

**Bonneville Power Administration
Fish and Wildlife Program FY99 Proposal**

Section 1. General administrative information

Methow Basin Side Channel Habitat Construction

Bonneville project number, if an ongoing project 9097

Business name of agency, institution or organization requesting funding
Yakama Indian Nation

Business acronym (if appropriate) YIN

Proposal contact person or principal investigator:

Name Lynn Hatcher
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Subcontractors.

Organization	Mailing Address	City, ST Zip	Contact Name
Unidentified			For Engineering
Unidentified			For Construction

NPPC Program Measure Number(s) which this project addresses.

7.6-8

NMFS Biological Opinion Number(s) which this project addresses.

na

Other planning document references.

Wy-Kan-Ush-Mi-Wa-Kush-Wit. pg. 81-88 i

Subbasin.

Methow

Short description.

Create side channel habitats for spring chinook salmon in the Methow Basin by excavating new channels and re-connecting existing channels to the mainstem Methow River and its larger tributaries.

Section 2. Key words

Mark	Programmatic Categories	Mark	Activities	Mark	Project Types
x	Anadromous fish	x	Construction	X	Watershed
	Resident fish		O & M		Biodiversity/genetics
	Wildlife		Production		Population dynamics
	Oceans/estuaries		Research		Ecosystems
	Climate	+	Monitoring/eval.		Flow/survival
	Other		Resource mgmt		Fish disease
			Planning/admin.	+	Supplementation
			Enforcement		Wildlife habitat en-
			Acquisitions		hancement/restoration

Other keywords.

side channels, habitat restoration, spring chinook

Section 3. Relationships to other Bonneville projects

Project #	Project title/description	Nature of relationship

Section 4. Objectives, tasks and schedules

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Create or provide access to up to 100,000 square meters of off-channel rearing and overwintering habitat for spring chinook salmon.	a	excavate/create new side channel habitat.

		b	re-connect existing side channels currently cut-off from the main channel.
		c	increase rearing complexity for juvenile fish in existing side channels, through habitat improvements, ie., add LWD, substrate, plantings.
2	Using existing habitat inventory data, select existing side channels or locate sites for side channel construction.	a	work with other natural resource agencies in the basin to review potential sites and select candidate sites.
3	Secure required land ownership agreements, etc. to initiate field activities.	a	determine land ownership, make contacts with land owners, write MOU's, submit (as required) water right permits, HPA permits, SEPA/NEPA reviews to the respective local, state and federal agencies.

Objective schedules and costs

Objective #	Start Date mm/yyyy	End Date mm/yyyy	Cost %
1	7/1999	10/1999	85.00%
2	10/1998	1/1999	5.00%
3	1/1999	6/1999	10.00%
			TOTAL 100.00%

Schedule constraints.

To secure various permits, environmental review processes, MOU's to began field activities in the summer/fall of 1999. Given the environmental review process it may only be feasible to complete objectives 2 and 3 in 1999, and objective 1 in 2000.

Completion date.

FY1999 through FY2001

Section 5. Budget

FY99 budget by line item

Item	Note	FY99
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Personnel		70500
Fringe benefits		14500
Supplies, materials, non-expendable property	included in construction amt.	
Operations & maintenance		
Capital acquisitions or improvements (e.g. land, buildings, major equip.)	included in construction amt.	
PIT tags	# of tags:	
Travel		
Indirect costs		\$100,000
Subcontracts	engineering & construction	\$340,000
Other		
TOTAL		\$525,000

Outyear costs

Outyear costs	FY2000	FY01	FY02	FY03
Total budget	\$435,000	\$435,000	\$0	\$0
O&M as % of total	0.00%	0.00%		

Section 6. Abstract

The underlying assumption for the project is that off-channel habitats should be more productive and safer rearing environments than the mainstem Methow or its larger tributaries. Irrigation withdrawals have significantly and profoundly affected habitat quality and quantity in the Methow Basin. If these off-channel habitats are more productive than mainstem habitats then we should detect increases in smolt production and size at age.

The goal of the project is to create or enhance 100,000 square meters of side channel habitat for juvenile spring chinook over wintering habitat.

The objectives are to- identify candidate side channels from existing habitat inventory data (YIN and USFS), to secure various environmental permits and review processes required to begin field work, and to complete the actual field construction on each candidate site.

This project has relevance to the habitat section (7.6-8) of the FWP, with the goal of improving salmonid stock productivity through improvements to the habitat.

This project is proposed to be completed within three FY cycles.

Success of the project would require additional monitoring and evaluation funding through the FWP in the out years. However, the potential exists that the project would be evaluated through the Methow Valley Spring Chinook Supplementation Program and by the Winthrop District USFS fisheries staff.

Section 7. Project description

a. Technical and/or scientific background.

The Methow River and its larger tributaries have been artificially straightened for highway construction and flood control projects. This activity significantly reduced the amount of productive off-channel rearing and overwintering area. Today fish are limited largely to mainstem environments that are additionally impacted by low summer and fall flows. This project will provide habitats that are structurally and functionally analogous to those destroyed by earlier actions and that are unaffected by irrigation withdrawals.

b. Proposal objectives.

The goal of the project is to create and/or improve 100,000 square meters of off-channel overwinter rearing (primarily) habitat for spring chinook (target species, but would potentially benefit steelhead, summer chinook,).

It is anticipated that this project will significantly increase spring chinook smolt production in the Methow Basin, and that this increase will help the troubled stock cope with the mortality associated with passing nine mainstem Columbia River dams. Juvenile densities of 0.5 fish per square meter are commonly observed in off-channel habitats. In the Fraser River densities as high as six fish per square meter have been reported in this type of habitat. If spring chinook do respond to these habitats as anticipated, this project could increase spring chinook production by at least 50,000 smolts.

c. Rationale and significance to Regional Programs.

This project is consistent with the stated FWP's **Section 7.6 Habitat Goal, Policies And Objectives**, to improve habitat quality to increase stock productivity (pg. 7-31). It is also consistent with the Tribal Wy-Kan-Ush-Mi-Wa-Kish-Wit plan for the Methow Basin, one of the recommended actions is to increase spring chinook overwintering habitat through re-connecting cut-off side channels (pg. 84).

As stated in 7.a, the goal of the project is to increase off-channel juvenile rearing habitat for spring chinook, which has been diminished through various means of channelization. The underlying assumptions, 1) is that off-channel rearing habitat is of higher rearing value (in terms of survival and productivity) than mainstem type habitat, 2) that juvenile spring chinook will utilize these off-channel habitats for overwinter rearing (and potentially summer), and 3) fish that do utilize this habitat, oppose to mainstem habitat, will incur a greater juvenile survival rate.

d. Project history

This project was submitted for the FY1998, but was deferred.

e. Methods.

Construction techniques will follow those developed and refined by experts at the Washington Department of Fish and Wildlife and by the British Columbia Ministry of the Environment. Creation of new side channel habitat will entail excavating down to one meter below the ground water surface elevation (approximately 2.5 meters at most sites), armoring the upstream end of the channel to prevent river capture, the placement of woody debris as cover, and revegetation of disturbed areas.

Re-connection of existing side channel habitat and/or improvements to existing habitat may require construction of a headgate structure to control discharge into the channel, excavation, placement of LWD and revegetation.

f. Facilities and equipment.

It is anticipated that this work will require, to varying degrees, use of light weight construction equipment. In some cases the work can be completed by hand.

g. References.

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Section 8. Relationships to other projects

To date there has been positive working relationship between the YIN, USFS, WDFW and Pacific Rivers Council on collaborating together (share ideas, equipment, personnel, M/E activities) on habitat restoration type projects. Thus, the opportunity exists to “dove tail” this project into existing USFS and Pacific Rivers Council habitat restoration projects. Within the Twisp basin, side channel work has the potential to occur within the low flow reach currently being addressed through the BPA Methow Valley Irrigation District Conservation Project (project #9603401).

The project has much relevance to the Douglas PUD funded Methow Valley Spring Chinook Supplementation Program. The success of any supplementation based production program rests, in part, to the quality of the basin's habitat conditions. This is perhaps of greater importance in the Methow Basin. Being located in the upper Columbia Basin, smolt-to-smolt survival is low because of the number of dams juvenile fish pass negotiate. Thus, maintaining and increasing the productivity capacity of the natural habitat is essential to the long term health of the Methow salmonid stocks.

Section 9. Key personnel

The project manager will be responsible for hiring the principle investigator for the project, to carryout administrative functions, to prepare the final report and to participate in the site selection and permitting processes.

Project Manager: Joel Hubble

Work History

Yakama Indian Nation, Fish. Res. Management, Toppenish, WA 1993 - Present

Fisheries Biologist III (research biologist)

My primary responsibility is to develop monitoring/evaluation studies for various tribal fisheries projects, and to provide oversight in the implementation of these field studies. I'm most involved with the BPA funded Yakima/Klickitat Fisheries Project (YKFP) and the Douglas PUD funded Methow Basin Spring Chinook Supplementation Project (project leader).

I have oversight of the BPA funded video adult fish monitoring project in the Yakima basin which is part of the YKFP.

Since fall 1995 I have participated in Ecosystem Diagnosis Treatment (EDT) modeling of the Yakima Basin steelhead and fall chinook populations.

Other responsibilities include preparation of annual work statements and budgets; data analysis and annual report writing; and the direct supervision of two field biologists and three video monitoring fisheries technicians.

Yakama Indian Nation, Fish. Res. Management, Toppenish, WA 1989 - 1993

Fisheries Biologist II

Project Leader for the BPA funded Yakima/Klickitat Fisheries Project. Duties included oversight of the YIN's work statement, preparation of the annual budget, work plan and report, and oversight of field research activities and data analysis.

Yakama Indian Nation, Fish. Res. Management, Toppenish, WA 1982 - 1988

Fisheries Biologist I

Field biologist for the BPA funded Yakima Basin Spring Chinook Enhancement Study. Duties included supervision of field crews, collection of field data, data analysis and report writing.

Yakama Indian Nation, Fish. Res. Management, Toppenish, WA 1979 - 1982

Fisheries Biologist I

Primary responsibility was to inventory the salmonid populations in reservation streams. This involved the collection of life history data, such as, population density, estimates of biomass, length/age composition, estimates of steelhead smolt production in selected tributaries, and report writing. Secondary responsibilities included spawner surveys, monitoring tribal fisheries, the culturing of coho and chinook salmon, and inventory of fish passage problems in reservation streams.

EDUCATION

Master of Science, Biology

Central Washington University, Ellensburg, Washington- 1992

Thesis research focused on the juvenile life history of steelhead salmon in intermittent tributaries to the Satus Basin.

Bachelor of Science, Fisheries

University of Washington, Seattle, Washington- 1978

The principle investigator will be most likely be hired to manage the project on the ground. This person would have a back ground in habitat restoration projects and fisheries science. Their duties would include participation with the project manager in site selection and to secure required permitting, etc., but primarily to be onsite with the engineers and equipment operators to ensure design specifications are being followed.

Section 10. Information/technology transfer

Results from this project would be transferred through the BPA completion report. The opportunity exists to present field trips and town hall type lectures about the project in the Methow Basin to the local communities.