

NE OREGON HATCHERY - GRANDE RONDE SATELLITE FACILITIES

8805302

SHORT DESCRIPTION:

This project number is for planning, design and construction through 1997. Project may switch to #9801008 for O & M/M&E beginning in 1998 (under USFWS/LSRCP) if desired by BPA. Construct spring chinook juvenile acclimation/release and adult capture facilities in the upper Grande Ronde River and Catherine Creek in the Grande Ronde Basin. Utilize facilities to supplement the seriously depressed natural producing spring chinook populations.

SPONSOR/CONTRACTOR: CTUIR/USFWS

Confederated Tribes of the Umatilla Indian Reservation/US Fish and Wildlife Service
Gary James, Fisheries Program Manager
Pendleton, OR 97801
541/276-4109

SUB-CONTRACTORS:

Project may be contracted directly from BPA to CTUIR or from BPA to USFWS (under LSRCP) to CTUIR depending on BPA contracting preference.

GOALS

GENERAL:

Supports a healthy Columbia basin, Maintains biological diversity, Maintains genetic integrity, Increases run sizes or populations

ANADROMOUS FISH:

Production, O&M, Research, M&E

NPPC PROGRAM MEASURE:

7.4I.1

RELATION TO MEASURE:

Directly relates to language: "Fund planning, design, construction, operation and maintenance and evaluation of artificial production facilities to raise salmon and steelhead for enhancement inGrande Ronde Rivers".

BIOLOGICAL OPINION ID:

NMFS Hatchery Operations Biological Opinion

OTHER PLANNING DOCUMENTS:

Wy Kan Ush Me Wa Kush Wit, Grande Ronde Subbasin Plan, Miscellaneous NEOH project planning/design documents, NMFS list of priority "ESA" production projects to be funded beginning in 1996.

TARGET STOCK

Grande Ronde Spring Chinook (upp. GR River & Catherine Cr.)

LIFE STAGE

Smolt/Adult

MGMT CODE (see below)

S, W

BACKGROUND

Stream name:

Upper Grande Ronde River and Catherine Creek

Subbasin:

Grande Ronde

Land ownership:

Upper Grande Ronde is USFS Catherine Creek is OSU and City of Union

HISTORY:

Starting in 1982, the upper Grande Ronde River and Catherine Creek were target areas for outplanting production from Lookingglass Hatchery as a part of the LSRCP. However, no satellite juvenile acclimation/release or adult capture/holding facilities were ever constructed under the LSRCP at these locations. The need for satellite facilities has repeatedly been proposed as a part of the following efforts: 1) the Grande Ronde Subbasin Plan, 1989; 2) early implementation project (DIP) initiatives in

1990; 3) the NEOH Grande Ronde component master plan, 1990; 4) the priority supplementation projects as developed by CBFWA's anadromous fish production workgroup, 1992; and 5) the COE funded LSRCP add-on in 1995. Project design and construction is scheduled for completion in 1997 under NEOH Grande Ronde. This proposal is for O & M and M & E of these satellite facilities beginning in 1998.

BIOLOGICAL RESULTS ACHIEVED:

Facility construction is scheduled for 1997. See Section 3. for future biological results expected.

PROJECT REPORTS AND PAPERS:

Siting and conceptual design reports completed). Final designs expected by Spring of 1997. Annual project reports to be done for future O & M/ M & E beginning in 1998.

ADAPTIVE MANAGEMENT IMPLICATIONS:

Hatchery satellite facilities on the upper Grande Ronde River and Catherine Creek will be utilized with captive broodstock and conventional brood supplementation programs as a part of the recovery effort for an ESA listed species. Monitoring and Evaluation of project activities and results will provide information to allow decisions to be made utilizing Adaptive Management to recover listed species.

PURPOSE AND METHODS

SPECIFIC MEASUREABLE OBJECTIVES:

The goals and objectives of the project can be measured by: 1) the number of juvenile spring chinook that are acclimated and released at the facilities; 2) the adult contributions to the ocean and Columbia River fisheries; 3) the Grande Ronde adult returns that are utilized for broodstock and contribute to harvest and rebuilding of natural production; and 4) increased outmigration of naturally produced smolts.

CRITICAL UNCERTAINTIES:

Without intervention, loss of biodiversity and inbreeding depression due to small populations size may put these further at risk. Without juvenile acclimation/release facilities. smolt to adult survivals of hatchery releases would likely be decreased and adult returns would likely not target as well as to the desirable natural production locations. Without the adult capture facilities adults could not be taken for broodstock purposes.

BIOLOGICAL NEED:

Current spring chinook escapements to the upper Grande Ronde River and Catherine Creek are so small they often serve minimal function for seeding the habitat, providing broodstock or fisheries. Artificial production is needed in these areas to bring back the nearly extirpated spring chinook runs. The satellite facilities will specifically address juvenile acclimation/release and adult broodstock capturing needs which are essential to achieving the overall Grande Ronde Basin natural and hatchery adult return goals.

HYPOTHESIS TO BE TESTED:

Supplementation efforts through operation of facilities will increase adult returns.

ALTERNATIVE APPROACHES:

No action - was not chosen because risk of extinction was deemed to be to high.

JUSTIFICATION FOR PLANNING:

Most planning is completed (see project history). Design review and finalization is ongoing in 1997 by federal, state, and tribal fishery management entities. Construction to occur in 1997. This project addresses O & M and M & E beginning in 1998.

METHODS:

The specific project methods include: 1) collect adult broodstock at satellite facilities in tributaries (captive broodstock effort alrea

dy ongoing); 2) rear spring chinook at Lookingglass Hatchery (separate related project); 3) transfer pre-smolts to facilities for acclimation prior to release; 4) utilize returning adults to escape to supplement natural production for broodstock ad for fisheries when returns allow; and 5) evaluate natural production success of returning adults.

PLANNED ACTIVITIES

SCHEDULE:

Planning Phase	Start 1990	End 1997	Subcontractor
Task 1990-1997: Various NEOH - Grande Ronde Master Planning and NEPA efforts. 1997: Final designs to be completed.			
Implementation Phase	Start 1997	End 1998	Subcontractor
Task 1997: Construct upper Grande Ronde satellite facilities. 1997: Construct Catherine Creek satellite facilities.			
O&M Phase	Start 1997	End On-going	Subcontractor
Task 1997 Begin collection of adults for broodstock at temporary weirs. 1998 Begin O & M of new satellite facilities. 1998 Begin M & E of new satellite facilities operations (supplementation research)			

PROJECT COMPLETION DATE:

On-going

CONSTRAINTS OR FACTORS THAT MAY CAUSE SCHEDULE OR BUDGET CHANGES:

1997 construction cost estimates based on final design at 60% completion. Budgets and/or schedules could potentially change depending on accuracy of construction cost estimate.

OUTCOMES, MONITORING AND EVALUATION

SUMMARY OF EXPECTED OUTCOMES

Expected performance of target population or quality change in land area affected:

The reduced stress and improved imprintation of smolts released from the acclimation facilities will increase smolt to adult survival back to the Columbia and Grande Ronde rivers. The expected eventual outcome will be restored natural production and fisheries in the upper Grande Ronde River and Catherine Creek.

Present utilization and conservation potential of target population or area:

Spawning escapement of natural spring chinook in the upper Grande Ronde River and Catherine Creek have recently ranged from about 10 to 50 fish in both locations (a small fraction of historic runs and current potential).

Assumed historic status of utilization and conservation potential:

Historic redd count indicates that approximately 18% and 12% of the total GRB spawning occurred in UGRR and CF respectively. Based on an estimated historic GRB run size of 10,000 to 20,000 adults identified in the NPPC Subbasin Plan (1990), the historic escapement levels in UGRR would have ranged from 1,800 to 3,600 adults and in CC would have ranged from 1,200 to 2,400 adults.

Long term expected utilization and conservation potential for target population or habitat:

The Northeast Oregon Hatchery Project (NEOH) planning process has identified a production capability of 900-1,000 adult spring chinook each for both the upper Grande Ronde River and Catherine Creek. With broodstock collection and harvest goals, the long term target is 1,000 to 1,500 total returning adults to each location.

Contribution toward long-term goal:

Through increased acclimation and smolt releases, the project is expected to return up to one-half of the above goal. With increased spawning escapement and resultant increase in natural production, the total adult return goals are expected to be met.

Indirect biological or environmental changes:

None identified.

Physical products:

Depending on availability of broodstock from captive and conventional programs, smolt releases at each of the upper Grande Ronde and Catherine Creek facilities are anticipated to be from 100,000 to 200,000 annually. The main product indicating success will be increased in adult returns (specifically natural production increases) resulting from these releases.

Environmental attributes affected by the project:

Facilities will use some surface flows for non-consumptive use but total quantity and distance between intake and outflows is deemed to have minimal impact.

Changes assumed or expected for affected environmental attributes:

None identified.

Measure of attribute changes:

N/A

Assessment of effects on project outcomes of critical uncertainty:

Project operations will include M & E of smolt to adult return rates and natural production success of adult returns.

Information products:

Project O & M/M & E results will be produced in monthly or quarterly reports and in annual progress reports.

Coordination outcomes:

As described under "opportunities for cooperation" sharing and coordination between all involved fish co-managers is expected to result in effective integration/operation of the numerous hatchery facility components in the GRB.

MONITORING APPROACH

Measurement of project outcomes should include: 1) continued monitoring of adult returns; 2) monitoring of survival/success of producing smolts from conventional broodstock programs; 3) monitoring of smolt to adult return survivals; and 4) monitoring of natural production success of returning adults.

Provisions to monitor population status or habitat quality:

Spring chinook spawning ground counts and outmigration monitoring (smolt traps) is ongoing by ODFW. These efforts are expected to continue and will be complimented by CTUIR efforts to monitor natural production success of returning adults under this project beginning in 1998.

Data analysis and evaluation:

Project biologists will collect and analyze data and compare survivals to those being achieved under other related efforts (i.e. CTUIR Lookingglass Creek supplementation study, ODFW Grande Ronde captive broodstock program).

Information feed back to management decisions:

Findings will be shared and discussed with co-managers and necessary management actions/changes will be identified and implemented via in the Grande Ronde hatchery program annual operations plan.

Critical uncertainties affecting project's outcomes:

Other ongoing research efforts in the GRB (see related projects) are addressing other related research needs.

EVALUATION

See "specific measurable objectives" and first question under "Monitoring Approach" above.

Incorporating new information regarding uncertainties:

See "feed back to management decisions" question above.

Increasing public awareness of F&W activities:

Project results to be made available in annual reports, presentations to special interest groups or at conferences, facilities to be available for public viewing/tours during periods of operation.

RELATIONSHIPS

RELATED BPA PROJECT

9402700 Grande Ronde Habitat Enhancement (GRMW)
 5507000 Grande Ronde Habitat Enhancement (CTUIR)
 8402500 Grande Ronde Habitat Enhancement (ODFW)
 8805305 NEOH Grande Ronde (ODFW)
 8805301 NEOH Grande Ronde (Nez Perce)

 9604400 CHS Captive Broodstock
 9202804 CHS Early Life History

RELATIONSHIP

Additional habitat enhancement
 Master planning and co-management of all facilities
 Master planning and Lostine satellite facility planning/impl./O & M
 ESA production component
 Natural Production M & E

RELATED NON-BPA PROJECT

M & E of LSRCP/USFWS

 Lookingglass Hatchery Operations/USFWS (LSRCP)

RELATIONSHIP

Ongoing research of existing hatchery programs in the Grande Ronde Basin.
 Central production facility for Grande Ronde Basin satellites.

OPPORTUNITIES FOR COOPERATION:

The entire existing and planned artificial production program in the Grande Ronde Basin (GRB) is a cooperative effort involving state and federal agencies and tribes. USFWS administers funding to states (ODFW and WDFW) and tribes (CTUIR and NPT) for existing facility operations and research. The COE is analyzing additional water and water treatment needs at Lookingglass Hatchery (LGH). The ODFW in cooperation with tribes are implementing a captive broodstock program which will provide smolts to be released at GRB satellite facilities (upper Grande Ronde River and Catherine Creek to be operated by CTUIR and Lostine to be operated by NPT). Capturing adults for a traditional supplementation component will be done by the tribes at satellite facilities with incubation/rearing to occur at LGH by ODFW and then smolts back to satellite facilities prior to release. Monitoring and evaluation by ODFW (LGH studies funded by USFWS and life history studies funded by BPA) and by CTUIR (Lookingglass Creek supplementation study funded by USFWS) is ongoing. Additional supplementation M & E (upper Grande Ronde River and Catherine Creek facility operations) by CTUIR is part of this project proposal. Sharing of equipment, personnel, data, etc. is to be a part of integrating the multi-component hatchery program by all fisheries co-managers in the Grande Ronde Basin. Co-managers will develop a hatchery program annual operating plan (AOP) to help define and coordinate operational specifics of all components.

COSTS AND FTE

1997 Planned: \$1,000,000

1997 Planned: \$400,000

FUTURE FUNDING NEEDS:

PAST OBLIGATIONS (incl. 1997 if done):

<u>FY</u>	<u>\$ NEED</u>	<u>% PLAN</u>	<u>% IMPLEMENT</u>	<u>% O AND M</u>	<u>FY</u>	<u>OBLIGATED</u>
1998	\$250,000		40%	60%	1989	\$110,819
1999	\$250,000		50%	50%	1990	\$296,733
					1991	\$192,741

2000	\$250,000	50%	50%	1992	\$27,605
2001	\$250,000	50%	50%	1993	\$97,907
2002	\$250,000	50%	50%	1994	\$7,169
				1996	\$144,847
				TOTAL:	\$877,821

Note: Data are past obligations, or amounts committed by year, not amounts billed. Does not include data for related projects.

LONGER TERM COSTS: 250K to 300K per year.
About 50% of costs to O & M and 50% to project M & E.

1997 OVERHEAD PERCENT: 34%

HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:
Would apply to all costs except capital equipment.

CONTRACTOR FTE: O & M = 1.5FTE M & E = 1.5 FTE Total = 3 FTE

SUBCONTRACTOR FTE: N/A

SUPPLEMENTAL WILDLIFE EVALUATION FACTORS:

PARTS TO BE SAVED The Bonifer, Minthorn, Imeqes C-mem-ini-kem, Thornhollow and Threemile Dam satellite facilities will continue to be used for acclimation of juvenile salmon and steelhead and for holding and spawning of adults. Remaining projects include one or two additional satellite facilities to accommodate increased juvenile acclimation and one adult broodstock holding and spawning facility. Continue BPA funding for additional construction of remaining facilities (Pjct #9104100) and perform operation and maintenance at all satellite facilities.