SBT/SPT JOINT CULTURE FACILITY 9500600

SHORT DESCRIPTION:
Plan and develop a facility to provide trout for the Duck Valley and Fort Hall Reservations as part of the resident fish substitution portion of the program. Trout production will include native Yellowstone cutthroat, redband trout, and rainbow trout. Rainbow trout will provide fish for put and take fisheries in enclosed reservoirs. In addition to providing recreational and subsistence fishery opportunities, put and take fisheries will ease pressure on native fish stocks Native fish will be used to re-establish stocks diminishing due to habitat loss, hybridization with non-native species, and exploitation. Past stocking of native cutthroat trout in other areas (Dwyer and Rosenlund 1988) has shown success and provides key information on problems associated with production of native species in a hatchery setting.

SPONSOR/CONTRACTOR: SBT
Shoshone-Bannock Tribes
David Arthaud, Fish and Wildlife Biologist
Fort Hall, ID 83203
208/238-3761 rezfish@poky.srv.net

SUB-CONTRACTORS:
Salmon Corps.

GOALS

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

RESIDENT FISH:
Production

NPPC PROGRAM MEASURE:
10.3E.9;10.3E;10.3E11;10.8C.1;10.8C.2;10.8C.3;10.8C.4;10.8C.6;10.8.C.7

RELATION TO MEASURE:
SBT/SPT joint culture facility, stocking of native and put and take fisheries, funding

TARGET STOCK	LIFE STAGE	MGMT CODE (see below)
Rainbow trout		S
Redband trout		N W
Yellowstone cutthroat trout		N W

AFFECTED STOCK	BENEFIT OR DETRIMENT
Otter	Beneficial
Whitefish	Beneficial
Sculpin	Beneficial
Osprey	Beneficial
Eagles	Beneficial

BACKGROUND

Subbasin:
Upper Snake
Land ownership:
Indian Reservation and Private

Hydro project mitigated:
Palisades; Minidoka; American Falls

HISTORY:
1992 CH2M Hill Feasibility study, 1995 Master Plan, 1996-1997 Purchase and Capital Construction. If the facility is large enough

(ie. has sufficient water), then surplus eggs could be provided to the BPA programs throughout the basin. Funding would be directed toward operations and maintenance of the facility.

BIOLOGICAL RESULTS ACHIEVED:
None yet

PROJECT REPORTS AND PAPERS:
1992 Preliminary Feasibility study; 1995 Hatchery Master Plan.

ADAPTIVE MANAGEMENT IMPLICATIONS:
Information gathered during planning, implementation, operation, and maintenance will be used to modify future actions related to this project for the highest level of efficacy and cost effectiveness. In addition, past projects concerning stocking of native fishes by other individuals will provide information necessary to project success. Phase II of the project includes experimentation with different techniques in holding and spawning native fishes. Phase III includes development of an EIS to weigh benefits of outplanting eggs for native species recovery against any indirect or direct disadvantages.

PURPOSE AND METHODS

SPECIFIC MEASUREABLE OBJECTIVES:
Adult cutthroat and redband brood stock will be spawned in the hatchery to provide eggs, fingerlings, and catchable trout for Duck Valley and Fort Hall Reservations. Cutthroat brood stock (160) pairs will be spawned to provide 350,000 eggs and 8,000 catchables for the Fort Hall Reservation. Redband (150 - 300 pairs) will be spawned to provide Duck Valley Reservation with 350,000 eggs, 245,000 fingerlings and 94,000 catchables. Also rainbow trout eggs will be purchased to provide 550,000 rainbow fingerlings and 164,000 catchable rainbows for the Duck Valley and Fort Hall Reservation.

CRITICAL UNCERTAINTIES:
Whether we can successfully hold and spawn native brood stock in a hatchery setting and outplant eyed eggs in remote site hatchboxes.

BIOLOGICAL NEED:
Fish are needed to help recover native populations of cutthroat trout on the Fort Hall Reservation and redband trout on the Duck Valley Reservation, and to provide catchable rainbow trout for economic development and alternative fisheries on both reservations.

HYPOTHESIS TO BE TESTED:
HO: Hatcheries cannot be used to re-establish and help perpetuate native fishes. HA: Hatcheries can be used to re-establish and help perpetuate native fishes.

ALTERNATIVE APPROACHES:
Habitat restoration/enhancement and protection of existing native fish populations/stocks is inadequate given their continued decline from genetic introgression, habitat degradation, and exploitation

JUSTIFICATION FOR PLANNING:
N/A - This project is in implementation and operation and maintenance phases.

METHODS:
Phase I - Construction of hatchery facility with separate rearing/holding areas for native fishes and rainbow trout. Rainbow trout will be raised for outplanting to enclosed terminal reservoirs for recreational and tribal subsistence fisheries. Phase II - Experiment with holding and spawning of native fish species. Phase 3 - Collect tissue samples from local populations of native fish to assess genetic purity, collect gametes from genetically pure populations and use them as brood stock for the hatchery. Every year brood stock would be replaced with wild gametes at a rate of 20 - 30%. Eyed eggs will be outplanted to hatch-boxes.

PLANNED ACTIVITIES

SCHEDULE:

Planning Phase **Start** 1996 **End** 1997 **Subcontractor**

Task Complete purchase of hatchery, rebuilding necessary components, Experiment with holding and spawning of native fish species.

Planning Phase **Start** 1995 **End** 1996 **Subcontractor** Montgomery-Watson

Task 1992 CH2M Hill 1995 Master Plan.

Planning Phase **Start** 1991 **End** 1992 **Subcontractor** CH2M Hill

Task 1992 CH2M Hill

Implementation Phase **Start** 2000 **End** 2020 **Subcontractor**

Task Production and outplanting of native fish eggs to target streams.

Implementation Phase **Start** 1998 **End** 2000 **Subcontractor**

Task Collect tissue samples from local populations of native fish to assess genetic purity, collect gametes from genetically pure populations and use them as brood stock for the hatchery. Experiment with holding and spawning of native fish species.

Implementation Phase **Start** 1997 **End** 2020 **Subcontractor**

Task Production and outplanting of rainbow trout to terminal reservoirs.

O&M Phase **Start** 1997 **End** 2020 **Subcontractor**

Task Operation and maintenance of hatchery.

PROJECT COMPLETION DATE:
2020

OUTCOMES, MONITORING AND EVALUATION

SUMMARY OF EXPECTED OUTCOMES

Expected performance of target population or quality change in land area affected:
Restoration and recovery of native fisheries on the Fort Hall and Duck Valley reservations.

Present utilization and convservation potential of target population or area:
Depleted numbers of native Yellowstone cutthroat and redband trout. Factors responsible for the decline of genetically pure populations include; fragmented (i.e. hydropower projects) and degraded habitat, genetic introgression, and exploitation.

Assumed historic status of utilization and conservation potential:
Healthy populations of Yellowstone cutthroat trout and redband trout within Fort Hall and Duck Valley reservations

Long term expected utilization and conservation potential for target population or habitat:
Return of Yellowstone cutthroat trout in Fort Hall reservation and redband trout in Duck Valley reservation to near historic levels.

Contribution toward long-term goal:
Production targets weak stocks for restoration. Supplementation will help re-establish affected populations. Production will also be for Duck Valley and Fort Hall trout put and take programs to reduce exploitation of sensitive native fish stocks.

Indirect biological or environmental changes:
Public may support improved habitat and native species rather than degraded habitats populated with warm-water exotic fishes.

Physical products:
Adult cutthroat and redband brood stock will be spawned in the hatchery to provide eggs, fingerlings, and catchablo provide eggs, fingerlings, and catchable trout for Duck Valley and Fort Hall Reservations. Cutthroat brood stock (160) pairs will be spawned to provide 350,000 eggs and 8,000 catchables for the Fort Hall Reservation. Redband (150 - 300 pairs) will be spawned to provide Duck Valley Reservation with 350,000 eggs, 245,000 fingerlings and 94,000 catchables. Also rainbow trout eggs will be purchased to provide 550,000 rainbow fingerlings and 164,000 catchable rainbows for Duck Valley and Fort Hall Reservations.

Environmental attributes affected by the project:
N/A

Changes assumed or expected for affected environmental attributes:
N/A

Measure of attribute changes:
N/A

Assessment of effects on project outcomes of critical uncertainty:
Problems will be addressed by referencing other pertinant peer reviewed projects and through basic scientific method and iterative techniques.

Information products:
Annual reports and quarterly reports will be submitted for the duration of the project. In addition, project outcomes related to native species recovery will be published in appropriate peer reviewed journals.

Coordination outcomes:
A feasibility study and report were completed in 1992. It showed that purchase of an existing facility would be more cost effective than building a new one. A hatchery Masterplan was completed in 1996. The SPT and SBT decided coordination would be the most effective means to implement a native species and put and take production facility. State organizations have decided not to participate until native species eggs were made available.

MONITORING APPROACH
Continued monitoring of target stocks/streams will provide information on health and numbers of native fishes. In particular, monitoring the number of return spawners to sites of release and any increases in population estimates of native fish stocks.

Provisions to monitor population status or habitat quality:
Continued monitoring of fish populations and habitat by biologists to assess increases in production, health, and numbers of native fishes.

Data analysis and evaluation:
Quantitative data will be analyzed using the appropriate statistical tests of significance. Outcomes will be evaluated by professional biologists using the appropriate scientific methods.

Information feed back to management decisions:
Project success will be assessed and future project planning, implementation, and operation and maintenance will be adjusted accordingly through adaptive management techniques.

Critical uncertainties affecting project's outcomes:
Collection of baseline data, historical information, and results from projects completed by other individuals/entities.

EVALUATION

Measurable tangibles include; native fish numbers, genetic integrity of native fish, health of native fish, and success of Duck Valleys put and take program.

Incorporating new information regarding uncertainties:
Any information gained from the project will be incorporated into future planning, implementation, and operation and maintenance of the project.

Increasing public awareness of F&W activities:
Information disseminated on the project will stress the importance of restoring native fish to areas where they once flourished. Increased numbers of native fish will be available to anglers.

RELATIONSHIPS

RELATED BPA PROJECT	RELATIONSHIP
9501400	Assessment of native fish losses
9201000 Habitat Restoration/Enhancement Fort Hall Bottoms	Provides habitat for re-introduction and natural spawning of native cutthroat trout

OPPORTUNITIES FOR COOPERATION:
Partnership between Fort Hall and Duck Valley reservations. Cooperation with IDFG, ODFW, BPT.

COSTS AND FTE

1996 Unobligated: $1,400,000
1997 Planned: $315,000
1997 Planned: $0

FUTURE FUNDING NEEDS:

FY	$ NEED	% PLAN	% IMPLEMENT	% O AND M
1998	$110,000	0%	0%	100%
1999	$110,000	0%	0%	100%
2000	$120,000	0%	0%	100%
2001	$120,000	0%	0%	100%
2002	$120,000	0%	0%	100%

PAST OBLIGATIONS (incl. 1997 if done):

FY	OBLIGATED
1995	$75,067
TOTAL:	$75,067

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

OTHER NON-FINANCIAL SUPPORTERS:
Blackfoot River Watershed Council

LONGER TERM COSTS: $350,000.00
Operation and Maintenance in perpetuity

1997 OVERHEAD PERCENT: 26%

HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:
Personnel and fringe benefits.

CONTRACTOR FTE: 3 FTE - 1 Hatchery Manager, 1 Biologist, and 1 Senior Technician.

SUBCONTRACTOR FTE: N/A