UMATILLA HATCHERY SATELLITE FACILITIES - PLANNING, SITING, DESIGN & CONSTRUCTION 9101400

SHORT DESCRIPTION:
Continue implementation of projects included in the Umatilla Hatchery Master Plan. Construct one or two additional acclimation facilities to accommodate acclimation of all juvenile salmon and steelhead released in the Umatilla River Basin. Add incubation and juvenile rearing capabilities to the South Fork Walla Walla brood holding and spawning facility to rear spring chinook salmon for acclimation and release in the Umatilla River.

SPONSOR/CONTRACTOR: CTUIR
Confederated Tribes of the Umatilla Indian Reservation
Gary James, Fisheries Program Manager
Pendleton, OR 97801
541/276-4109

SUB-CONTRACTORS:
When the project is completed, the Bureau of Reclamation will provide facility maintenance.

GOALS

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

ANADROMOUS FISH:
Production

NPPC PROGRAM MEASURE:
7.4I.1

RELATION TO MEASURE:
One or two additional satellite facilities will be designed and constructed to accommodate acclimation of all juvenile salmon and steelhead released in the Umatilla River Basin. In addition, incubation and juvenile rearing capabilities will be added to the South Fork Walla Walla brood holding/spawning facility to rear spring chinook salmon for acclimation and release in the Umatilla River.

BIOLOGICAL OPINION ID:
NMFS Hatchery Operations Biological Opinion

OTHER PLANNING DOCUMENTS:
Wy Kan Ush Me Wa Kush Wit, Umatilla Hatchery Master Plan, Umatilla Hatchery and Basin Annual Operation Plan, Umatilla Subbasin Plan

TARGET STOCK	LIFE STAGE	MGMT CODE (see below)
Umatilla River/Tanner Cr. coho	Smolt	S
Umatilla/Mid-Columbia River fall chinook	Smolt	S
Umatilla River/Carson spring chinook	Egg/Smolt	S
Umatilla River summer steelhead	Smolt	S,W

AFFECTED STOCK	BENEFIT OR DETRIMENT
Snake River fall chinook	Potential effects unknown

BACKGROUND

Stream name:
Umatilla River

Subbasin:
Umatilla

Stream miles affected:
100+

HISTORY:
In the early 1980's, the Confederated Tribes of the Umatilla Indian Reservation and Oregon Department of Fish & Wildlife began implementing a comprehensive plan to supplement steelhead and re-establish salmon runs in the Umatilla River Basin. Umatilla Hatchery satellite facilities were identified as an integral part of this program. Four juvenile acclimation and release facilities were constructed from 1983 to 1995. An adult coho and fall chinook holding and spawning facility was built in 1996 and a spring chinook adult holding/spawning facility is presently being constructed and will be in operation in the spring of 1997. The juvenile rearing and acclimation facilities constructed under this project will complete the facility requirements believed necessary to achieve overall Umatilla River adult returns goals. All satellite facilities are operated by CTUIR.

BIOLOGICAL RESULTS ACHIEVED:
Salmon runs were extinct in the Umatilla River Basin prior to implementation of the Umatilla River fish restoration program. This plan, of which the Umatilla Hatchery satellite facilities are a key component, has resulted in annual returns of salmon and steelhead to the Umatilla River of 3,300 to 8,000 adults in the last 10 years.During that time, approximately 12 million coho and fall and spring chinook and summer steelhead juveniles have been acclimated and released at existing satellite facilities, but this does not represent all juvenile releases. The satellite facilities constructed under this project will: 1) allow for acclimation and release of all juveniles which will increase smolt to adult survival, and 2) increase juvenile spring chinook production which is essential to meet Umatilla River spring chinook adult return goals.

PROJECT REPORTS AND PAPERS:
Umatilla Satellite and Release Sites Project: Final Siting Report, DOE/BP - 12031-1, May 1992; Umatilla Satellite and Release Sites Project: Final Concept Design Report, DOE/BP - 12031-2, May 1992; Annual project reports completed for each year since inception.

ADAPTIVE MANAGEMENT IMPLICATIONS:
The functions of the Umatilla Hatchery satellite facilities are essential to the implementation of the overall Umatilla River restoration program. When completed, the new facilities will allow fish managers: to 1) release juveniles in targeted areas for re-establishment of natural production, 2) acclimate/imprint all smolts for increased survival and homing, and 3) achieve the juvenile spring chinook production goals necessary to meet adult spring chinook return goals outlined in the Umatilla Hatchery Master Plan.

PURPOSE AND METHODS

SPECIFIC MEASUREABLE OBJECTIVES:
When completed, the goals and objectives of the project can be measured by: 1) the number of juvenile salmon and steelhead that are acclimated and released at the facilities, 2) the number of juvenile spring chinook that are produced, and 3) the adult contribution to ocean, Columbia and Umatilla River natural production.

CRITICAL UNCERTAINTIES:
When completed, critical uncertainties will include smolt to adult survivals related to habitat availability, ocean conditions and mainstem Columbia and Umatilla River passage.

BIOLOGICAL NEED:
Artificial production is required in the Umatilla River Basin to bring back extirpated and depressed anadromous fish runs. The satellite facilities constructed under this project specifically address juvenile acclimation/release and juvenile production needs which are essential to achieving the overall Umatilla Basin natural and hatchery adult return goals.

HYPOTHESIS TO BE TESTED:
N/A

ALTERNATIVE APPROACHES:
None identified.

JUSTIFICATION FOR PLANNING:
N/A

METHODS:
When completed, the specific project methods associated with the facilities include: 1) acclimate and release groups of juvenile summer steelhead, coho and chinook salmon, 2) determine general trends in juvenile outmigration timing, 3) incubate and rear spring chinook salmon for release in the Umatilla River, 4) monitor juvenile fish for physical data and health, 5) collect information and snouts from coded-wire tagged fish and send the snouts to ODFW for tag retrieval and decoding, 6) access coded-wire tag information from appropriate sources and determine smolt to adult survival of all coded-wire tagged groups released into the Umatilla River as well as contribution to ocean, Columbia and Umatilla River fisheries, and 7) perform daily routine maintenance and repair of all equipment, buildings and grounds.

PLANNED ACTIVITIES

SCHEDULE:

Planning Phase	**Start** 1991	**End** 1998	**Subcontractor**
Task Identify juvenile production requirements and design facilities.			
Planning Phase	**Start** 1982	**End** 1998	**Subcontractor**
Task Identify acclimation requirements and design facility(s)			
Implementation Phase	**Start** 1999	**End** 2000	**Subcontractor**
Task Construct incubation and juvenile rearing components of South Fork Walla Walla facility			
Implementation Phase	**Start** 1983	**End** 1998	**Subcontractor**
Task Construct acclimation facility(s)			
O&M Phase	**Start** 2000, under prjct no. 8343500	**End** On-going	**Subcontractor**

Task When completed, provisions for operating the South Fork Walla Walla incubation and rearing facilities will be provided by project no. 8343500. Under this project, South Fork Walla Walla adult holding/spawning facility(scheduled for completion in 1997), Three Mile Dam, Bonifer, Minthorn, Thornhollow and Imeques C-mem-ini-kem are operated for holding/spawning adult salmon and steelhead and acclimation of juvenile salmon and steelhead. The South Fork Walla Walla additions will be used for incubation and rearing of spring chinook salmon juveniles. Continue BPA funding for construction of remaining facility(s) (project no. 9101400) and perform operations and maintenance at all facilities (project no. 8343500).

O&M Phase	**Start** 1999, under prjct no. 8343500	**End** On-going	**Subcontractor**

Task When completed, provisions for operation and maintenance of the new acclimation facility(s) will be provided by project no. 8343500. This project provides for the operation of Bonifer, Minthorn, Thornhollow , Imeques C-mem-ini-kem , Three Mile Dam and South Fork Walla Walla (scheduled for completion in 1997). These facilities will continue to be operated for acclimation of juvenile salmon and steelhead and for holding/spawning adult salmon and steelhead. Continue BPA funding for construction of remaining facility(s) (project no. 9101400) and perform operation and maintenance at all facilities (project no. 8343500).

PROJECT COMPLETION DATE:
On-going operation and maintenance

CONSTRAINTS OR FACTORS THAT MAY CAUSE SCHEDULE OR BUDGET CHANGES:
Land acquisition for acclimation facility(s).

OUTCOMES, MONITORING AND EVALUATION

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SUMMARY OF EXPECTED OUTCOMES

Expected performance of target population or quality change in land area affected:
When completed, the project will allow all juvenile salmon and steelhead to be acclimated prior to release into the Umatilla River Basin. The reduced stress and increased imprintation will increase smolt to adult survival back to the Columbia and Umatilla Rivers. It is also anticipated that the additional facilities will provide all spring chinook juveniles necessary to meet Umatilla River adult return goals. Total adult salmon and steelhead return goals to the Umatilla River Basin are approximately 48,000.

Present utilization and convservation potential of target population or area:
The Umatilla River restoration program, of which the satellite facilities are an integral part, has resulted in annual returns of salmon and steelhead to the Umatilla River of 3,300 to 8,000 adults in the last 10 years.

Assumed historic status of utilization and conservation potential:
Runs of fall and spring chinook and coho salmon in the Umatilla River were essentially eliminated in the early 1900's. The single indigenous naturally spawning anadromous stock left in the basin is a run of approximately 1,100 to 2,800 summer steelhead.

Long term expected utilization and conservation potential for target population or habitat:
Total adult salmon and steelhead return goals to the Umatilla River Basin are approximately 48,000. The Umatilla Hatchery Master Plan identifies adult return goals for each target species.

Contribution toward long-term goal:
When completed, the project will provide all spring chinook juveniles needed for the Umatilla River production program and help to increase smolt to adult survival.

Indirect biological or environmental changes:
None identified.

Physical products:
Since 1983, approximately 12 million juvenile salmon and steelhead have been acclimated and released into the Umatilla River Basin. The number of fish acclimated annually has risen from 20,000 in 1983 to over 4 million in 1996. Facilities constructed under this project will result in over 5 million fish being acclimated annually and increased juvenile spring chinook production.

Environmental attributes affected by the project:
None identified.

Changes assumed or expected for affected environmental attributes:
None identified.

Measure of attribute changes:
N/A

Information products:
After completion of the project, the facilities will be operated under project no. 8343500. Monthly and annual reports will provide information on all facilities including juvenile acclimation, adult holding and spawning, juvenile and adult physical and health data, juvenile outmigration, facility maintenance and repair and adult survival and contribution.

Coordination outcomes:
Upon completion, operation of the facilities will require a great deal of cooperation and coordination among many diverse interest

groups as is presently being experienced with operation of existing facilities. See coordinators listed under "opportunities for cooperation".

MONITORING APPROACH

After completion, the project's outcomes can be partially measured by the number of smolts that are acclimated and released and the number of juveniles that are reared. These goals, however, are secondary to the goal of increasing adult returns to the Umatilla River. All groups of fish released into the Umatilla River are representatively coded-wire tagged and smolt to adult survivals are determined as well as contribution to ocean, Columbia and Umatilla River fisheries.

Provisions to monitor population status or habitat quality:

Several projects work closely together to monitor population status. The Umatilla River Basin Trap and Haul Program provides a comprehensive monitoring opportunity for assessing adult returns to the Umatilla River and the Umatilla Basin Natural Production M & E Program conducts extensive spawning ground and juvenile outmigration surveys to assess natural production success.

Data analysis and evaluation:

Once the facilities constructed under this project are in operation, data collected will be shared with the UHM&E Program and will also be summarized in an annual report to BPA. The information will be analyzed by CTUIR and ODFW managers and researchers.

Information feed back to management decisions:

The facilities constructed under project no. 9101400 will be operated under project no. 8343500. Hence, based on information provided by this project and others, adaptive management decisions are made each year by basin co-managers. These decisions are incorporated into the Umatilla Hatchery and Basin Annual Operation Plan.

Critical uncertainties affecting project's outcomes:

Mainstem Columbia and Umatilla River passage and habitat conditions need to be improved.

EVALUATION

As previously mentioned, the performance or success of the facilities resulting from this project can be partially measured by the number of juveniles reared and the number of smolts successfully acclimated and released. In addition, all juvenile release groups are representatively coded-wire tagged and smolt to adult survivals and contribution to ocean, Columbia and Umatilla River fisheries are determined.

Incorporating new information regarding uncertainties:

Again, once the project is completed and the facilities are in operation, information will be collected and analyzed by CTUIR and ODFW and any information eted and the facilities are in operation, information will be collected and analyzed by CTUIR and ODFW and any information that changes the goals or operations of the project will be incorporated into the Umatilla Hatchery and Basin Annual Operation Plan.

Increasing public awareness of F&W activities:

All satellite facilities are and will be highly visible and open to the public. Information will be given to the public through private and public tours.

RELATIONSHIPS

RELATED BPA PROJECT	RELATIONSHIP
8902401 Evaluation of Juvenile Salmonid Outmigration and Survival in the Lower Umatilla River Basin	Same as 8802200
9000500 Umatilla Hatchery M & E	Same as 8802200
8343600 Umatilla Passage Facilities O & M	Same as 8802200

8710001 Umatilla River Basin Anadromous Fish Habitat Enhancement	Same as 8802200
9000501 Umatilla Basin Natural Production M & E	Same as 8802200
8802200 Umatilla River Basin Trap & Haul Program	All projects listed are additional components of the overall Umatilla River fish restoration program. These projects provide biological information related to the operation and outcome of the artificial production program (including satellite facilities), trap and haul outmigrating hatchery produced juveniles during low water conditions, provide increased habitat for fish utilization, provide preventative and heavy maintenance at all satellite facilities, provide juvenile salmon and steelhead for acclimation and release into the Umatilla River and provide evaluation of natural production success.
8343500 Umatilla Hatchery Satellite Facilities O & M	Project No. 8343500 will provide for operation and maintenance of the facilities completed under pjct. no. 9101400.
8403300 Umatilla Hatchery O & M	Umatilla Hatchery is the primary production facility for providing juvenile salmon and steelhead smolts for acclimation and release (pjct. no. 8343500) in the Umatilla River Basin.

RELATED NON-BPA PROJECT	**RELATIONSHIP**
Cascade Hatchery O & M/NMFS	Cascade and Carson National hatcheries provide salmon juveniles for acclimation and release into the Umatilla River.

OPPORTUNITIES FOR COOPERATION:

Satellite facilities constructed under this project will be part of a comprehensive Umatilla River fish restoration plan developed by CTUIR and ODFW in cooperation with the Council, BPA, USFWS, various Irrigation districts and private landowners. CTUIR operates the Umatilla Hatchery satellite facilities as part of the Umatilla Basin artificial production program. Other facility operations to complete the program include Umatilla, Little White Salmon, Cascade and Carson National hatcheries operated by ODFW and USFWS. Other projects include fish passage and habitat and flow enhancement funded by the Bureau of Reclamation and BPA. The Bureau of Reclamation and Irrigation Districts also provide preventative and heavy maintenance at all satellite facilities.

COSTS AND FTE

1997 Planned: $4,640,117

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FUTURE FUNDING NEEDS:

FY	$ NEED	% PLAN	% IMPLEMENT	% O AND M
1998	$2,700,000	20%	80%	
1999	$3,900,000		100%	
2000	$0			
2001	$0			
2002	$0			

PAST OBLIGATIONS (incl. 1997 if done):

FY	OBLIGATED
1991	$2,050,123
1992	$123,089
1994	$60,790
1996	$4,000
TOTAL:	$2,238,002

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

LONGER TERM COSTS:

Construction costs will end in 1999. Provisions for operating the facilities upon completion will be provided by project no. 8343500.

1997 OVERHEAD PERCENT: 34%

HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:
Applies only to small amount of total project (CTUIR personnel costs). BPA likely to spend most funds by contracting directly with construction firms.

SUBCONTRACTOR FTE: FTE's required for construction firms unknown at this time.