

JOHNSON CREEK ARTIFICIAL PROPAGATION ENHANCEMENT

9604300

SHORT DESCRIPTION:

Development of a native chinook salmon broodstock for rearing in McCall Hatchery and release of acclimated smolts to preserve and recover the population, with the utilization of on site adult collection/holding and juvenile rearing/acclimation.

SPONSOR/CONTRACTOR: NPT

Nez Perce Tribe

Ed Larson, Director of Production/Habitat

P.O. Box 365, Lapwai, ID 83540

208/843-7320 Ext. 2440 N/A

GOALS

GENERAL:

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

ANADROMOUS FISH:

Production

NPPC PROGRAM MEASURE:

7.4A; 7.4A.2

RELATION TO MEASURE:

The Johnson Creek artificial propagation enhancement project is a small-scale production initiative designed to increase survival of a weak but recoverable population of summer chinook salmon. Techniques being used utilize portable low capital equipment to establish on site adult collection and holding and juvenile rearing and acclimation (7.4A).

BIOLOGICAL OPINION ID:

Section 10 permit

OTHER PLANNING DOCUMENTS:

Snake River Recovery Plan: 4.1.b, 4.4c. A...develop and implement management plans for Snake River spring/summer chinook salmon conservation hatchery programs which should include: ..., 2. Genetic Management Strategy,...@ AThe fisheries agencies and Tribes should design and carry out production-scale experiments at appropriate Columbia River Basin hatcheries to test individual release strategies and evaluate smolt quality indices believed to improve smolt quality. The fisheries agencies and the Tribes should develop methods of achieving high quality fish.@ AUsing acclimation ponds and volitional release strategies.@ Wy Kan Ush Me Wa Kush Wit (Draft 6/15/95): 5B--24-25,58. AImplement supplementation projects that have met the screening criteria of RASP (1992) and Cuenca et al. (1993)@ , which includes Johnson Creek. AEstablish additional programs for each of the subbasin tributary systems to monitor adult escapement and resulting smolt production, and to evaluate (by measuring the number of adults returning) the ability of managers to meet goals set by the Columbia River Management Plan.@

TARGET STOCK

Johnson Creek -summer chinook salmon

LIFE STAGE

Adult and Juvenile

MGMT CODE (see below)

S, L, W

AFFECTED STOCK

BENEFIT OR DETRIMENT

BACKGROUND

Stream name:

Johnson Creek

Subbasin:

Salmon River

Land ownership:

Public and Private

Hydro project mitigated:

N/A

Habitat types:

N/A

HISTORY:

The Johnson Creek Artificial Propagation Enhancement project is one of the high priority Tribal supplementation projects that has been around since the early implementation plan (EIP) process through the Bonneville Power Administration. It has received a high priority ranking through CBFWA and has been reviewed and recommended through the U.S. v. Oregon Production Advisory Committee process. A conventional hatchery approach or captive broodstock approach are possibilities to preserve and recover chinook salmon in Johnson Creek.

BIOLOGICAL RESULTS ACHIEVED:

None to date. Project initiated in 1997.

PROJECT REPORTS AND PAPERS:

None to date. Project initiated in 1997.

ADAPTIVE MANAGEMENT IMPLICATIONS:

None to date. Project initiated in 1997.

PURPOSE AND METHODS

SPECIFIC MEASUREABLE OBJECTIVES:

The use of artificial propagation will prevent extirpation of the Johnson Creek population. The use of artificial propagation and acclimated smolt releases will return a threshold number of spawning adults to Johnson Creek and will aid in moving toward recovery and delisting of this salmon population. The overall goal of this project is to develop and implement a portable on-site adult collection/holding and rearing/acclimation facility for Johnson Creek summer chinook salmon with the intent of increasing adult returns through increased juvenile survival and improved homing in order to preserve and recover the Johnson Creek salmon population. The project also seeks to restore salmon populations to abundant levels and re-establish Tribal and sport fisheries in the South Fork Salmon system.

CRITICAL UNCERTAINTIES:

See Underlying Assumptions or Critical Constraints.

BIOLOGICAL NEED:

The Johnson Creek summer chinook salmon population has experienced significant decline in population numbers over the past five decades. Escapement levels in Johnson Creek have declined from a high of 486 redds in 1960 to a low of five redds observed in 1995. Since Snake River chinook salmon are listed as an endangered species we are in an emergency situation. Unprecedented efforts will be needed to prevent species extinction and preserve fish for the future. Artificial propagation programs are one measure to attempt to enhance populations and increase natural production in Snake River tributaries. The NMFS draft recovery plan states that "captive broodstock and supplementation programs should be initiated and/or continued for populations identified as being at imminent risk of extinction, facing severe inbreeding depression, or facing demographic risks".

HYPOTHESIS TO BE TESTED:

Artificial propagation can be used as a management tool to preserve and recover the chinook salmon population in Johnson Creek.

ALTERNATIVE APPROACHES:

No Response

JUSTIFICATION FOR PLANNING:

N/A

METHODS:

The Johnson Creek Artificial Propagation Enhancement project will utilize either adults or juveniles, collected in Johnson Creek, in a conventional hatchery or captive broodstock program. Adult salmon would be trapped beginning in 1997 and would be held on-site or at an existing facility until spawning. The existing adult steelhead weir would be used for collection of adult chinook salmon. Eggs would be transferred to McCall Hatchery and progeny reared to a fall pre-smolt or smolt stage. Juveniles would then be transferred to satellite facilities on Johnson Creek in the early spring of 1999 where they would be reared and/or acclimated as smolts and released near major spawning areas. Description of production goals, broodstock acquisition, spawning protocols, incubation strategies, rearing programs, monitoring and evaluation, pathology, and facility operation and maintenance will be provided in an annual operating plan.

PLANNED ACTIVITIES

SCHEDULE:

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

Task Completion of environmental assessment under NEPA. Completion of preliminary and final engineering design for portable rearing/acclimation facilities.

Implementation Phase **Start** 1998 **End** 1999 **Subcontractor**

Task Site development and initial adult trapping and/or captive broodstock program development.

O&M Phase **Start** 1998 **End** **Subcontractor**

Task Annual adult collection and juvenile production

CONSTRAINTS OR FACTORS THAT MAY CAUSE SCHEDULE OR BUDGET CHANGES:

Identificaition of operation site(s) including landowner approval will be completed in 1997. NEPA analysis is expected to be completed in 1997, but could extend into 1998. With proper communication with all effected agentices futher permit approval such as USFS special use permits should be issued propitly.

OUTCOMES, MONITORING AND EVALUATION

SUMMARY OF EXPECTED OUTCOMES

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

Increased survival and return of summer chinook salmon adults to Johnson Creek. Develop and utilize a portable prototype facility to collect/hold adults and rear/acclimate juvenile salmon.

Present utilization and convservation potential of target population or area:

No Response.

Assumed historic status of utilization and conservation potential:

No Response.

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

No Response.

Contribution toward long-term goal:

No Response.

Indirect biological or environmental changes:

No Response.

Physical products:

No Response.

Environmental attributes affected by the project:

No Response.

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:

No Response.

Information products:

No Response.

Coordination outcomes:

No Response.

MONITORING APPROACH

The Johnson Creek Artificial Propagation Enhancement project will utilize either adults or juveniles, collected in Johnson Creek, in a conventional hatchery or captive broodstock program. Adult salmon would be trapped beginning in 1997 and would be held on-site or at an existing facility until spawning. The existing adult steelhead weir would be used for collection of adult chinook salmon. Eggs would be transferred to McCall Hatchery and progeny reared to a fall pre-smolt or smolt stage. Juveniles would then be transferred to satellite facilities on Johnson Creek in the early spring of 1999 where they would be reared and/or acclimated as smolts and released near major spawning areas. Description of production goals, broodstock acquisition, spawning protocols, incubation strategies, rearing programs, monitoring and evaluation, pathology, and facility operation and maintenance will be provided in an annual operating plan.

Provisions to monitor population status or habitat quality:

The Idaho Salmon Supplementation Study collect data annually to monitor the abundance of natural juvenile production and adult returns via redd count. This data has been collected since 1991 in Johnson Creek and will used to monitor current population status with comparision to presupplementation base line data.

Data analysis and evaluation:

No Response.

Information feed back to management decisions:

No Response.

Critical uncertainties affecting project's outcomes:

No Response.

EVALUATION

No Response.

Incorporating new information regarding uncertainties:

No Response.

Increasing public awareness of F&W activities:

No Response.

RELATIONSHIPS

RELATED BPA PROJECT

8909800 and 8909802

RELATIONSHIP

Idaho Salmon Supplemetation Studies, Monitors adult escapement and juvenile production, will use Johnson Creek as a treatment stream and share data.

OPPORTUNITIES FOR COOPERATION:

This project will be coordinated with Lower Snake River Compensation Plan (LSRCP) McCall Hatchery production of South Fork Salmon River chinook salmon. Coordination will also occur with the Shoshone Bannock Tribe.

COSTS AND FTE

1997 Planned: \$792,800

FUTURE FUNDING NEEDS:

<u>FY</u>	<u>\$ NEED</u>	<u>% PLAN</u>	<u>% IMPLEMENT</u>	<u>% O AND M</u>
1998	\$425,000		0%	0%
1999	\$375,000		0%	0%
2000	\$375,000		0%	0%
2001	\$375,000		0%	0%

PAST OBLIGATIONS (incl. 1997 if done):

<u>FY</u>	<u>OBLIGATED</u>
1996	\$169,525
TOTAL:	\$169,525

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

<u>FY</u>	<u>OTHER FUNDING SOURCE</u>
1998	

<u>AMOUNT</u>	<u>IN-KIND VALUE</u>
	No Data

OTHER NON-FINANCIAL SUPPORTERS:

No Response

LONGER TERM COSTS: No Response

No Response

1997 OVERHEAD PERCENT: 29.5

HOW DOES PERCENTAGE APPLY TO DIRECT COSTS:

Total direct cost

CONTRACTOR FTE: No Response

SUBCONTRACTOR FTE: No Response