FY 2008-2009 F&W Program Accords (MOA) Proposal Review

Snake River fall Chinook - modify ponds at Lyons Ferry to improve adult holding

Table 1. Proposal Metadata

Project Number	2008-210-00
Proposer	Confederated Tribes of the Umatilla Indian Reservation
Short Description	Modify Ponds at Lyons Ferry
Province(s)	Columbia Plateau
Subbasin(s)	Lower Snake River
Contact Name	Brian Zimmerman
Contact email	brianzimmerman@ctuir.com

Information transfer:

A. Abstract

The purpose of this project is to modify the adult holding ponds at Lyons Ferry Hatchery by further dividing the existing four ponds into eight. The additional pond units will allow fish transported from Lower Granite Dam and adults that voluntarily swim into the facility to be segregated by run-timing, sex, origin and sexual maturation. The additional ponds will reduce the need to crowd fish, handle and sort fish by maturity status and as such decrease fish stress. The extra ponds will also improve the ability to process adult fall Chinook during spawning operations, to meet broodstock goals, and complete an adequate run reconstruction for the Snake River fall Chinook population. Lyons Ferry Hatchery is a Lower Snake River Compensation Plan (LSRCP) facility and the work would be done under the auspices of the United States Fish and Wildlife Service (USFWS) who administer the LSRCP.

B. Problem statement: technical and/or scientific background

Lyons Ferry Hatchery was designed and built in the early 1980s as part of the USFWS LSRCP. The LSRCP program was initiated to provide mitigation for lost fish resources and fisheries caused by construction and operation of hydroelectric projects in the Snake River. Part of the overall LSRCP program is to provide mitigation for Snake River fall Chinook. Adult fall Chinook salmon returning to the Snake River basin are trapped at both Lyons Ferry Hatchery and Lower Granite Dam and held at Lyons Ferry Hatchery for broodstock.

Original hatchery construction provided for only two adult holding ponds and it became apparent that sampling and sorting capabilities needed to be enhanced. In 1994, the adult ponds were modified by dividing the two existing ponds into four ponds. This created more options for sampling and sorting. Adults that are hauled from Lower Granite Dam are currently placed in one pond while adults trapped on site are placed in another pond. During sorting and sampling activities, unripe fish from each collection location can be moved to adjacent ponds. The current adult holding ponds only allows for segregation of ripe and unripe fish from each collection location.

As the Snake River fall Chinook program has continued to grow in size and complexity, the existing segregation capability is no longer adequate for the program. The existing adult holding ponds do not provide enough space to segregate fish by return timing, origin, or to separate out surplus adults. The lack of flexibility for holding adults at Lyons Ferry Hatchery has restricted the ability to hold and process fish during spawning as well as limited the capability to segregate adults for run reconstruction purposes.

The conceptual design for this project (amended) would entail construction of concrete walls dividing the existing ponds. In addition, associated infrastructure including walkways, additional sorting tubes, new screens, a river release pipe, and minor pond intake modifications would be added. This will provide additional segregation capacity which would enhance the run reconstruction process, increase broodstock capabilities and reduce handling stress for Snake River fall Chinook.

Habitat

Not Applicable.

Research/Monitoring/Evaluation

Within the recent *U.S. v. Oregon* 10-year Management Agreement, Snake River fall Chinook run reconstruction has been identified as a high priority for management of this stock. This is the primary avenue for monitoring and evaluation of trends in the Snake River fall Chinook population. For accurate run reconstruction to occur increased sampling and segregation is required at Lyons Ferry Hatchery. The existing adult holding ponds are not suitable for meeting this requirement.

Hatchery

This proposal does not entail any expansion of the existing Snake River fall Chinook artificial propagation program. The planned modifications (amended) to the adult holding ponds include construction of concrete walls dividing the existing ponds and associated infrastructure including walkways, additional sorting tubes, new screens, a river release pipe, and minor pond intake modifications. This will provide additional segregation capacity which will enhance the run reconstruction process, increase the ability to meet established broodstock goals and reduce handling stress for Snake River fall Chinook.

C. Rationale and significance to regional programs

This project proposal is specifically identified in Appendices B and G as listed under Section III.B. of the Habitat and Hatchery Commitments of the 3 Treaty Tribes-Action Agency Memorandum of Agreement.

One of the overarching biological objectives identified both the 2000 Fish and Wildlife Program and 2003 Mainstem Amendments is the recovery of ESA-listed anadromous and resident fish affected by development and operation of the hydrosystem. Snake River fall Chinook are probably the most directly and significantly impacted of all the ESA populations affected by the hydropower system. This proposal would increase the efficiency of the Lyons Ferry Hatchery

artificial propagation program to restore and recover this population as well as enhance run reconstruction efforts critical to monitoring of population status.

Section 7.3.6., pg 137 of the Lower Snake Mainstem Subbasin Plan states; “Increasing anadromous fish productivity and production, as well as life stage-specific survival, through artificial production may need to continue or expand within the subbasin. Specific strategies to accomplish this can include the following:

• Maximize hatchery effectiveness in the subbasin--continue existing and/or implement innovative hatchery production strategies in appropriate areas to support fisheries, natural production augmentation and rebuilding, reintroduction, and research.
• Apply safety net hatchery intervention based on extinction risk analysis and benefit risk assessments
• Implement artificial propagation measures and continue existing artificial and natural production strategies.
• Monitor and evaluate effectiveness of implementation of hatchery and natural production strategies.”

The proposed project directly addresses both the hatchery effectiveness and monitoring and evaluation strategies listed in the Subbasin Plan. The modifications to the adult holding ponds will allow for increased efficiency of the existing adult facility at Lyons Ferry Hatchery without the need to construct additional broodstock facilities for the program. In addition, the modifications will enhance the run reconstruction effort by increasing the ability to segregate adult groups at the facility.

D. Relationships to other projects

Lyons Ferry Hatchery is owned and operated under the LSRCP which is administered by the USFWS. The USFWS receives funding to operate the program under a direct funding agreement with Bonneville Power Administration (BPA). Funding for the proposed project would also go directly to USFWS under a direct funding agreement rather through CTUIR. USFWS would then subcontract with the appropriate engineers and construction firms to implement the project.

The two Nez Perce Tribe projects listed in Table 2 would directly benefit from the modifications to the holding ponds at Lyons Ferry Hatchery. Increased broodstock capabilities would benefit both of these projects as outlined in the table.

In addition, USFWS funds a monitoring and evaluation effort under LSRCP which is largely responsible for developing the run reconstruction for Snake River fall Chinook. As stated previously, this project would also enhance that effort.

Table 2. Relationship to existing projects

Funding Source	**Project #**	**Project Title**	**Relationship (brief)**
BPA	199801005	Fall Chinook Acclimation Project (FCAP)	Operates the acclimation facilities for Snake River fall Chinook produced by Lyons Ferry Hatchery.

Funding Source	Project #	Project Title	Relationship (brief)
BPA	198335000	Nez Perce Tribal Hatchery (NPTH)	This project produces fall Chinook for the Clearwater drainage in addition to releases under FCAP from the LSRCP program to provide tribal mitigation for lost fall Chinook production and returns. This program is supported in low run years with eggs from Lyons Ferry Hatchery.
BPA/USFWS	00GS75064	Lower Snake River Compensation Program	This project provides funding to operate the fall Chinook program at Lyons Ferry Hatchery and to evaluate the effects of that program on the Snake River fall Chinook population (natural and hatchery). This is a mitigation program to compensate for the loss of fall Chinook habitat and population abundance and productivity caused by the four lower Snake River Dams.

E. Project history (for ongoing projects)

This is a new project that will be conducted under the auspices of the USFWS and LSRCP similar to 1994 when the adult ponds were originally modified by dividing the initial two ponds into four ponds.

F. Proposal biological/physical objectives, work elements, methods, and metrics

Biological Objective:

Modify the adult holding ponds at Lyons Ferry Hatchery in order to provide additional segregation capacity which will enhance the run reconstruction process, increase broodstock capabilities and reduce handling stress for Snake River fall Chinook.

Methods: Preliminary meetings between the involved co-managers including the USFWS, WDFW, NPT, and CTUIR have occurred resulting in a conceptual design (amended) for modification of the holding ponds and associated infrastructure. Funding for the project would be directed to the USFWS LSRCP office. The USFWS will then contract out the design and construction work to private companies. Staff engineers for the USFWS will provide construction management oversight. The USFWS LSRCP office will prepare any necessary environmental compliance documents. This last item will be done internally by the USFWS LSRCP office and is not a specific Work Element for this project.

It is anticipated that design work would begin in February 2009 with construction occurring between May and August. The pond expansion and return pipe installation would need to occur during this timeframe so as to not interfere with adult trapping activities beginning in late August/early September.

Work Element: #175 – Produce Design and/or Specifications

By definition: “Covers all work associated with the preparation of engineering or technical drawings, specifications and/or budgets required for the construction/installation of any structure or facility.”

Work Element Title: Modify Adult Holding Ponds at Lyons Ferry Hatchery

Work Element Description: Contract out to private engineering firm to develop engineering design and cost estimates for modification of the adult holding ponds at Lyons Ferry Hatchery and associated infrastructure needs.

Milestones:

Provide preliminary design and cost estimates

Hold meeting to review design and cost estimates

Complete design

Metrics: Metrics are not needed for this work element.

Location Guidance: The construction project location is the Lyons Ferry Hatchery on property owned by the U.S. Government located in Franklin County, Starbuck, Washington.

Environmental Compliance: Any necessary environmental work will be done internally by USFWS.

Work Element: #61 – Maintain Hatchery

By definition: “Includes all maintenance and repair activities associated with fish production facilities, including maintenance of buildings, grounds, raceways, acclimation ponds, net pens, water treatment facilities, equipment, vehicles, etc. *Also includes construction that does not expand the rearing capacity of the facility* (e.g., replacing a raceway). This work element is intended to include activities related to care of physical structures and grounds and not the care of fish.”

Work Element Title: Modify Adult Holding Ponds at Lyons Ferry Hatchery

Work Element Description: Contract out to private construction firm to divide four existing ponds into eight units along with providing associated infrastructure changes, equipment and equipment installation.

Milestones:

Complete division of holding ponds

Complete necessary infrastructure changes

Provide and install associated infrastructure equipment

Acceptance of modifications as complete

Metrics: Metrics are not needed for this work element.

Location Guidance: The construction project location is the Lyons Ferry Hatchery on property owned by the U.S. Government located in Franklin County, Starbuck, Washington.

Environmental Compliance: Any necessary environmental work will be done internally by USFWS.

Work Element: #100 – Construction Management

By definition: "Oversight of construction activities. Usually only used on larger construction activities where the construction and construction management are split out in separate contracts."

Work Element Title: Modify Adult Holding Ponds at Lyons Ferry Hatchery

Work Element Description: USFWS engineers will provide oversight of construction activities associated with adult holding pond modifications and infrastructure changes at Lyons Ferry Hatchery.

Milestones:

Provide construction inspection

Recommend final approval

Metrics: Metrics are not needed for this work element.

Location Guidance: The construction project location is the Lyons Ferry Hatchery on property owned by the U.S. Government located in Franklin County, Starbuck, Washington.

Environmental Compliance: Any necessary environmental work will be done internally by USFWS.

G. Monitoring and evaluation

Monitoring and evaluation is not applicable to this project. Construction will be monitored under WE #100 to ensure that it meets design specifications.

H. Facilities and equipment

This is a modification to an existing facility structure and includes all necessary associated infrastructure changes and equipment.

I. References

U.S. Army Corps of Engineers. 1994. Adult pond expansion design drawing for Lyons Ferry Hatchery. File number: LSH-1-0-1/247. U.S. Army Corps of Engineers District Office, Walla Walla, Washington.

Pomeroy Conservation District. 2004. Lower Snake Mainstem Subbasin Plan. Prepared for the Northwest Power and Conservation Council. Portland, Oregon. http://www.nwppc.org/fw/subbasinplanning/lowersnake/plan/EntirePlan.pdf

J. Key personnel

Jon Lovrak
Washington Department of Fish and Wildlife
Lyons Ferry Hatchery Complex Manager
Duties on project: Will coordinate on site activities with LSRCP and project sponsor.

Employment

2008-Present Hatchery Complex Manager - Lyons Ferry Complex

- Manage two WDFW hatcheries and two satellite facilities, which include 16 full-time and three temporary employees. Also participate in collaborative management on related fish programs with cooperative entities in the Snake River Basin.
- Responsible for all aspects of operations including the annual operating plan, contract and budget agreements with the U.S. Fish & Wildlife Service, via the Lower Snake River Compensation program.
- Supports the Washington Department of Fish & Wildlife's "Mission Statement" for achieving sound stewardship of F&W resources. This includes: personnel recruitment, policy development and implementation, program strategies and improvements, partnerships with co-managers and adherence to financial and operational obligations.
- Author Annual Operating Reports and varying project proposals.

2004-2008 Fish Hatchery Specialist 4 - Minter Creek Hatchery

- Supervise six hatchery staff at three facilities. Coordinate all fish production activities including adult trapping, spawning, rearing, mass-marking, tagging, transfers and releases of Spring and Fall Chinook, Coho and Chum salmon.
- Work closely with Muckleshoot and Puyallup Tribes in recovery efforts of the listed White River Spring Chinook.
- Coordinate and assist Suquamish Tribe in cooperative rearing efforts of Fall Chinook for Puget Sound Recreational Enhancement program.
- Worked closely with staff from the National Marine Fisheries Service for over 4 years on native Minter Creek coho recovery efforts.
- Manage budgets and facility maintenance.
- Annually hire seasonal temporary staff for supporting the rearing efforts of three million Deschutes Fall Chinook at the Coulter Creek Hatchery.
- Develop contracts with local Purse Seiners Vessel Operators Association for continuing chum rearing production at Minter Creek.
- Promote local volunteer efforts including student training and education.

2001-2004 Fish Hatchery Specialist 4 – Ford Hatchery

- Supervise six hatchery staff at three facilities. Responsible for all fish

production, purchases, budgets, hiring temporary employees and developing contracts with Bonneville Power Administration for Sherman Creek and Ford Hatcheries.

- Collaborated with Spokane and Colville Tribes;
- Member of the Lake Roosevelt Fisheries Coordination Team; involved in kokanee and trout enhancement programs.
- Involved in the forming of the Upper Columbia Sturgeon Recovery Initiative project in 2003.
- Responsible for rearing and planting program of catchable rainbow trout; captive broodstock included German Brown, Eastern Brook Trout and Cutthroat. Kokanee reared as part of mitigation with BPA. Assisted Complex Manager in proposing capital project for incubation improvements and planting truck purchase (Sherman Creek).
- Authored Annual Reports and assisted Complex Manager in developing Scope of Work for Contracts with BPA.
- Worked closely with Fish Health Pathologist in managing program changes.

2000-2001 Fish Hatchery Specialist 3 - Fox Island Net Pens

1995-2000 Fish Hatchery Specialist 2 - Puyallup Trout Hatchery

1994-1995 Teacher Orting Middle School

1994 Substitute Teacher - Tacoma, University Place and Puyallup School Districts

1988-1992 Fish Culturist I - South Tacoma Hatchery

Education
BA, Communications, Broadcast Journalism 1988
Washington State University, Pullman, WA

Professional Teachers Certification, K-8, 1994 (No. 333425G)
Pacific Lutheran University, Tacoma, WA

Christopher J. Starr
United States Fish and Wildlife Service
Operations and Maintenance Coordinator
Duties on project: Will act as USFWS LSRCP liaison with project sponsor and BPA.

Academic Background
B.S. Fishery Resources, University of Idaho, 1983
M.S. Fisheries and Wildlife, Michigan State University, 1989

Employment
Operations and Maintenance Coordinator, Lower Snake River Compensation Plan (LSRCP), U.S. Fish and Wildlife Service, Boise, Idaho, 2001 to present. Oversee hatchery operations at all 27 LSRCP fish rearing facilities. Coordinate and manage all facility major maintenance and improvement projects for these facilities. Coordinate condition assessments, safety inspections, environmental audits, and ADA assessments for these facilities.

General Operations Manager, Bay Port Aquaculture Systems, Inc., West Olive, Michigan, 1989 – 2001. Manage all aspects of an aquacultural production and research company, including operations of three independent rearing facilities. Oversee all daily operations, including employee supervision, facility design and construction, budget development, environmental compliance, and directing an extensive research program.

Graduate Research Assistant, Michigan State University, East Lansing, Michigan, 1987 – 1989. Conduct aquaculture research.

Fish Hatchery Superintendent 1, Idaho Department of Fish and Game, McCall Fish Hatchery, McCall, Idaho, 1985 – 1987. Manage the resident fish propagation program and assistant manager of the anadromous fish propagation program.

Fish Culturist, Idaho Department of Fish and Game, Niagara Springs Fish Hatchery, Wendell, Idaho, 1984 – 1985. General fish culture, facility maintenance, and fish disease identification.

Temporary Fisheries Technician, Michigan Department of Natural Resources, Wolf Lake State Fish Hatchery, Mattawan, Michigan, 1983 and 1984. General fish culture and facility maintenance.

Brian C. Zimmerman
Confederated Tribes of the Umatilla Indian Reservation, Pendleton, Oregon
Fish Passage/Artificial Production Program Supervisor
Duties on project: Will act as project sponsor representative coordinating all administrative aspects with BPA.

Employment
2002 - Present
Confederated Tribes of the Umatilla Indian Reservation, Pendleton, Oregon
Artificial Production and Passage Program Supervisor

Provides general oversight for all aspects of CTUIR artificial production and passage projects including individual project development, scope, activities, oversight, personnel supervision, and budgeting. Is the primary CTUIR coordination contact for co-managers on artificial production and passage issues. Develops hatchery management plans and HGMPs. Oversees Umatilla Basin Project flow enhancement effort. Provides review and comment on hatchery and passage facility designs. Serves on Fish Screening Oversite Committee, Production Advisory Committee, Artificial Production Review Committee, Umatilla Management and Monitoring and Evaluation Oversite Committee, Walla Walla and Mill Creek Technical Work Groups, and Umatilla River Operations Groups.

1991 - 2001
Confederated Tribes of the Umatilla Indian Reservation, Pendleton, Oregon
Fish Passage Operations Project Leader (0.75 FTE)

Oversaw all project activities including monitoring of flow and passage conditions; coordination and operation of passage facility and flow enhancement projects; operation of adult and juvenile trapping facilities; fish transportation; fish disposition and broodstock collection; development of annual operating budget; data collection and assimilation; and production of monthly and annual

reports. Served on Fish Screening Oversite Committee, Production Advisory Committee, Artificial Production Review Committee, Umatilla Management and Monitoring and Evaluation Oversite Committee, Umatilla and Walla Walla Technical Work Groups, and Umatilla and Walla Walla River Operations Groups.

1989 - 1991
Paradise Bay Seafarms, Port Townsend, Washington
Production Manager

1988 - 1989
Anadromous Incorporated, Coos Bay, Oregon
Saltwater Facilities Manager

1983 - 1988
Anadromous Incorporated, Corvallis/Klamath Falls, Oregon
Assistant Freshwater Facilities Manager

Publications
Have co-authored 12 Umatilla River Fish Passage Operations Annual Reports
Have co-authored 4 Walla Walla River Fish Passage Operations Annual Reports
Have authored 4 Walla Walla Basin Annual Operating Plans

Education
Graduated Cum Laude, 1979, Humboldt State University
Bachelor of Science Degree in Fisheries Science

Lyons Ferry Hatchery – Adult Pond Division Conceptual Design