans. Develop and negotiate fiscal support, manage budgets and associated contracts.
Produce Annual Report	Prepare annual report, to include Coordinator's activities (within PNAMP) and PNAMP activities and provide a general discussion/overview of activities and accomplishments for the entire contracting period.
Produce Status Report	Prepare quarterly report to include Coordinator's activities (within PNAMP) and PNAMP activities
Develop RM&E Methods and Designs	Conduct side-by-side protocol test in which field attributes and sampling protocols are compared across numerous agencies

Goals

In FY2006, PNAMP will continue to provide a regional forum for coordinating state, federal, and tribal aquatic habitat and salmonid monitoring programs. Improved communication, shared resources and data, and compatible

monitoring efforts provide increased scientific credibility, cost-effective use of limited funds and greater accountability to stakeholders. PNAMP will provide leadership through the development and the advancement of recommendations and agency level agreements that are considered for adoption by the participating agencies.

There are two parts of PNAMP: 1) to function as an organization, PNAMP requires a Coordination function; and 2) PNAMP hosts specific projects to coordinate aquatic resource monitoring. The Coordination function requires a full time professional staff position, full time professional data analyst position, and a part time administrative assistant position. PNAMP also sponsors projects relevant to coordination of aquatic resource monitoring, such as protocol development and comparison work, development of a common sampling designs and work towards solving data sharing issues.

CURRENT Metric / Work Element	Value or description
# of people reached in each of 3 classes (T/S/G): Teachers, Students, General public	Facilitate forums among technical experts. Serve as a clearinghouse for PNAMP activities and products. Facilitate the development, distribution of products aimed at heightening awareness of PNAMP issues, successes, and problems.
Coordination	Support PNAMP efforts to coordinate aquatic monitoring programs of state, federal, tribal, and local entities in the PNW. Facilitate the transfer of information within PNAMP and across relevant entities.
Manage and Administer Projects	Ensure completion of administrative requirements of PNAMP activities. Facilitate the development, implementation, and tracking of PNAMP work plans. Develop and negotiate fiscal support, manage budgets and associated contracts.
Produce Annual Report	Prepare annual report, to include Coordinator's activities (within PNAMP) and PNAMP activities and provide a general discussion/overview of activities and accomplishments for the entire contracting period.
Produce Status Report	Prepare quarterly reports to include Coordinator's activities (within PNAMP) and PNAMP activities
Develop RM&E Methods and Designs	Development of a common probabilistic survey design to allow examination of changes and trends over time at broad regional scales
Develop RM&E Methods and Designs	Conduct side-by-side protocol test in which field attributes and sampling protocols are compared across numerous agencies
Develop RM&E Methods and Designs	Development of a regional data dictionary for effectiveness monitoring reach scale and watershed scale physical, chemical, and biological attributes.
Develop RM&E Methods and Designs	Development of a list of high level indicators for reporting on effectiveness of projects
Develop RM&E Methods and Designs	Development of common sampling protocols for testing effectiveness of projects at both the reach and watershed scale
Coordination	Initiate catalogue of Fish Population Monitoring Efforts in the Pacific Northwest, beginning with Columbia River Basin pilot subbasins.

Systemwide		Systemwide
Coordination	Join in regional coordination workshops hosted by the Northwest Environmental Data Network (NED) and others, including: regional QA/QC workshop, regional spatial definitions, data networking workshop, project management data workshop.	
Coordination	Conduct a needs assessment of the PNAMP technical workgroups, including the assessment of data needs; identification of data gaps, estimate of costs; best practices on the measurement, collection and tracking of data; establishment of standards (metada	

2005-002-00 - Lower Granite Adult Trap Modification (Capital) US Corps of Engineers

Accomplishments

Following the Council's conditional approval of the Within-Year Modification Request for this new project, BPA awarded a contract to the Corps of Engineers in March 2005. A conceptual design of the trap modifications has been completed and a proposal package has been submitted for ISRP review.

Goals

Winter 2006 - construct Lower Granite Dam adult trap modifications.

2005-002-00 - Operation of Lower Granite Trap O&M (Expense) NOAA Fisheries

Accomplishments

PAST Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Obtained Federal ESA and State fish handling permits for trap operation.
Collect/Generate/Validate Field and Lab Data	Operation of the adult salmon trap at Lower Granite Dam to sample returning adults for run reconstruction, provide natural origin broodstock for Lyons Ferry Hatchery, removal of stray fish, and collection of length and scales for various research studies.

Goals

CURRENT Metric / Work Element	Value or description
Produce Environmental Compliance Documentation	Obtain required Federal ESA and State Fish Handling permits.
Collect/Generate/Validate Field and Lab Data	Operate adult trap at Lower Granite to sample fish for run reconstructions, broodstock sampling, removal of strays, and assist with various other research projects as requested.

2005-011-00 - Federally Funded Hatchery Energy Efficiency Improvement BPA

Accomplishments

NA- New project

Goals

Not associated with any metrics.

2005-011-00 - Federally Funded Hatchery Energy Efficiency Improvement BPA

Accomplishments

Energy Efficeincy has performed similar audit and energy work for the LSRCP hatchery facilities. By the end of next year, EE will have completed improvement at 7 of the eight sited originally reviewed. Pending Council funding of this work, EE is prepared to fund and perform energy efficiency auidits for the 16 listed Council program hatcheries.

Goals

If approved for funding in 2006, EE is will fund and perform complete energy audits at al facilities identified as potential improvement sites. Once the audits and reporting is completed, recommendations will be made to EF&W COTR as to which measures are both cost and energy efficient.

2005-xxx-x3 - Selective fishery research RFP (Expense)

Accomplishments

N/A New project

Goals

One metric for a selective fiseries project is the absolute percentage reduction in ESA listed fish due to deployment of selective gear in a general fishery. Another corrolary metric is the percentage change in the stock composition of catch in a mixed stock fishery.

2005-xxx-x5 - Habitat Evaluation Project (Expense) CBFWA

Accomplishments

FY 2003: Conducted HEP surveys and compiled survey results for WDFW, IDFG, YIN, CCT, BPT, ODFW, BLM, Warm Springs Tribe, Kalispel Tribe, Coeur D'Alene Tribe, and Kootenai Tribe

FY 2004: Conducted HEP surveys and compiled survey results for WDFW, YIN, STOI, IDFG, CCT, STOI, and the Kalispel Tribe.

FY 2005: Will conduct HEP surveys for WDFW, IDFG, ODFW, BPT, YIN, STOI, CCT, TNC, Warm Springs Tribe Kalispel Tribe, Umatilla Tribe, and CDA Tribe.

Goals

October-December FY 2006: Compile FY 2005 HEP transect results/data and begin drafting HEP reports.

January-April FY2006: Finish 2005 HEP survey reports, develop FY 2006 HEP project schedules, hire and train HEP field crew, conduct HEP training course if needed, purchase and/or construct HEP equipment etc., and conduct pre-HEP site visits as required.

May-August FY 2006: Conduct HEP surveys for WDFW, ODFW, IDFG, TNC, CCT, STOI, YIN, BPT, CDA Tribe, Warm Springs Tribe, Umatilla Tribe, Kootenai Tribe, and Kalispel Tribe.

Mid August-September FY 2006: Summarize FY2006 HEP survey/data results.

1992-010-00 - Habitat Imprvmnt/Enhnmnt - For (Expense) Shoshone Bannock Tribe

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.

Accomplishments

Past accomplishments since 1993:

2002, 2003, 2004: Conducted trout telemetry study on the Fort Hall Bottoms.

2000 to 2004: Collected, propagated, and planted approximately 50,000 native wetland plants for the BOR and project sites on the Fort Hall Bottoms.

Has provided additional educational and employment opportunities for Shoshone-Bannock Tribal members since 1992.

1.3 kilometers of riparian vegetation has been protected with jack and rail and barbed wire fence.

5.2 kilometers of evergreen revetments have been placed on stream banks.

1,578 willow poles, 10,000 willow pole cuttings and 16,000 willow shoots have been planted along riparian areas on the Fort Hall Bottoms.

35 sites have been restored decreasing bare banks from 15% to less than 9% over 18 kilometers of stream.

Goals

Measure stream habitat variables in project locations for pre and post treatment evaluation

Obtain fish and invertebrate compositions, invertebrate reference collections, population estimates, genetic information (completed 2000), and trends for all streams that will be affected by habitat restoration efforts.

Obtain information on adult trout movement and types of habitats utilized during a period of 280-486 days. Trout were captured, tagged, and released on Spring Creek (figure 1 & 3) and Portneuf River (figure 4) during the month of February 2002 and March 2003. 15 adult trout will be tagged in 2005 and tracked thoughout 2006.

Install habitat improvement structures to increase existing juvenile and adult salmonid habitat.

Plant willow poles (500 spring / 500 fall) of native willow and/or cottonwood and seedlings of native riparian grasses in heavily eroded and unstable bank areas. If soil in upper banks becomes dry, water on an as needed basis

Erect fences to protect riparian areas and critical spawning habitats, yet provide adequate livestock access to water. Erect fence to protect bank revegetation where banks have been sloped. Protection enclosures will be erected on spring streams and springs Reservation wide. (approximately 0.25 miles annually)

Monitor, deter and reduce non-game fish migrations into the Fort Hall Bottoms streams.

Repair and modify permanent weir in Spring Creek. Make repairs and modify weir on Spring Creek according to contractor design specifications (any necessary work will be done in future years).

Promote fisheries management objectives in the Snake River Basin.

Analyze data and draft the annual report containing information listed in the terms and conditions of contract 92-10.

1995-057-00 - S Idaho Wildlife Mitigation (Capital) IDFG; Shoshone-Bannock Tribes; Sh

Description: Protect, enhance, and maintain wildlife habitats to mitigate construction losses for Palisades, Minidoka, Anderson Ranch, and Black Canyon hydroelectric projects (a total of 52,292 unannualized HU). This project has been ongoing since 1997.

Accomplishments

PAST Metric / Work Element	Value or description
Identify and Select Projects	Southern Idaho Wildlife Mitigation group has identified particular land parcels that are priorities for acquisitions. Projects have been selected in a consensus based process.
BPA Environmental Compliance	All environmental documentation was completed for any SIWM projects.
Start date of the purchase (mm/dd/yyyy)	Shoshone Bannock Tribes and Idaho Department of Fish and Game have purchased several parcels of land.
Prepare HEP Report	HEP was performed on all parcels acquired by Shoshone Bannock Tribes and IDFG
Conduct Pre-Acquisition Activities	Shoshone Paiute Tribes have performed an appraisal, title search, boundary survey, and legal description on one parcel of land. SBT and IDFG have conducted pre-acquisition activities for several parcels of land.
Coordination	SIWM has coordinated internal meetings and meetings with landowners, non-profit organizations, federal agencies, and other groups interested in wildlife mitigation and conservation.

Goals

SIWM is lacking an MOA between the sponsor agencies and BPA. Our goal is to develop interim guidelines accepted by all parties while moving forward with an MOA so that we can proceed with land acquisitions.

1995-057-00 - S Idaho Wildlife Mitigation (Expense) IDFG

Description: Protect, enhance, and maintain wildlife habitats to mitigate construction losses for Palisades, Minidoka, Anderson Ranch, and Black Canyon hydroelectric projects (a total of 52,292 unannualized HU). This project has been ongoing since 1997.

Accomplishments

2002 to present: Protection and management of 7 properties acquired by BPA, totaling 5,288 acres and 11,195 HUs.

Acquisition of:
Rice property (1,364 ac, 1,063 HUs),
Horkley property (120 ac, 207 HUs), and
Allen property (81 ac, 535 HUs).

Goals

FY06: Continue performing tasks funded under BPA contracts 6339 and 4627, including:
119 Manage and Administer Projects
165 Produce Environmental Compliance Report
118 Coordination
174 Produce Plan
18 Maintain Terrestrial Structures
22 Maintain Vegetation
53 Remove Vegetation (noxious weeds)
26 Investigate Trespass
156 Develop RM&E Methods and Designs
157 Collect/Generate/Validate Field and Lab Data
141 Produce Status Report
132 Produce Annual Report

1995-057-02 - S Idaho Wildlife Mitigation (Expense) Shoshone Bannock Tribe

Description: Protect, enhance, restore and maintain wildlife habitats to mitigate for construction losses at Palisades and Minidoka dams.

Accomplishments

Continue restoration and enhancement to increase HUs on SBTs managed SIWM projects.
Continue aquisition of mitigation lands to meet HU goals.

Goals

Continue native plant restoration on both projects.
Continue development of adaptive managment plans to enhance HUs of target species.
Continue to develop public use plans for both projects.
Acquire additional mitigation lands.